vallourec
SMART TUBULAR SOLUTIONS

UNIVERSAL REGISTRATION DOCUMENT

including the Annual Financial Report

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2019 Universal Registration Document

INCLUDING THE ANNUAL FINANCIAL REPORT

AUTORITÉ DES MARCHÉS FINANCIERS AMF The Universal Registration Document has been filed on 20 March 2020 with the French securities regulator (*Autorité des Marchés Financiers*) as the competent regulator under Regulation (EU) 2017/1129, without prior approval in accordance with Article 9 therein. The Universal Registration Document may be used for the purposes of a public offer of financial securities or the admission of financial securities to trading on a regulated market if it is supplemented by a securities note and, where applicable, a summary and any amendments made to the Universal Registration Document. The resulting package is approved by the French securities regulator in accordance with Regulation (EU) 2017/1129.

Copies of this Universal Registration Document are available free of charge from Vallourec, at 27, avenue du Général-Leclerc, 92100, Boulogne-Billancourt, Cedex – France, Vallourec's website (http://www.vallourec.com) and on the website of the French securities regulator (*Autorité des Marchés Financiers*) (http://www.amf-france.org).

This Universal Registration Document includes all the elements of the annual financial report mentioned in Section I of Article L.451-1-2 of the French Code monétaire et financier and Article 222-3 of the General Regulations of the French securities regulator (*Autorité des Marchés Financiers*). A concordance table showing the documents referred to in Article 222-3 of the General Regulations of the French securities regulator and the corresponding sections of this Universal Registration Document is included on page 336.

Vallourec, the partner for every possibility

As a leading supplier of tubular solutions to the energy and industry sectors, Vallourec has transformed itself in recent years to best adapt to global changes and the energy transition. Between its new digital solutions, its customized service, and its advances in social and environmental responsibility, the Group now stands out as a partner of choice for its customers.

THE GROUP

€4.2 bn
in revenue

~19,000
employees

More than 50
production units

Present in more than 20
countries

RESEARCH AND DEVELOPMENT

€45 m
spent on R&D

130
people involved in innovation

6
research and test centers

A world leader serving 3 markets

OIL & GAS, PETROCHEMICALS

Premium tubes, connections and services for the exploration and operation of oil and gas fields, including the most complex ones

INDUSTRY

Lightweight and resistant tubes for a wide range of applications

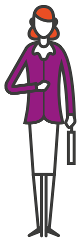
POWER GENERATION

A wide range of tubes needed to build conventional and nuclear power plants

200
VAM licensees worldwide

A player involved in and committed to social and environmental responsibility

SOCIAL & SOCIETAL



22%
female executives

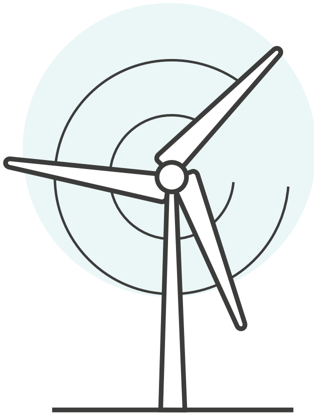
74.5%
of employees satisfied*

€3.2 m
allocated to actions benefitting local communities

HEALTH & SAFETY

47%
reduction in accidents with (LTIR) and without (TRIR) stoppages between 2014 and 2019

73%
of hazardous substances (CMR**) eradicated



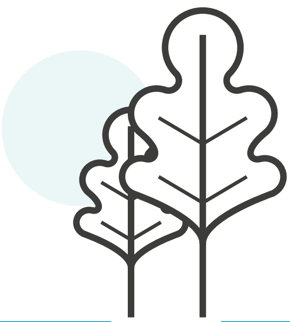
ENERGY

39%
of energy consumed from a renewable source

40%
of production from ISO 50001 certified sites

ENVIRONMENT

13%
of our water requirements supplied by rainwater



RESOURCES EMPLOYED

81%
of resources consumed are from a renewable source

95.8%
recovered waste

43%
of steel used from recycled scrap

PURCHASES

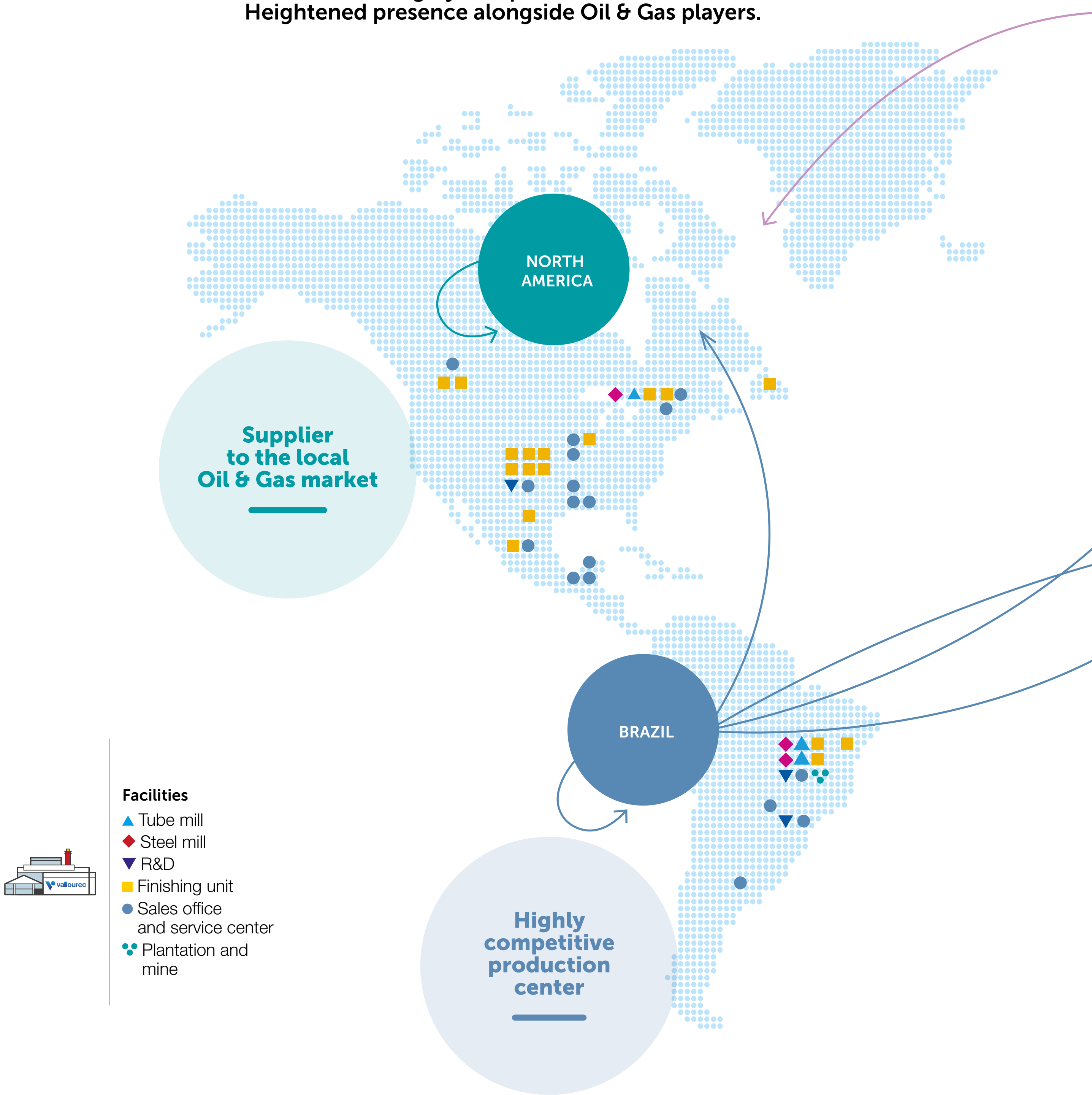
1,380
of our suppliers are engaged in the process of evaluating their CSR performance

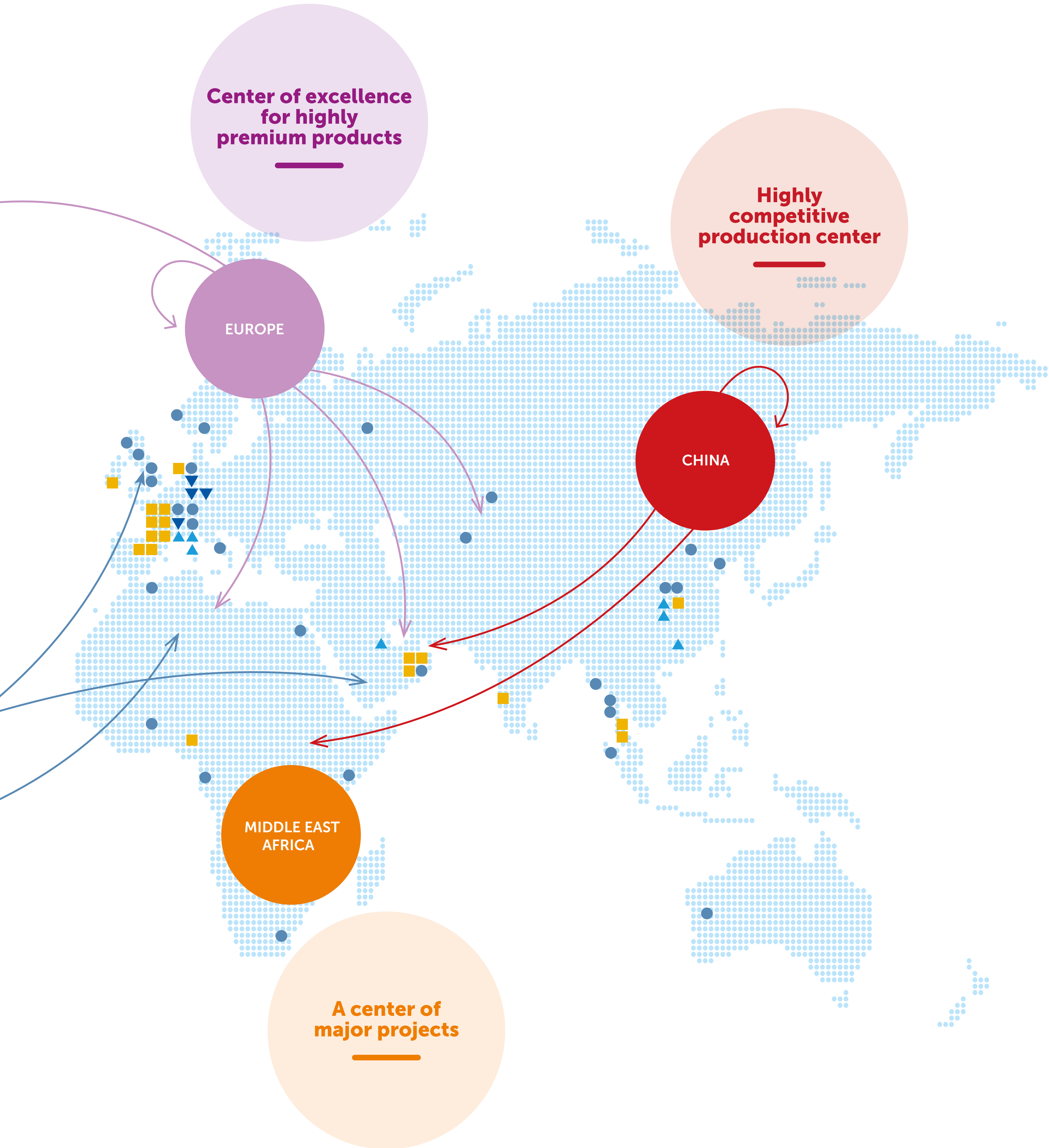
85%
of transportation to the customer by sea, rail or inland waterway

* 2019 Social Barometer.
** Carcinogenic Mutagenic Reprotoxic matters.

Vallourec,
a more agile, flexible industrial footprint, leading the sector

New highly competitive routes.
Heightened presence alongside Oil & Gas players.




Center of excellence for highly premium products
Highly competitive production center
EUROPE
CHINA
MIDDLE EAST AFRICA
A center of major projects

Developing new business thanks to our innovations and new digital services

New VAM® connections for the Premium Oil & Gas market, rapidly adopted by our customers worldwide

VAM® HTTC

VAM® HTTC offers extreme resistance to torsion for strongly deviated wells and the horizontal sections of wells, an essential feature for extending the range of drilling.

- **Included in the recent tender for the ADNOC megaproject (August 2019).**
- **Used in Saudi Arabia in 2018**

VAM® SLIJ-3

VAM® SLIJ-3 is a premium advanced integral connection for deep water or high pressure/high temperature (HP/HT) wells.

Successful introduction of the revolutionary VAM® technology for HP/HT applications at 20,000 psi.

- **Rolled out in the United States in the Gulf of Mexico.**

CLEANWELL®

The latest CLEANWELL® technology is a non-polluting coating applied in-factory to replace storage and installation dopes, resulting in improved safety on drilling platforms, reduced installation time and less generated waste.

- **Used in the North Sea, West Africa, and Egypt.**

New digital solutions based on dynamic data analysis and traceability: already on the market and contributing to our commercial differentiation

Smartengo Best Fit

Optimizes assembly of line pipes by analyzing the pipe-end measurement data for more efficient welding.

Smartengo Running Expert

Checks downpipe operations and analyses progress of operations.

Gives access to the well construction report.

Smartengo Inventory

Gives full visibility of inventories and improves the efficiency of all operations in the storage area.

Smartengo Traceability

Ensures traceability, speeds up the receiving process, and facilitates individual tube management, with simplified access to tube data.

"Best Operational Performance 2020" Prize

recently awarded by Innovation Makers Alliance, with special focus on the Smartengo Best Fit solution and the data analysis models.

Preparing the future thanks to our energy transition solutions

The energy transition and the reduction of CO_2 emissions offer opportunities for Vallourec with significant sales growth expected from 2020-2030 and onwards. A market in which our major customers are investing billions of dollars.

Our expertise and our efforts to innovate provide solutions tailored to our customers' needs in four areas

- **Recognized experience in products for geothermal applications.**
- **PREON® experience in lightweight steel tubular structures for complex constructions.**
- **Strong expertise (steel, tube and connection design) in transportation and the safe storage of hazardous liquids.**
- **Setting up an organization dedicated to innovation projects in the energy transition.**

GEOTHERMAL

Commercial phase, expanding existing business

- Taking advantage of VAM® technology to develop a product and service offering dedicated to geothermal applications.

OFFSHORE WIND

Development Phase

- Taking advantage of our design capabilities to develop an innovative solution for installing jackets, allowing for faster and more environmentally friendly anchoring of the submerged portion of offshore wind farms.

CARBON CAPTURE, STORAGE AND UTILIZATION

Applied research phase, partnership with oil majors

- Using our expertise to benefit the development of CO_2 capture services for our suppliers.
- Combining tube performance, VAM® connections and smart tube development to offer a global sealing solution for CO_2 transport and injection.

HYDROGEN

Defining our offering in a high-potential market

- Development of tubular solutions for hydrogen storage in saline cavities.
- Development of storage, compression and distribution systems for supply points.

Improvement in financial and activity indicators

	Unit	2018	2019	Change 2019/2018
Sales volume	*kt*	2,364	2,291	-3.1%
Revenue	*€ million*	3,921	4,173	6.4%
Industrial margin	*€ million*	579	738	27.5%
Industrial margin in % of revenue		*14.8%*	*17.7%*	*+2.9 pts*
EBITDA	*€ million*	150	347	+€197 m
EBITDA margin in % of revenue		*3.8%*	*8.3%*	*+4.5 pts*
Operating income (Loss)	*€ million*	(277)	(17)	+€260 m
Net income, Group share	*€ million*	(502)	(338)	+€164 m
Net earnings per share	*€*	(1)	(1)	+€0.4 m
Industrial capital expenditure	*€ million*	(129)	(159)	-€30 m
Free cash flow*	*€ million*	(494)	(41)	+€453 m
Net debt***	*€ million*	2,058	2,031	-€27 m
Equity	*€ million*	2,264	1,980	-€284 m
Banking covenant**/***		72%	81%	+9 pts

* *Free cash flow (FCF), is a non-GAAP measure and is defined as cash flow from operating activities minus gross capital expenditure and +/- change in operating working capital requirement.*

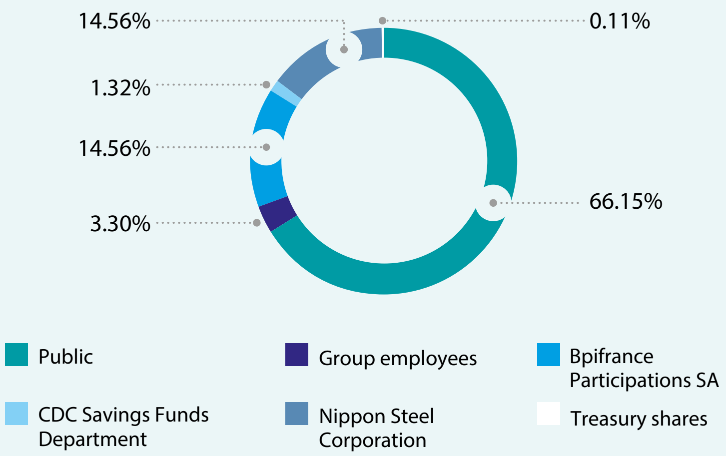
** *Banking covenant: As defined in the banking agreements, the "banking covenant" is the ratio of the Group's consolidated net debt (including the shareholder loan in Brazil) to the Group's equity, restated for reserves of changes in fair value of financial instruments and foreign currency translation reserve. This indebtedness ratio is tested once a year on 31 December, and must be below a limit of 100% at that date.*

*** *Net debt of €2,058 million at the end of December 2018 includes €59 million of financial lease debt. The banking covenant tested at the end of December 2018 includes €59 million of financial lease debt.*

A stable shareholding structure

Vallourec benefits from the support of its two main shareholders, Bpifrance Participations SA and Nippon Steel Corporation (NSC), each of which holds nearly 15% of the capital.

As at 31 December 2019, employees represented 3.30% of the capital.
The free float percentage was 66.15%.



CHAPTER 1

Persons responsible for the Universal Registration Document and financial audit

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1.1 Person responsible for the Universal Registration Document

Mr. Édouard Guinotte

Chairman of the Management Board of Vallourec (hereinafter "Vallourec", "the Company", or "the Group")

1.2 Statement by the person responsible for the Universal Registration Document

I certify that, having taken all reasonable care to ensure that such is the case, the information contained in this Universal Registration Document is, to the best of my knowledge, in accordance with the facts and contains no omission likely to affect its import.

I certify that, to the best of my knowledge, the financial statements have been prepared in accordance with applicable accounting standards and give a true and fair view of the assets and liabilities, financial position and results of the Company and all consolidated companies, and that the management report, the various headings of which are provided in the concordance table on page 337 of this Universal Registration Document (Section 8.2.3), presents a true and fair view of the business trends, results and financial position of the Company and all consolidated companies, as well as a description of the main risks and uncertainties to which they are exposed.

Boulogne-Billancourt, 20 March 2020

Chairman of the Management Board

Édouard Guinotte

1.3 Persons responsible for the financial audit

1.3.1 Statutory Auditors

KPMG SA

Represented by:

Ms. Alexandra Saastamoinen

Tour Eqho - 2, avenue Gambetta
92066 Paris-La Défense Cedex – France

Date of first appointment: 1 June 2006
Date renewed: 25 May 2018

The Ordinary and Extraordinary Shareholders' Meeting of 25 May 2018 reappointed KPMG SA as Statutory Auditor for a term of six (6) fiscal years expiring at the close of the Ordinary Shareholders' Meeting called to approve the financial statements for the fiscal year ending 31 December 2023.

Deloitte & Associés

Represented by:

Ms. Véronique Laurent

Tour Majunga - 6, place de la Pyramide
92908 Paris-La Défense Cedex – France

Date of first appointment: 1 June 2006
Date renewed: 25 May 2018

The Ordinary and Extraordinary Shareholders' Meeting of 25 May 2018 reappointed Deloitte & Associés as Statutory Auditor for a term of six (6) fiscal years expiring at the close of the Ordinary Shareholders' Meeting called to approve the financial statements for the fiscal year ending 31 December 2023.

1.4 Person responsible for the Group's legal affairs

Mr. Rémi Dujon

Group General Counsel

Vallourec

27, avenue du Général-Leclerc
92660 Boulogne-Billancourt Cedex – France

Tel.: +33 (0)1 49 09 37 22

E-mail: remi.dujon@vallourec.com

1.5 Person responsible for the communication of financial information

Mr. Jérôme Friboulet

Director of Investor Relations

Vallourec

27, avenue du Général-Leclerc
92660 Boulogne-Billancourt Cedex – France

Tel.: +33 (0)1 49 09 39 77

E-mail: jerome.friboulet@vallourec.com

Vallourec website: www.vallourec.com

CHAPTER 2

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2.1 General information on Vallourec

2.1.1 Company name and registered office

Vallourec
27, avenue du Général-Leclerc
92100 Boulogne-Billancourt – France
Tel.: +33 (0)1 49 09 35 00
Website: www.vallourec.com.

2.1.2 Legal form – Legislation – Trade and Companies Register

Vallourec is a French corporation *(société anonyme)* that opted on 14 June 1994 for a governance structure comprising a Management Board and a Supervisory Board. The Company is registered in the Nanterre (Hauts-de-Seine) Trade and Companies Register under no. 552 142 200 and recorded under APE Code (Principal Activity Code) 7010Z. Vallourec's LEI (Legal Entity Identifier) is 969500P2Q1B47H4MCJ34.

2.1.3 Date of incorporation and term

Vallourec was formed in 1899.

It will be wound up on 17 June 2067, unless its life is extended or it is wound up earlier.

2.1.4 Corporate purpose (Article 3 of the bylaws)

Vallourec's purpose, in any country, acting on its own behalf or for a third party, or directly or indirectly with or through third parties, includes:

- all industrial and commercial transactions relating to all means for the preparation and manufacture, by all processes known or that might be subsequently discovered, of metals and any materials that may replace them in all their applications; and
- in general, all commercial, industrial and financial transactions, and transactions in movable and fixed property, directly or indirectly associated with the above purpose.

2.1.5 Consultation of legal documents

The Company bylaws, minutes of Shareholders' Meetings and other Company documents may be consulted at the registered office.

2.1.6 Fiscal year

The fiscal year is twelve (12) months long. It begins on 1 January and ends on 31 December.

2.1.7 Distribution of profits (Article 15 of the bylaws)

Distributable profit, as defined by law, is allocated by the Shareholders' Meeting.

Unless otherwise required by law, the Shareholders' Meeting decides how net profit is allocated.

The Shareholders' Meeting may also decide to grant each shareholder, for all or part of the dividend to be distributed, the choice of receiving payment of the dividend in cash or in shares [1], in accordance with the laws and regulations in force.

2.1.8 Shareholders' Meetings (Article 12 of the bylaws)

Shareholders' Meetings are convened in accordance with the conditions provided for by law.

A Shareholders' Meeting is open to all shareholders, regardless of the number of shares held.

Each shareholder attending the Shareholders' Meeting has as many votes as shares owned or represented, unless otherwise provided for by law. However, fully paid-up shares duly registered in the name of the same shareholder for four (4) consecutive years carry twice as many voting rights as other shares (Article 12, paragraph 4 of the bylaws).

The Shareholders' Meeting of 19 January 1988 resolved to establish double the voting rights for shares that have been duly registered in the name of the same shareholder for four (4) years. The free registered shares awarded to a shareholder in respect of existing shares for which the shareholder has a double voting right also have a double voting right. The double voting right ceases for any share that has been converted to bearer shares or transferred, except for any transferred to another registered shareholder by succession or family bequest. The double voting right may be removed by a decision of the Extraordinary Shareholders' Meeting after ratification by a Special Meeting of the shareholder beneficiaries.

2.1.9 Disclosure of thresholds crossed and identification of shareholders (Article 8 of the bylaws)

Article 8 of the bylaws establishes an additional disclosure obligation in the case of thresholds crossed other than those provided for in the current legal provisions. Consequently:

"In addition to the disclosure of thresholds crossed as expressly provided for in Article L.233-7-I and II of the French Commercial Code (Code de commerce), any individual or legal entity who, directly or indirectly through companies he, she or it controls within the meaning of Article L.233-3 of the French Commercial Code, alone or in concert, acquires a number of bearer shares in the Company equal to or greater than three percent (3%), four percent (4%), six percent (6%), seven percent (7%), eight percent (8%), nine percent (9%) or twelve and a half percent (12.5%) of the total number of shares comprising the share capital shall, within five (5) trading days after crossing said threshold, disclose to the Company the total number of shares thus held, via registered letter with request for acknowledgment of receipt sent to the Company's registered office.

The information mentioned in the previous paragraph shall also be disclosed within the same time frame and under the same conditions when the shareholding falls below the thresholds referred to therein."

The penalties provided for by law for failure to comply with the legal obligation to disclose thresholds crossed under the French Commercial Code shall also apply in case of non-compliance with the obligation set out in the bylaws to disclose the above threshold crossings at the request of one or more shareholders holding at least 5% of the Company's shares, as recorded in the minutes of the Shareholders' Meeting.

In addition, under current regulations, the Company is entitled to request the identification of holders of securities conferring immediate or future voting rights at its Shareholders' Meetings, as well as quantities held.

(1) This power was introduced by the Shareholders' Meeting of 14 June 1994.

2.2 General information on share capital

2.2.1 Conditions in the bylaws for changes in share capital or rights in the Company

An Extraordinary Shareholders' Meeting may, in accordance with the conditions provided for by law, increase or reduce the share capital or delegate to the Management Board the necessary powers to do so.

However, under the Company's internal structure (Article 9, paragraph 3 of the bylaws), the Management Board may not carry out the following transactions without the prior approval of the Supervisory Board:

- any capital increase in cash or by capitalization of reserves authorized by a Shareholders' Meeting;
- any other issue of marketable securities that could later give access to share capital, authorized by a Shareholders' Meeting.

The shares are freely negotiable and transferable in accordance with applicable laws and regulations.

2.2.2 Share capital

As at 1 January 2019, the start of the 2019 fiscal year, subscribed, fully paid-up share capital amounted to €915,975,520, divided into 457,987,760 shares with a par value of €2.00 each.

No capital increases were recorded in 2019; as at 31 December 2019, the subscribed, fully paid-up share capital had remained unchanged and thus amounted to €915,975,520, divided into 457,987,760 shares with a par value of €2.00 each.

2.2.3 Authorized capital not issued

2.2.3.1 Financial authorizations to issue shares and marketable securities providing access to the Company's capital valid as at 31 December 2019

Authorizations to issue shares and marketable securities providing access to the Company's capital valid as at 31 December 2019 were as follows:

	Maximum caps on capital increases *(in € or as a percentage of the share capital)*	**Maximum nominal amounts of debt securities** *(in €)*	**Date of the Shareholders' Meeting that authorized the transaction**	**Term of authorization**	**Expiration date**
CAPITAL INCREASES WITH PREFERENTIAL SUBSCRIPTION RIGHTS (PSR)					
Capital increases with PSR (16th resolution)	366.390 million	1.5 billion	23 May 2019	26 months	23 July 2021
Increase in the amount of the initial issue with PSR (20th resolution)	15% of the initial issue [(a) (b)]	15% of the initial issue [(d) (e)]	23 May 2019	26 months	23 July 2021
Capital increases through the capitalization of reserves, profits or additional paid-in capital (24th resolution)	274.792 million [(a)]	N/A	23 May 2019	26 months	23 July 2021
CAPITAL INCREASES WITHOUT PREFERENTIAL SUBSCRIPTION RIGHTS (PSR)					
Capital increases without PSR through a public offering or offerings (17th resolution)	91.597 million [(a)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR through one or more private placements (18th resolution)	91.597 million [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR, carried out under the seventeenth and eighteenth resolutions, at a price to be freely set by the Shareholders' Meeting (19th resolution)	10% of the share capital per year within the limit of 91.597 million over 26 months [(a) (b) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Increase in the amount of the initial issue without PSR (20th resolution)	15% of the initial issue [(a) (b) (c)]	15% of the initial issue [(d)]	23 May 2019	26 months	23 July 2021
Capital increases without PSR in consideration for contributions in kind, except in the case of a public exchange offer initiated by the Company (21st resolution)	10% of the share capital [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR in consideration for securities contributed in a public exchange offer initiated by the Company (22nd resolution)	91.597 million [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR, carried out as a result of the issue by the Company's subsidiaries of marketable securities providing access to the Company's share capital (23rd resolution)	91.597 million [(a) (c)]	N/A	23 May 2019	26 months	23 July 2021
EMPLOYEE SHARE OWNERSHIP PLAN					
Capital increase reserved for members of the Company savings plan as part of an employee share ownership plan (25th resolution)	2% of the share capital [(a) (d)]	N/A	23 May 2019	26 months	23 July 2021

	Maximum caps on capital increases *(in € or as a percentage of the share capital)*	Maximum nominal amounts of debt securities *(in €)*	Date of the Shareholders' Meeting that authorized the transaction	Term of authorization	Expiration date
SHARE SUBSCRIPTION OR SHARE PURCHASE OPTIONS AND PERFORMANCE SHARES					
Share subscription or share purchase options granted to employees and corporate officers of the Vallourec Group (26th resolution)	3% of share capital [(a)]	N/A	12 May 2017	38 months	12 July 2020
Performance shares allocated to employees and corporate officers of the Vallourec Group (27th resolution)	3% of the share capital [(a) (e)]	N/A	12 May 2017	38 months	12 July 2020

(a) This amount or this percentage counts towards the total capital increase cap, maintaining the preferential subscription right, of €366.390 million.

(b) This percentage is limited by the cap on the authorization pursuant to which the initial issue was made.

(c) This amount or this percentage counts towards the total capital increase cap without preferential subscription right of €91.597 million.

(d) The aggregate amount of capital increases carried out as part of an employee share ownership offer may not exceed 2% of the share capital.

(e) This percentage counts towards the 3% share capital cap at the date of the decision to allot the share subscription or share purchase options.

2.2.3.2 Financial authorizations to issue shares and marketable securities providing access to the Company's capital as from the Shareholders' Meeting of 6 April 2020

Subject to the adoption by the Shareholders' Meeting of the corresponding resolutions, the authorizations to issue shares and marketable securities giving access to the capital that will be valid as of 6 April 2020 are as follows:

	Maximum caps on capital increases *(in € or as a percentage of the share capital)* Without reduction of nominal value/ After reduction of nominal value	Maximum nominal amounts of debt securities *(in €)*	Date of Shareholders' Meeting	Term of authorization	Expiration date
CAPITAL INCREASES WITH PREFERENTIAL SUBSCRIPTION RIGHTS (PSR)					
Capital increases with PSR (21st resolution)	4.2 billion / 802 million	1.5 billion	6 April 2020	26 months	6 June 2022
Increase in the amount of the initial issue with PSR (20th resolution of the 2019 Shareholders' Meeting)	15% of the initial issue [(a) (b)]	15% of the initial issue [(d) (e)]	23 May 2019	26 months	23 July 2021
Capital increases through the capitalization of reserves, profits or additional paid-in capital (24th resolution of the 2019 Shareholders' Meeting)	274.792 million [(a)] / 2.75 million [(a)]	N/A	23 May 2019	26 months	23 July 2021
CAPITAL INCREASES WITHOUT PREFERENTIAL SUBSCRIPTION RIGHTS (PSR)					
Capital increases without PSR through public offering(s) other than those specified in Article L.411-2 of the French Code monétaire et financier (17th resolution of the 2019 Shareholders' Meeting)	91.597 million [(a)] / 0.92 million [(a)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR through public offering(s) specified in Article L.411-2-1 of the French Code monétaire et financier (18th resolution of the 2019 Shareholders' Meeting)	91.597 million [(a) (c)] / 0.92 million [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR, carried out under the seventeenth and/or eighteenth resolutions of the 2019 Shareholders' Meeting, at a price to be freely set by the Shareholders' Meeting (19th resolution)	10% of the share capital per year within the limit of 91.597 million [(a) (b) (c)] / 0.92 million [(a) (b) (c)] over 26 months	1.5 billion	23 May 2019	26 months	23 July 2021

	Maximum caps on capital increases *(in € or as a percentage of the share capital)* Without reduction of nominal value/ After reduction of nominal value	Maximum nominal amounts of debt securities *(in €))*	Date of Shareholders' Meeting	Term of authorization	Expiration date
Increase in the amount of the initial issue without PSR (20th resolution of the 2019 Shareholders' Meeting)	15% of the initial issue [(a) (b) (c)]	15% of the initial issue [(d)]	23 May 2019	26 months	23 July 2021
Capital increases without PSR in consideration for contributions in kind, except in the case of a public exchange offer initiated by the Company (21st resolution of the 2019 Shareholders' Meeting)	10% of the share capital [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR in consideration for securities contributed in a public exchange offer initiated by the Company (22nd resolution of the 2019 Shareholders' Meeting)	91.597 million [(a) (c)] / 0.92 million [(a) (c)]	1.5 billion	23 May 2019	26 months	23 July 2021
Capital increases without PSR, carried out as a result of the issue by the Company's subsidiaries of marketable securities providing access to the Company's share capital (23rd resolution of the 2019 Shareholders' Meeting)	91.597 million [(a) (c)] / 0.92 million [(a) (c)]	N/A	23 May 2019	26 months	23 July 2021
EMPLOYEE SHARE OWNERSHIP PLAN					
Capital increase reserved for members of the Company savings plan as part of an employee share ownership plan (22nd resolution)	2% of the share capital [(a) (d)]	N/A	6 April 2020	26 months	6 June 2022
SHARE SUBSCRIPTION OR SHARE PURCHASE OPTIONS AND PERFORMANCE SHARES					
Share subscription or share purchase options granted to employees and corporate officers of the Vallourec Group (26th resolution)	3% of share capital [(a)]	N/A	6 April 2020	38 months	6 June 2023
Performance shares allocated to employees and corporate officers of the Vallourec Group (27th resolution)	3% of the share capital [(a) (e)]	N/A	6 April 2020	38 months	6 June 2023

(*) Shareholders' Meeting of 23 May 2019 ("2019 Shareholders' Meeting").

(a) This amount or this percentage counts towards the total capital increase cap, maintaining the preferential subscription right, of €4.2 billion/€802 million (in case of reduction of the nominal value).

(b) This percentage is limited by the cap on the authorization pursuant to which the initial issue was made.

(c) This amount or this percentage counts towards the total capital increase cap without preferential subscription right of €91,597 million / €0.92 million (in case of reduction of the nominal value).

(d) The aggregate amount of capital increases carried out as part of an employee share ownership offer may not exceed 2% of the share capital.

(e) This percentage counts towards the 3% share capital cap at the date of the decision to allot the share subscription or share purchase options.

2.2.3.3 Use of financial authorizations to issue shares and marketable securities providing access to the Company's capital as at 31 December 2019

No capital increase has been planned for 2019.

PERFORMANCE SHARES (twentieth resolution of the Shareholders' Meeting of 12 May 2017)

Under the twentieth resolution relating to performance shares, which was adopted by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017, the Management Board decided on 17 June 2019, in accordance with the Supervisory Board, to allocate, subject to attendance and performance conditions, a target number of 712,100 performance shares [(1)], or 0.16% of the share capital as at 31 December 2019, to benefit 522 managers and two members of the Management Board.

The terms and conditions of these plans are set out in Section 7.3.1.2, "Performance share and free share allocation plans" of this Universal Registration Document.

(1) I.e. 1,302,580 performance shares based on a maximum performance coefficient of 2, applied to 100% of the allocation to the members of the Executive Committee and Management Board, and to 80% of the allocation to managers not on the Executive Committee.

SHARE SUBSCRIPTION OR SHARE PURCHASE OPTIONS (nineteenth resolution of the Shareholders' Meeting of 12 May 2017)

Under the nineteenth resolution relating to share subscription or share purchase options, which was adopted by the Shareholders' Meeting of 12 May 2017, on 17 June 2019, the Management Board, in agreement with the Supervisory Board, set up a share subscription option plan, subject to continuous service and performance conditions, which provides for the allocation of a target number of 354,220 options [(1)], or 0.08% of the share capital as at 31 December 2019, to eight members of the Executive Committee and two Management Board members.

The terms of this plan are set out in Section 7.3.1.1, "Share subscription and/or share purchase options" of this Universal Registration Document.

2.2.3.4 Potential dilution as at 31 December 2019

On 27 September 2017, Vallourec issued 36,284,470 Bonds Convertible into New Shares and/or Exchangeable for Existing Shares of the Company with a unit par value of €6.89, or a total par value of €249,999,998.30, with a maturity date of 4 October 2022 (the "October 2022 OCEANEs"). The conversion/exchange ratio of the October 2022 OCEANEs is one share per October 2022 OCEANE, subject to subsequent adjustments. Should they exercise their share allocation right, holders of October 2022 OCEANEs will receive new and/or existing Company shares at the Company's discretion. The potential dilution amounts to 7.92% as at 31 December 2019.

Performance share and free share allocation plans (see Section 7.3.1.2 below) are covered by existing shares, so they have no dilutive impact.

Only the award of share subscription options (see Section 7.3.1.1 below) could, if the options came to be exercised, entail a dilution of shareholders. Based on the number of options currently outstanding, net of those canceled or that have lapsed, potential dilution to shareholders as at 31 December 2019 was 0.88%.

2.2.4 Share buyback

2.2.4.1 Information on transactions under the share buyback program during the 2019 fiscal year

SHARE BUYBACK

As at 1 January 2019, Vallourec held 91,039 Vallourec shares with a nominal value of €2.00, or 0.019% of the share capital at that date, all assigned to cover free share or performance share allocation plans.

From 1 January to 31 December 2019, Vallourec carried out a buyback of 615,000 shares and transferred 182,536 shares under its free share and performance share allocation plans.

Total gross cash flows relating to purchases and disposals/transfers of shares (excluding liquidity contract) from 1 January to 31 December 2019 were as follows:

	Purchases	Transfers/sales
Number of shares	615,000	182,536
Average unit price (in €)	2.1560	12.066414
AGGREGATE AMOUNT (IN €)	**1,325,940**	**2,202,555**

TREASURY SHARES AS AT 31 DECEMBER 2019

As at 31 December 2019, Vallourec held 523,503 Vallourec shares, or 0.114% of the share capital at that date, all assigned to cover free share or performance share allocation plans. The carrying amount of the portfolio as at 31 December 2019 was €1,157,883.69, including a nominal value of €1,047,006 and a market value on the same date of €1,472,090.44.

TREASURY SHARES

None.

OPEN DERIVATIVE POSITIONS AS AT 31 DECEMBER 2019

None.

2.2.4.2 Description of the 2019-2020 share buyback program, submitted to the Ordinary and Extraordinary Shareholders' Meeting of 6 April 2020 (19th resolution)

This description of the program's purpose, under Articles 241-1 *et seq.* of the General Regulations of the French securities regulator *(Autorité des Marchés Financiers)*, is to explain the objectives and the terms and conditions of Vallourec's share buyback program, which will be submitted to the Ordinary and Extraordinary Shareholders' Meeting on 6 April 2020.

ALLOCATION OF VALLOUREC SHARES HELD BY THE COMPANY AS AT 29 FEBRUARY 2020

As at 29 February 2020, Vallourec held 523,503 Vallourec shares, or 0.11% of the share capital at that date, all allocated to cover free share or performance share allocation plans.

(1) Based on a target coefficient of 1, or 708,440 options based on the maximum coefficient of 2.

OBJECTIVES OF THE SHARE BUYBACK PROGRAM SUBMITTED TO THE ORDINARY AND EXTRAORDINARY SHAREHOLDERS' MEETING OF 6 APRIL 2020

In accordance with the provisions of European Regulation No. 596/2014 of 16 April 2014 and the market practices accepted by the French securities regulator, the objectives of the share buyback program submitted for the approval of the Ordinary and Extraordinary Shareholders' Meeting of 6 April 2020 are as follows:

1. to implement any Company share purchase options plan or any similar plan, in accordance with the provisions of Articles L.225-177 *et seq.* of the French Commercial Code;
2. to allocate or transfer shares to employees for their investment in the Company's development and/or to implement any Company or Group savings plan (or similar plan) as provided for by law, in particular Articles L.3332-1 *et seq.* of the French Labor Code *(Code du travail)*;
3. to allocate shares free of charge or to allocate performance shares under the provisions of Articles L.225-197-1 *et seq.* of the French Commercial Code;
4. allocation of shares to employees and/or corporate officers of the Group, particularly in the context of international employee share ownership plans or variable compensation;
5. for market making in the secondary market or to increase the liquidity of Vallourec's shares through an investment services provider, under the terms of a liquidity contract that complies with the Code of Conduct *(Charte de déontologie)* issued by the French Association of Financial Markets *(Association Française des Marchés Financiers)*, approved by the French securities regulator and in accordance with the market practices accepted by it;
6. to hold and subsequently deliver shares (in payment, exchange or otherwise) in connection with any later transactions involving acquisitions, and, in particular, mergers, split-offs or contributions;
7. to deliver shares upon the exercise of rights attached to marketable securities giving access to share capital by means of redemption, conversion, exchange, exercise of a warrant or any other means; or
8. to cancel some or all of the shares so repurchased, provided that the Management Board has a valid authorization from the Extraordinary Shareholders' Meeting allowing it to reduce share capital by canceling shares acquired as part of a share buyback program.

TERMS OF THE SHARE BUYBACK PROGRAM SUBMITTED TO THE SHAREHOLDERS' MEETING ON 6 APRIL 2020

The table below shows the maximum percentage of capital, the maximum number, and the characteristics of the shares that the Company could acquire under its share buyback program as submitted to the Ordinary and Extraordinary Shareholders' Meeting of 6 April 2020, as well as the maximum unit purchase price:

Share characteristics	Maximum percentage of capital [(a)]	Maximum number of shares [(b)]	Maximum unit purchase price *(per share)*
Ordinary shares	10%	45,798,776	€10

(a) *It is noted that this percentage applies to capital that will be adjusted, where applicable, to take account of any transactions affecting share capital that may occur after the Shareholders' Meeting of 6 April 2020, and that, in all circumstances, the number of shares that the Company holds at any given time may not exceed 10% of the shares comprising the Company's capital on the date in question.*

(b) *This number corresponds to the theoretical number of ordinary shares that the Company could acquire, calculated based on the share capital as at 29 February 2020, i.e. €915,975,520, divided into 457,987,760 shares. Based on the number of ordinary shares owned by Vallourec at that date (i.e. 706,039 shares), Vallourec could acquire 45,092,737 of its own shares.*

TERM OF THE SHARE BUYBACK PROGRAM SUBMITTED TO THE SHAREHOLDERS' MEETING OF 6 APRIL 2020

The authorization given to the Management Board to implement the share buyback program will be granted for a term of 18 months from the date of the Shareholders' Meeting of 6 April 2020, i.e. until 6 November 2021, subject to the program's approval by the Ordinary Shareholders' Meeting.

2.2.5 Changes in share capital over the past five years

Transaction date	Exercise of subscription options	Number of shares subscribed in cash	Total number of shares after transaction	Nominal amount of capital increase *(in €)*	Paid-in capital *(in €)*	Total share capital after transaction *(in €)*
25/06/2015	–	3,090,460	133,688,435	6,180,920	53,774,004	267,376,870
15/12/2015	–	1,999,997	135,688,432	3,999,994	13,647,426	271,376,864
03/05/2016	–	217,101,488	352,789,920	434,202,976	45,591,312	705,579,840
03/05/2016	–	30,282,564	383,072,484	60,565,128	108,737,646	766,144,968
20/06/2016	–	61,565,565	444,638,049	123,131,130	221,067,653	889,276,098
14/12/2016	–	6,599,956	451,238,005	13,199,912	13,118,608	902,476,010
14/12/2017	–	6,749,755	457,987,760	13,499,510	13,486,494	915,975,520

No transactions impacting capital were performed in 2019.

2.2.6 Non-equity instruments

Marketable securities entitling the allocation of debt securities

As at 31 December 2019, the Management Board has not decided to issue any marketable securities entitling their bearers to be allocated debt securities.

Plan to issue negotiable short-term securities

On 12 October 2011, Vallourec established a commercial paper issue program to meet its short-term financing requirements. This program, updated on 4 June 2019, has the following main characteristics:

Maximum cap on the program	€1 billion
Duration	> 1 day < 365 days
Minimum unit amount	€150,000
Currency of issue	Euros (€), US dollars ($)
Paying agent	Crédit Industriel et Commercial
Underwriters	Aurel BGC BNP Paribas BRED Banque Populaire CM – CIC Crédit du Nord GFI Securities Limited HPC ING Bank NV Kepler Capital Markets Natixis Newedge Group Société Générale CIB TSAF OTC
Short-term rating (Standard & Poor's)	B

The financial prospectus for the commercial paper issue program and the outstanding amounts of the issues are available on the websites of the Company (www.vallourec.com) and the Banque de France (www.banque-france.fr/en).

Bond issues

Vallourec successfully issued:

- on 30 July 2012, a €55 million fixed-rate bond issue maturing on 2 August 2027 (the "August 2027 Bonds"). The August 2027 Bonds have a unit par value of €100,000 and bear interest at an annual fixed rate of 4.125%, payable in arrears on 2 August each year;
- on 30 September 2014, a €500 million fixed-rate bond issue maturing on 30 September 2024, (the "September 2024 Bonds"). The September 2024 bonds have a unit par value of €100,000 and are admitted to trading on the Euronext Paris stock market. They bear interest at an annual fixed rate of 2.25%, payable in arrears on 30 September each year, and are rated B- by Standard & Poor's;
- on 27 September 2017, a €250 million fixed-rate bond issue, consisting of Bonds Convertible into New Shares and/or Exchangeable for Existing Shares of the Company ("OCEANEs"), reaching maturity on 4 October 2022 (the "October 2022 OCEANEs"). The October 2022 OCEANEs have a unit par value of €6.89 and are admitted to trading on the free Euronext Paris stock market ("Euronext Access"). They bear interest at the annual fixed rate of 4.125%, payable semi-annually in arrears on 4 April and 4 October of each year;
- on 11 October 2017, a €400 million fixed-rate bond issue maturing on 15 October 2022, (the "October 2022 Bonds"). The October 2022 Bonds have a unit par value of €100,000 and are admitted to trading on the Euro MTF stock market of the Luxembourg Stock Exchange. They bear interest at an annual fixed rate of 6.625%, payable semi-annually in arrears on 15 April and 15 October of each year, and were rated "B-" by Standard & Poor's. On 23 October 2017, this bond issue was matched for €150 million under the same conditions;
- on 12 April 2018, a €400 million fixed-rate bond issue maturing on 15 October 2023, (the "October 2023 Bonds"). The October 2023 Bonds have a unit par value of €100,000 and are admitted to trading on the Euro MTF stock market of the Luxembourg Stock Exchange. They bear interest at an annual fixed rate of 6.375%, payable in arrears on 15 April and 15 October each year, and are rated B- by Standard & Poor's.

The nominal value and interest on the August 2027 Bonds, September 2024 Bonds, October 2022 Bonds, October 2022 OCEANEs, and the October 2023 Bonds (the "Bonds") represent direct, unconditional, unsubordinated liabilities, not backed by Vallourec assets, ranked pari passu, without preference among them, with the other present and future unsubordinated Vallourec bonds not backed by assets. Throughout the Bonds' maturity period, Vallourec has undertaken not to grant any security or guarantee (mortgage, lien, pledge, real surety, etc.) on its assets, income or rights, present or future, to holders of bonds, warrants or marketable securities listed or traded (or that may be listed or traded) on a regulated market, multilateral trading system, over-the-counter market or any other market, unless the same ranking or same surety or guarantee is granted to the Bonds.

These five bond issues specifically include a change-of-control clause that would trigger the mandatory prepayment of the bonds at the request of each bondholder in the event of a change of control of the Company (in favor of a person or a group of people acting in concert) leading to a downgrade of Vallourec's financial rating.

In addition, prepayment of the Bonds may be requested by the bondholder or the Company, depending on the case, should any of the common default scenarios for this type of transaction arise or in respect of a change in the Company's position or in tax regulations.

The October 2022 OCEANEs may be subject to prepayment at the discretion of the Company, at any time as of 20 October 2020, under the conditions described in the terms and conditions of the October 2022 OCEANEs. The October 2022 Bonds and the October 2023 Bonds may be subject to prepayment at the Company's discretion under the conditions described in the document entitled "Offering Memorandum" as of 15 October 2020.

The prospectus for listing the September 2024 Bonds on the Euronext Paris stock market may be consulted on the websites of the Company (www.vallourec.com) and the French securities regulator (www.amf-france.org). The terms and conditions of the October 2022 OCEANEs and the main characteristics of the October 2022 Bonds and the October 2023 Bonds appearing in the document entitled "Offering Memorandum" may be consulted on the Company's website (www.vallourec.com).

Rating

As at 1 January 2019, the opening date of the 2019 fiscal year, Vallourec's debt was rated B-/negative/B by Standard & Poor's. No change in the rating occurred during the 2019 fiscal year. Consequently, as at 31 December 2019, Vallourec's debt had a rating of B-/negative/B from Standard & Poor's. On 19 February 2020, this agency gave Vallourec a B-/CreditWatch positive/B rating.

2.3 Distribution of share capital and voting rights

2.3.1 Changes in the distribution of the share capital in the last three fiscal years

FY 2017 (as at 31 December)

Shareholders	Number of shares	% of share capital	Number of theoretical voting rights	% of theoretical voting rights	% of exercisable voting rights at Shareholders' Meetings
Public	297,640,888	64.99%	299,971,735	63.87%	63.90%
Group employees [(a)]	19,197,184	4.19%	20,044,743	4.27%	4.27%
Bpifrance Participations SA [(b)]	66,695,708	14.56%	73,166,786	15.58%	15.59%
CDC Savings Funds Department	7,585,658	1.66%	7,585,658	1.62%	1.62%
Group subtotal, CDC [(c)]	**74,281,366**	**16.22%**	**80,752,444**	**17.20%**	**17.20%**
Nippon Steel Corporation [(b)]	66,695,715	14.56%	68,668,849	14.62%	14.63%
Treasury shares [(d)]	172,607	0.04%	172,607	0.04%	0.00%
TOTAL	**457,987,760**	**100.00%**	**469,610,378**	**100.00%**	**100.00%**

(a) The stake of Group employees as at 31 December 2017 includes all of the shares subscribed via company mutual funds under the international employee share ownership plans that have been implemented by the Group over the last 10 years, which include allocated shares at that date. Recall that under the leveraged formula of these plans, the performance multiple on the Vallourec shares is obtained thanks to a transfer of the discount on dividends and other financial rights related to ownership of the shares to the bank structuring the transaction through a swap contract. As at 31 December 2017, 15,966,628 non-allocated shares appeared in the assets of the company mutual funds, an employee stake of 3.40% in capital and 3.58% in voting rights at that date.

(b) As of 1 February 2016, Bpifrance Participations on the one hand and Nippon Steel Corporation (NSC, formerly NSSMC) on the other must respect a 15% cap on their voting rights for a 15-year period, subject to certain reservations.

(c) In a letter that the AMF received on 30 April 2014, CDC and Bpifrance Participations SA clarified that they were each acting alone, and the Caisse des dépôts et consignations (CDC) declared that there was no collaboration with Bpifrance Participations SA.

(d) Treasury shares included the shares appearing in the balance of the liquidity contract handled by Rothschild & Cie Banque. This contract, which had been in effect since 26 June 2012 and concerned 2,481,000 shares, was terminated on 18 December 2017 after the closing of the Euronext Paris market.

FY 2018 (as at 31 December)

Shareholders	Number of shares	% of share capital	Number of theoretical voting rights	% of theoretical voting rights	% of exercisable voting rights at Shareholders' Meetings
Public [(a)]	301,544,617	65.84%	304,017,150	64.65%	64.66%
Group employees [(b)]	16,930,023	3.70%	17,824,140	3.79%	3.79%
Bpifrance Participations SA [(c)]	66,695,708	14.56%	73,654,348	15.66%	15.66%
CDC Savings Funds Department	6,030,658	1.32%	6,030,658	1.28%	1.28%
Group subtotal, CDC [(d)]	**72,726,366**	**15.88%**	**79,685,006**	**16.94%**	**16.95%**
Nippon Steel Corporation [(c)]	66,695,715	14.56%	68,668,849	14.60%	14.60%
Treasury shares [(e)]	91,039	0.02%	91,039	0.02%	0.00%
TOTAL	**457,987,760**	**100.00%**	**470,286,184**	**100.00%**	**100.00%**

(a) Summary of threshold crossings in 2018 detailed in the table below.

(b) The stake of Group employees as at 31 December 2018 includes all of the shares subscribed via company mutual funds under the international employee share ownership plans that have been implemented by the Group since 2007, which include allocated shares at that date. Recall that under the leveraged formula of these plans, the performance multiple on the Vallourec shares is obtained thanks to a transfer of the discount on dividends and other financial rights related to ownership of the shares to the bank structuring the transaction through a swap contract. As at 31 December 2018, 8,045,023 non-allocated shares appeared in the assets of the company mutual funds, an employee stake of 1.76% in capital and 1.90% in voting rights at that date.

(c) As from 1 February 2016, Bpifrance Participations on the one hand and Nippon Steel Corporation (NSC, formerly NSSMC) on the other must respect a 15% cap on their voting rights for a 15-year period, subject to certain reservations.

(d) In a letter that the AMF received on 30 April 2014, the Caisse des dépôts et consignations (CDC) and Bpifrance Participations SA clarified that they were each acting alone, and the Caisse des dépôts et consignations (CDC) declared that there was no collaboration with Bpifrance Participations SA.

(e) Treasury shares include the shares held by the Company on its own account to cover its free share and performance share allocation plans. As a result, the number of treasury shares is subject to change at any time.

Legal thresholds crossed during the fiscal year 2018

AMF Notice no.	Date threshold crossed	Group	Number of securities after crossing of threshold	% capital after crossing of threshold	% voting rights after crossing of threshold	Comments	Number of shares comprising the capital	Number of voting rights
218C0756	13/04/2018	JP Morgan Securities plc	24,025,598	5.25	5.11	exceeding the 5% capital and voting rights threshold	457,987,760	469,717,314
218C0771	17/04/2018	JP Morgan Securities plc	21,609,877	4.72	4.6	dropping below the 5% capital and voting rights threshold	457,987,760	469,717,314
218C0962	24/05/2018	JP Morgan Securities plc	25,106,662	5.48	5.34	exceeding the 5% capital and voting rights threshold	457,987,760	470,063,032
218C0965	24/05/2018	Crédit Agricole SA	25,874,217	5.65	5.51	exceeding the 5% capital and voting rights threshold	457,987,760	470,063,032
218C0972	25/05/2018	JP Morgan Securities plc	22,313,337	4.87	4.75	dropping below the 5% capital and voting rights threshold	457,987,760	470,063,032
218C1037	07/06/2018	JP Morgan Securities plc	23,905,415	5.22	5.09	exceeding the 5% capital and voting rights threshold	457,987,760	470,062,108
218C1130	21/06/2018	JP Morgan Securities plc	23,268,017	5.08	4.95	dropping below the 5% capital and voting rights threshold	457,987,760	470,062,108
218C1288	10/07/2018	JP Morgan Securities plc	24,123,728	5.27	5.13	exceeding the 5% capital and voting rights threshold	457,987,760	470,062,108
218C1408	02/08/2018	JP Morgan Securities plc	22,188,834	4.84	4.72	dropping below the 5% capital and voting rights threshold	457,987,760	470,202,926
218C1499	24/08/2018	JPMorgan Chase & Co	23,726,653	5.18	5.05	exceeding the 5% capital and voting rights threshold	457,987,760	470,202,926
218C1510	28/08/2018	Crédit Agricole SA	21,159,186	4.62	4.5	dropping below the 5% capital and voting rights threshold	457,987,760	470,202,926
218C1516	30/08/2018	JPMorgan Chase & Co	23,240,716	5.07	4.94	dropping below the 5% capital and voting rights threshold	457,987,760	470,202,926
218C1519	31/08/2018	JPMorgan Chase & Co	22,883,969	4.99	4.87	dropping below the 5% capital and voting rights threshold	457,987,760	470,202,926
218C1533	04/09/2018	JPMorgan Chase & Co	23,223,504	5.07	4.94	exceeding the 5% capital and voting rights threshold	457,987,760	470,204,668
218C1548	10/09/2018	JPMorgan Chase & Co	23,646,149	5.16	5.03	exceeding the 5% capital and voting rights threshold	457,987,760	470,204,668
218C1574	18/09/2018	JPMorgan Chase & Co	23,429,010	5.12	4.98	dropping below the 5% capital and voting rights threshold	457,987,760	470,204,668
218C1586	19/09/2018	JPMorgan Chase & Co	23,064,795	5.04	4.91	dropping below the 5% capital and voting rights threshold	457,987,760	470,204,668
218C1587	20/09/2018	JPMorgan Chase & Co	22,202,606	4.85	4.72	dropping below the 5% capital and voting rights threshold	457,987,760	470,204,668
218C1710	17/10/2018	JPMorgan Chase & Co	23,850,357	5.21	5.07	exceeding the 5% capital and voting rights threshold	457,987,760	470,205,298

AMF Notice no.	Date threshold crossed	Group	Number of securities after crossing of threshold	% capital after crossing of threshold	% voting rights after crossing of threshold	Comments	Number of shares comprising the capital	Number of voting rights
218C1720	17/10/2018	Crédit Agricole SA	27,852,849	6.08	5.92	exceeding the 5% capital and voting rights threshold	457,987,760	470,205,298
218C1750	25/10/2018	JPMorgan Chase & Co	27,648,952	6.04	5.88	exceeding the 5% capital and voting rights threshold	457,987,760	470,205,298
218C1935	29/11/2018	Crédit Agricole Corporate and Investment Bank	22,938,931	5.01	4.88	dropping below the 5% capital and voting rights threshold	457,987,760	470,207,002
218C1945	30/11/2018	Crédit Agricole SA	1,384,995	0.3	0.29	dropping below the 5% capital and voting rights threshold	457,987,760	470,207,002
218C1979	10/12/2018	JPMorgan Chase & Co	23,485,630	5.13	4.99	dropping below the 5% capital and voting rights threshold	457,987,760	470,207,119
218C2037	18/12/2018	JPMorgan Chase & Co	68,003	0.01	0.01	dropping below the 5% capital and voting rights threshold	457,987,760	470,207,119
218C2059	20/12/2018	JPMorgan Chase & Co	23,175,482	5.06	4.93	exceeding the 5% capital and voting rights threshold	457,987,760	470,207,119
219C0014	31/12/2018	JPMorgan Chase & Co	123,003	0.03	0.03	dropping below the 5% capital and voting rights threshold	457,987,760	470,207,119

FY 2019 (as at 31 December)

Shareholders	Number of shares	% of share capital	Number of theoretical voting rights	% of theoretical voting rights	% of exercisable voting rights at Shareholders' Meetings
Public [(a)]	302,921,566	66.15%	304,859,744	64.88%	64.88%
Group employees [(b)]	15,120,610	3.30%	16,175,207	3.44%	3.44%
Bpifrance Participations SA [(c)]	66,695,708	14.56%	73,654,348	15.67%	15.67%
CDC Savings Funds Department [(d)]	6,030,658	1,32%	6,030,658	1.28%	1.28%
Group subtotal, CDC	**72,726,366**	**15.88%**	**79,685,006**	**16.96%**	**16.96%**
Nippon Steel Corporation [(c)]	66,695,715	14.56%	68,668,849	14.61%	14.61%
Treasury shares [(e)]	523,503	0.11%	523,503	0.11%	0.00%
TOTAL	**457,987,760**	**100.00%**	**469,912,309**	**100.00%**	**100.00%**

(a) *Summary of threshold crossings in 2019 detailed in the table below.*

(b) *The stake of Group employees as at 31 December 2019 includes all of the shares subscribed via company mutual funds under the international employee share ownership plans that have been implemented by the Group since 2007, which include allocated shares at that date. Recall that under the leveraged formula of these plans, the performance multiple on the Vallourec shares is obtained thanks to a transfer of the discount on dividends and other financial rights related to ownership of the shares to the bank structuring the transaction through a swap contract.*

(c) *As from 1 February 2016, Bpifrance Participations on the one hand and Nippon Steel Corporation (NSC, formerly NSSMC) on the other must respect a 15% cap on their voting rights for a 15-year period, subject to certain reservations.*

(d) *In a letter that the AMF received on 30 April 2014, the Caisse des dépôts et consignations (CDC) and Bpifrance Participations SA clarified that they were each acting alone, and the Caisse des dépôts et consignations (CDC) declared that there was no collaboration with Bpifrance Participations SA.*

(e) *Treasury shares include the shares held by the Company on its own account to cover its free share and performance share allocation plans. As a result, the number of treasury shares is subject to change at any time.*

Legal thresholds crossed during the fiscal year 2019

AMF Notice no.	Date threshold crossed	Group	Number of securities after crossing of threshold	% capital after crossing of threshold	% voting rights after crossing of threshold	Comments	Number of shares comprising the capital	Number of voting rights
219C0061	03/01/2019	JPMorgan Chase & Co	24,573,800	5.37	5.23	exceeding the 5% capital and voting rights threshold	457,987,760	470,286,184
219C0077	08/01/2019	JPMorgan Chase & Co	133,403	0.03	0.03	dropping below the 5% capital and voting rights threshold	457,987,760	470,286,184

To the best of the Company's knowledge, there are no other shareholders who, directly or indirectly, alone or together, hold more than 5% of the share capital or voting rights.

As at 31 December 2019, Vallourec's free float percentage was 66.15%.

2.3.2 Other persons exercising control over Vallourec

None.

2.3.3 Shareholders' agreements

On 1 February 2016, the Company entered into two shareholders' agreements with Bpifrance and Nippon Steel Corporation (NSC, formerly NSSMC), which were intended to regulate the shareholdings of Bpifrance and NSC. These shareholders' agreements were entered into for a 15-year term beginning on 1 February 2016 and may be extended for successive five-year periods, with each party having the option of terminating the agreement by giving written notice to the other party no less than six months before the expiration date.

A description of the main provisions of these shareholders' agreements appears in the declarations submitted to the French securities regulator regarding the communication of agreements between shareholders, as required by Article L.233-11 of the French Commercial Code *(Code de commerce)*. These declarations are available on the AMF website: http://www.amf-france.org/en_US/.

The cross-shareholding agreement entered into on 26 February 2009 between Vallourec and Nippon Steel Corporation (NSC, formerly NSSMC) was terminated in light of Vallourec's disposal of its stake in the capital of NSC.

2.3.3.1 Shareholders' agreement with Bpifrance

Governance: under the shareholders' agreement, Bpifrance has the right to request the appointment (and, where necessary, the renewal) of a representative to the Company's Supervisory Board, as long as Bpifrance holds more than 5% of the Company's capital and voting rights. Bpifrance has moreover committed to vote, when the Shareholders' Meeting decides on the appointment of an NSC representative to the Company's Supervisory Board, in favor of this appointment.

Commitments relating to ordinary shares: the shareholders' agreement prohibits the transfer of shares to a competitor of the Company and sets out orderly disposal clauses for the sale of shares on the market by Bpifrance or a selected investment service provider. These restrictions are not applicable, subject to certain conditions, in the event of a tender offer or a transfer to an affiliate.

Standstill: the shareholders' agreement is accompanied by a commitment from Bpifrance to limit its stake, individually or in concert, to 15% of the Company's voting rights as from 1 February 2016 and until the expiration date of the shareholders' agreement. Notwithstanding this standstill undertaking, under the shareholders' agreement Bpifrance may continue to benefit, for a four-year period starting on 1 February 2016, from the double voting rights attached to the Company's shares owned by Bpifrance, but it shall not use voting rights in excess of the 15% threshold at any Shareholders' Meeting of the Company. This standstill undertaking shall not apply upon the occurrence of a tender offer or if a third party comes to hold, acting alone or in concert, directly or indirectly, more than 15% of the Company's share capital or voting rights.

Right of first offer: Bpifrance has committed to inform the Company in writing in case it intends to transfer its shares to a third party. The Company will then have the right to purchase (or cause another party to purchase) the shares offered under the same conditions.

2.3.3.2 Shareholders' agreement with Nippon Steel Corporation (NSC, formerly NSSMC)

Governance: under the shareholders' agreement, NSC is entitled to request the appointment of one representative on the Supervisory Board of the Company at the first Shareholders' Meeting following the redemption of the mandatory convertible bonds into ordinary shares, as long as it holds more than 10% of the share capital and voting rights of the Company. The Company has undertaken to present and recommend a resolution at this Shareholders' Meeting to the effect of appointing an NSC representative as a member of the Supervisory Board. This member will be subject to information barriers to prevent the exchange of any competitively sensitive information.

Commitments relating to ordinary shares: the shareholders' agreement prohibits the transfer of shares to a competitor of Vallourec and sets out orderly disposal clauses for the sale of shares on the market by NSC or a selected investment service provider. These restrictions are not applicable, subject to certain conditions, in the event of a tender offer or a transfer to an affiliate.

Standstill: this shareholders' agreement is accompanied by a commitment from NSC to limit its stake, individually or in concert, to 15% of the Company's voting rights as from 1 February 2016 and until the expiration date of the shareholders' agreement. This standstill undertaking shall not apply upon the occurrence of a tender offer or if a third party comes to hold, acting alone or in concert, directly or indirectly, more than 15% of the Company's share capital or voting rights.

Right of first offer: NSC has committed to inform the Company in writing in case it intends to transfer its shares to a third party. The Company will then have the right to purchase (or cause another party to purchase) the shares offered under the same conditions.

Industrial agreements: in the event of a termination of the Joint Venture Agreement (shareholders' agreement) in Brazil, the R&D Contract or the trademark license agreement (entered into on 1 April 2007) signed between the Company and NSC (and/or their respective subsidiaries):

- due to the fault of NSC, the latter shall transfer all the Company's shares it holds within six months of the occurrence of the termination, subject to the contractual transfer restrictions applicable to the transfer of shares. NSC shall not exercise any voting rights relating to its shares during any Shareholders' Meeting held after the occurrence of the termination; and
- due to the fault of the Company, NSC shall either file a tender offer for the securities of the Company (by exception to the standstill undertaking), or transfer its shares without applying the restrictions applicable to transfers of shares (subject only to the prohibition to sell the shares to a competitor, which will remain applicable).

2.4 Market for Vallourec's shares

2.4.1 Stock market

The Company's shares are listed in Sub-Fund A of the Euronext Paris regulated market (ISIN code: FR0000120354-VK). They are eligible for deferred settlement and are a qualifying investment under French laws on equity savings plans (Plan d'Épargne en Actions – PEA).

The Vallourec share is one of the shares traded on the following indexes: SBF 120 and Next 150.

September 2024 Bonds are admitted to trading on the Euronext Paris market under the ISIN code FR0012188456.

The October 2022 OCEANEs (Bonds Convertible into New Shares and/or Exchangeable for Existing Shares) are admitted for trading on the Euronext Access market in Paris under ISIN code FR0013285046. The October 2022 Bonds are admitted for trading on the Euro MTF stock market of the Luxembourg Stock Exchange under the code XS1700480160. The October 2023 Bonds are admitted for trading on the Euro MTF stock market of the Luxembourg Stock Exchange under the code XS1807435026 (see Section 2.2.6, "Non-equity instruments" above).

2.4.2 Other potential markets

In October 2010, Vallourec set up a sponsored Level 1 American Depositary Receipt (ADR) program in the United States. This initiative demonstrates the Group's intention to broaden its investor base by enabling a larger number of US-based investors to participate in its future development.

An ADR is a US-dollar-denominated marketable security representing shares in a non-US company, which allows American investors to hold shares indirectly and to trade them on securities markets in the United States. Vallourec's ADRs may be traded on the US over-the-counter (OTC) market.

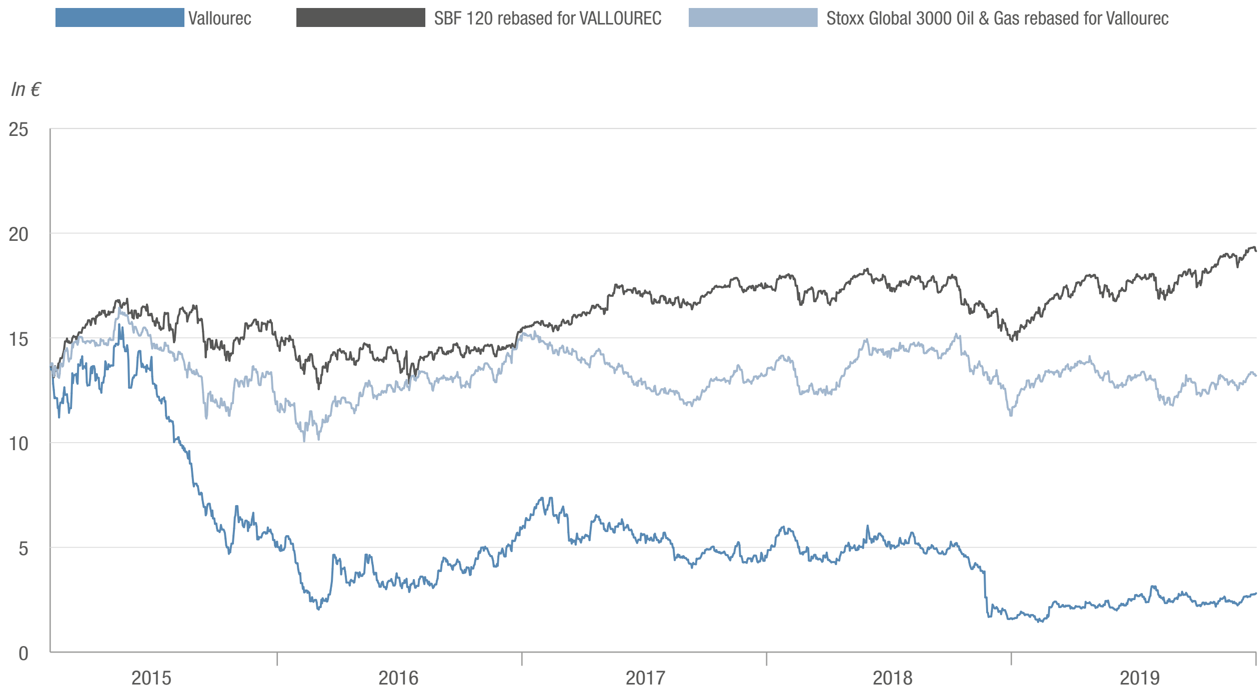
JPMorgan is the custodian bank responsible for administering the ADR program. Technical information about the ADR program is available on the Group's website under the Shares and Dividends heading. For further information, ADR holders may contact JPMorgan services, as follows:

- by phone: (800) 990-1135 (general) or (651) 453-2128 (if calling from outside the USA);
- by e-mail: jpmorgan.adr@wellsfargo.com, or by mail at the following address:

  JPMorgan Service Center
  JPMorgan Chase & Co.
  P.O. Box 64504
  St Paul, MN 55164-0504
  USA

2.4.3 Movements in the share price and market capitalization in the last five years

Vallourec share price performance in the last five years compared to the SBF 120 index and the Stoxx Global 3000 Oil & Gas



Movements in the share price and market capitalization in the last five years

In euros	2015	2016	2017	2018	2019
Number of shares outstanding (as at 31 December)	135,688,432	451,238,005	457,987,760	457,987,760	457,987,760
Highest price	26.79	6.65	7.47	6.08	3.19
Lowest price	7.63	1.93	4.02	1.56	1.37
Average (closing) price for the year	16.43	3.92	5.40	4.60	2.31
Year-end price	8.60	6.55	5.04	1.63	2.81
Market capitalization (year-end price)	1,166,920,515	2,955,608,933	2,305,968,372	744,459,104	1,286,945,606

Source: Euronext.

2.5 Dividend policy

Vallourec's dividend policy, approved by the Board at its meeting on 18 February 2020 and in accordance with its policy since 2003, is to target an average payout ratio of 33% of its positive consolidated net income, Group share, which remains its target when the Company's payout capacity recovers.

Given the negative result in the 2019 fiscal year, it will be proposed at the Shareholders' Meeting of 6 April 2020 (third resolution) not to pay any dividend for the 2019 fiscal year.

Based on the par value of the Vallourec share as at 31 December 2019, the dividends per share paid for the last five years are as follows:

In euro per share	Gross earnings	Tax credit	Net dividend	Payout ratio [(a)]
2015	0	None	0	–
2016	0	None	0	–
2017	0	None	0	–
2018	0	None	0	–
2019 [(b)]	0	None	0	–

(a) The payout ratio is calculated based on the total number of shares outstanding as at 31 December.

(b) Submitted for the approval of the Shareholders' Meeting of 6 April 2020.

2.6 Financial disclosure policy

The Group's priority is to maintain lasting, trustworthy relations with all its shareholders, whether individual or institutional, French or foreign. The role of the Investor Relations team is to facilitate shareholders' access to accurate and precise information that faithfully reflects the Group's activities, results, outlook and strategic developments.

Accordingly, and with ongoing concern for clarity and transparency, numerous dedicated communications media are available, and regular meetings are arranged throughout the year.

2.6.1 Information available to all shareholders

Financial information and communications media are electronically available to all shareholders on the Group's website (www.vallourec.com) under the Investors heading, which is an authoritative Group financial communications database. This media includes:

- the activity report, "Vallourec at a glance" brochure and letters to shareholders;
- all financial and strategic information issued to the financial markets, including quarterly results, press releases, financing, presentations and audio broadcasts of the annual results, and video broadcasts of the Shareholders' Meeting;
- all the regulated information disclosed under the European Transparency Directive of 15 December 2004 as amended, which specifically comprises:
  - the Registration Document, including the annual financial report, the half-year report and the management report of the Management Board, filed with the French securities regulator *(Autorité des Marchés Financiers)*,
  - documents relating to the Shareholders' Meeting (Notice of Meeting, draft resolutions, voting form, meeting brochure);
- all Group press releases, presentations and publications, which are available under the Media heading.

This information may be sent by mail following a request made on the Group website or addressed to the Investor Relations Department by e-mail, telephone or letter.

Annual Shareholders' Meeting

The Annual Shareholders' Meeting, which in 2019 was held at Palais Brongniart, is a key opportunity for dialog about the Group's performance over the year between shareholders and the Group's executive management. The Investor Relations team is also available to assist shareholders in their efforts to vote and participate in the Shareholders' Meeting.

Newsfeed

When disseminating its publications, Vallourec provides its shareholders and stakeholders with the possibility of subscribing to a Group newsfeed via the Internet at www.vallourec.com (Investors heading), through a simple online registration process. The newsfeed allows press releases on the Group's financial results and activities to be received electronically, along with notifications of financial publications and letters to shareholders.

2.6.2 Relations with institutional investors and financial analysts

On a regular basis and in accordance with best business practices, the Investor Relations Department organizes, along with various members of the Group's executive management, meetings with institutional investors and financial analysts, including SRI (socially responsible investment) specialists, in France and abroad:

- **each quarter, a conference call is organized** when the financial results are released. Members of the Management Board present the results and answer questions from analysts and investors. The conference call is broadcast live and rebroadcast on the Group's website;
- **each year, a face-to-face meeting is held in Paris,** upon release of the Group's annual results;
- **Vallourec regularly participates in events on socially responsible investment (SRI).** These meetings with investment funds and SRI analysts contribute to the Group's progress in the field of sustainable development;
- **an Investor Day is regularly organized,** where a presentation is made to the financial community on the Group's strategy, products and operations. Accessible to everyone in the form of a video broadcast that is available on the Group's website, the Investor Day allows investors and analysts to have detailed discussions with the Management Board and the operational supervisors on a wide range of topics, outside of the periods for reporting results.

Moreover, **many events are organized throughout the year between the Group's executive management and the financial community.** In 2019, Vallourec's executive management and the Investor Relations team took part in nearly 202 meetings and conference calls, and devoted some 28 days to roadshows and conferences, which were mainly dedicated to the oil and gas sector, at the world's leading financial centers, mainly in Europe and the United States.

2.6.3 Relations with individual shareholders

The Group seeks to promote a sustained dialog with its individual shareholders and strengthen the trusting, close relationships it has built with them. This dialog also helps Vallourec better understand the concerns of its individual shareholders, and to meet their expectations.

To that end, and through various additional media, specific communications methods were developed:

- an Individual Shareholders' section under the Investors heading of the Group's website (www.vallourec.com);
- the posting of financial notices in conformity with the current regulations (release of results, Notice of Shareholders' Meetings);
- specific communications media such as letters to shareholders;
- a dedicated toll-free number for individual shareholders (0 805 65 10 10, free from any landline in mainland France), which allows them to access information such as the financial agenda, as well as to hear a commentary on the most recent publication of the Group's results. The toll-free number also allows shareholders to get in touch with the Investor Relations team, or BNP Paribas Securities Services, if the shareholder has registered shares or is interested in acquiring such shares;
- a newsfeed which allows press releases, notifications of financial publications as well as letters to shareholders to be received electronically, simply by registering online at www.vallourec.com (Investors heading);
- a presence at the Actionaria Exhibition on 21 and 22 November 2019. The Investor Relations team, along with the business line experts, was thus able to present or reintroduce business lines, know-how and solutions of the Group, and to speak with the individual shareholders;
- a Shareholders' Club allowing members to participate in meetings dedicated to presenting financial results and to having more regular exchanges with Vallourec in order to gain a better knowledge and understanding of its activities. The Shareholders' Club and the conditions for joining and registering are accessible online at www.vallourec.com (Investors/Shareholder corner heading);
- lastly, an Investor Relations team is always available to answer shareholders' questions.

Directly registered shares

Vallourec offers its shareholders direct registration of their shares, which includes the following benefits:

- **free management:** direct registered shareholders are totally exempt from custody fees as well as other fees associated with the routine management of their shares such as:
  - conversion to bearer shares and share transfers,
  - changes to legal status: transfers, gifts, inheritance, etc.,
  - securities transactions (capital increases, share allocations, etc.),
  - dividend payments;
- **brokerage fees** of 0.25% of the amount of the transaction up to €200,000 and 0.15% above €200,000 (with a minimum of €4.10);
- **a guarantee of receiving personalized information:** the direct registered shareholder will receive personalized information on:
  - invitations to Shareholders' Meetings, with systematic sending of the Notice of Meeting, an individual form for postal voting or voting by proxy, and, upon request, the sending of an admission card and legal documentation,
  - securities management (purchase and sale orders, etc.), securities transactions organized by Vallourec, etc. To this effect, as well as for other information, a team of dedicated operators is continuously available to shareholders from 8:45 a.m. to 6:00 p.m. (Paris time), Monday to Friday, on +33 (0)1 40 14 80 17;
- **easy access to the Shareholders' Meeting:** all registered shareholders are automatically invited to Shareholders' Meetings, and are not required to first request a certificate of shareholding to vote;
- **a dedicated website,** Planetshares, can be accessed at: https://planetshares.bnpparibas.com. This site allows you to:
  - manage your assets,
  - issue orders,
  - participate in the Shareholders' Meeting,
  - directly download all communications relating to assets (portfolio trading, transaction notices, etc.).

Further information about direct registration and registration forms may be obtained from BNP Paribas Securities Services:

- by mail at the following address:

  BNP PARIBAS SECURITIES SERVICES
  Corporate Trust Operations
  Relations Actionnaires Vallourec
  9, rue du Débarcadère
  93761 Pantin Cedex – France
- by telephone on: +33 (0)1 40 14 80 17
- by fax on: +33 (0)1 55 77 34 17

2.6.4 Contact for Investor Relations and Financial Communications

Investor Relations Department

- Address: 27, avenue du Général-Leclerc – 92100 Boulogne-Billancourt – France
- Telephone: +33 (0)1 49 09 39 76
- E-mail: investor.relations@vallourec.com or actionnaires@vallourec.com

2.6.5 2020 Financial calendar (dates subject to change)

6 April 2020	Combined Shareholders' Meeting
13 May 2020	Release of results for Q1 2020
29 July 2020	Release of results for Q2 and H1 2020
18 November 2020	Release of results for Q3 and 9M 2020

CHAPTER 3

Presentation of Vallourec and its Group

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3.1 History and development of Vallourec and its Group

The Vallourec Group is over 100 years old, with some Group companies having been established in the last decade of the 19th century. Vallourec originated in two regions of France, both with long manufacturing traditions, where the Group still has a significant presence: the Hauts-de-France region around Valenciennes and Maubeuge, and the Burgundy region around Montbard, on the Côte-d'Or. Since the end of the 1990s and the creation of the joint venture between Vallourec and Mannesmann, the Group has also been widely established in the Düsseldorf region in North Rhine-Westphalia (Germany) and in the region of Belo Horizonte in the state of Minas Gerais, Brazil. In the first decade of the new millennium it strongly developed its positioning in North America and established itself in Asia. Also present in Africa and the Middle East, Vallourec is now an international group, operating close to its customers.

1886-1930: INVENTION OF THE SEAMLESS STEEL TUBE ROLLING PROCESS

In 1886, the Mannesmann brothers filed a patent that revolutionized the tube industry: thanks to a rolling mill with an oblique cylinder piercer, they were able to produce seamless steel tubes.

In the late 19th century, in France, tube manufacturers began to adopt the seamless tube manufacturing process that had been perfected by the Mannesmann brothers in Germany. The Société Métallurgique de Montbard was created in 1899 to take over Société Française de Fabrication des Corps Creux, which had operated a plant in Montbard since 1895. Listed on the Paris Stock Exchange since its founding in 1899, in 1907 it was renamed Société Métallurgique de Montbard-Aulnoye, which changed to Louvroil-Montbard-Aulnoye in 1937 after the takeover of Louvroil et Recquignies, itself a company resulting from a merger between Société Française pour la Fabrication des Tubes de Louvroil, founded in 1890, and Société des Forges de Recquignies, established in 1907.

1930: BIRTH OF VALLOUREC

The economic crisis prompted French tube manufacturers to join forces. The name Vallourec appeared for the first time as the name of a management company for tube plants in Valenciennes, Denain, Louvroil and Recquignies.

1957: LISTING OF VALLOUREC ON THE PARIS STOCK EXCHANGE

The Société des Tubes de Valenciennes and Société Louvroil-Montbard-Aulnoye merged. This Group became the second biggest manufacturer of steel tubes in France, and was listed on the Paris Stock Exchange under the name Vallourec.

1965: LAUNCH OF THE VAM® CONNECTION

A major innovation, the VAM® connection (named for Vallourec and Alexandre Madrelle, the engineer who developed the connection) revolutionized the oil industry. Thanks to unique mechanical features, it ensures complete sealing of the strings inside the well.

1976: INDUSTRIAL PARTNERSHIP WITH SUMITOMO

The development of the oil market prompted Vallourec to build industrial partnerships in order to meet its customers' demand worldwide. In 1976, Vallourec signed a licensing agreement with the Japanese group Sumitomo (the third largest producer of steel tubes worldwide) and created a joint venture with it in 1984 to produce and market VAM® connections in America. These agreements were the starting point for an ongoing collaboration.

1997: CREATION OF THE JOINT VENTURE BETWEEN VALLOUREC & MANNESMANN TUBES

Created in 1890, shortly after the Mannesmann brothers' revolutionary discovery of the seamless steel tube rolling process, Mannesmannröhren-Werke AG quickly became a world benchmark. The formation of Vallourec & Mannesmann Tubes, a joint subsidiary of Vallourec (55%) and the German company Mannesmannröhren-Werke (45%), allowed the two companies to offer their customers the widest range of tube sizes in the world.

2000: DEVELOPMENT IN BRAZIL

Vallourec & Mannesmann Tubes acquired the Brazilian subsidiary Mannesmannröhren-Werke, now known as Vallourec Soluções Tubulares do Brasil.

2002: STRENGTHENING OF THE GROUP'S PRESENCE IN THE UNITED STATES

Established since 1984 in the United States, the reference market for tubes for oil and gas well equipment (Oil Country Tubular Goods – OCTG), Vallourec has significantly strengthened its presence in the United States through the acquisition of the seamless steel tube activity of North Star Steel Company (North Star Tubes), which includes an electric steel mill and a tube mill in Youngstown (Ohio), along with a heat treatment and threading unit in Houston (Texas). Now called Vallourec Star, this company is 80.5% controlled by Vallourec Tubes and 19.5% controlled by Sumitomo Corporation.

2005: ACQUISITION BY VALLOUREC OF COMPLETE CONTROL OF VALLOUREC & MANNESMANN TUBES

Vallourec gained full control of Vallourec & Mannesmann Tubes through the acquisition of the 45% stake held by Mannesmannröhren-Werke for €545 million. This major transaction gave Vallourec full control over implementing the strategy of the joint venture.

2005-2006: STRENGTHENING OF THE DRILLING TUBE ACTIVITY

Vallourec acquired the assets of the Omsco Division of ShawCor in the United States (Houston). This acquisition allowed Vallourec to become the second largest drilling tube operator for the Oil & Gas market in the world. This position was strengthened in 2006 with the acquisition of SMFI (Société de Matériel de Forage International) in France. The activities were combined under the name Vallourec Drilling Products.

2006-2011: EXPANSION TO CHINA

In an effort to pursue its growth in the area of tube production for the Power generation market, in 2006 Vallourec opened a subsidiary, Vallourec Changzhou Co., Ltd.(1), which was established in Changzhou, China, specialized in the cold-finishing of large-diameter seamless alloy steel tubes, produced in Germany for power plants.

In the same year, VAM Changzhou Oil & Gas Premium Equipments was created to operate a mill in Changzhou for threading tubing to equip oil and gas wells. Production began in mid-2007.

In an effort to further strengthen its presence on the Chinese market, in 2011 the Group acquired 19.5% of Tianda Oil Pipe Company Limited (TOP), a Chinese manufacturer of seamless tubes, listed on the Hong Kong Stock Exchange. Under the terms of a cooperation agreement with TOP, VAM Changzhou Oil & Gas Premium Equipments threads premium tubes manufactured locally by TOP for the Chinese premium OCTG market.

2008: ACQUISITIONS IN THE UNITED STATES

To strengthen its positions in products with high added value, Vallourec acquired Atlas Bradford® Premium Threading & Services, TCA® and Tube-Alloy from Grant Prideco. These companies are specialized, respectively, in the production of premium connections, the heat treatment of high-grade alloy steel tubular products, as well as the production and repair of accessories used inside oil and gas wells, and in complex threading operations. In 2009, Atlas Bradford® Premium Threading & Services and TCA® merged with VAM USA LLC and Vallourec Star respectively.

2009-2010: NEW TUBE PRODUCTION CAPACITIES FOR NUCLEAR POWER PLANTS

Valinox Nucléaire, a Vallourec subsidiary specialized in the manufacturing of steam generator tubes, invested in new production capacities in Montbard (Côte-d'Or, France) to meet the growing needs of the nuclear energy market. In order to assist in the strong growth of the Chinese nuclear fleet, Valinox Nucléaire also invested in a new production unit in Guangzhou, in the southeast of China.

2009-2010: DEVELOPMENT IN THE MIDDLE EAST

In 2009, Vallourec acquired DPAL FZCO, a drill pipe supplier established in Dubai (UAE). This acquisition allowed Vallourec Drilling Products to increase its presence in the Middle East and to supply local and international customers of the Group. In 2010, the Group acquired the Abu Dhabi (UAE)-based Protools, the biggest drill pipe accessories producer in the Middle East, thus enabling it to offer comprehensive solutions for the whole drill string.

2010: CONSOLIDATION OF THE PREMIUM SOLUTIONS OFFER

Vallourec acquired Serimax, the world leader in welding solutions for offshore line pipes. This acquisition supplemented Vallourec's activities in the area of offshore line pipes and allowed the Group to offer its customers integrated solutions.

2011: STRENGTHENING OF THE GROUP'S INDUSTRIAL PRESENCE IN BRAZIL AND THE MIDDLE EAST

In 2011, the new integrated joint industrial site for Vallourec & Sumitomo Tubos do Brasil was commissioned at Jeceaba, in the state of Minas Gerais, Brazil. This premium industrial site includes a steel mill, a tube mill, and a group of heat treatment, threading and finishing lines.

In the same year, Vallourec acquired Saudi Seamless Pipes Factory Company Ltd, the leading processing and finishing company for seamless OCTG tubes in Saudi Arabia. Vallourec thus became the leading player in the OCTG market to have local access to integrated heat treatment and threading facilities, to which it added a new threading line of VAM® connections.

2012: PARTICIPATING IN THE DEVELOPMENT OF UNCONVENTIONAL HYDROCARBONS IN THE UNITED STATES

Vallourec began operating a new premium small-diameter tube mill in Youngstown (Ohio), thereby covering a full range of products and services necessary for the production of all hydrocarbons, especially those relating to shale oil and gas.

2013: VALLOUREC, THE SINGLE BRAND FOR ALL COMPANIES OF THE GROUP

Since the formation of the joint venture Vallourec & Mannesmann Tubes, numerous entities of the Group operated under the V&M brand. In 2013, in an effort to contribute to strengthening its world leadership and assisting its growth strategy, Vallourec combined all of its entities under the same name: Vallourec, attesting to the complete consolidation of the numerous companies the Group has acquired worldwide.

2014: VALLOUREC IS BOOSTING ITS SALES IN AFRICA

Having established a presence in Angola via a service center since 2007, Vallourec opened a sales office in Nigeria and a premium tube threading plant in 2009. This presence led to the signing in 2014 of three major contracts in Africa for the supply of subsea line pipes and premium tubular solutions for use in highly complex deepwater offshore projects in Ghana, Nigeria and Angola.

2015: VALLOUREC DEPLOYS VALENS, ITS TWO-YEAR COMPETITIVENESS PLAN

At the beginning of 2015, Vallourec announced that it had launched "Valens," a two-year competitiveness plan aimed at cost reduction and cash flow optimization.

In parallel, Vallourec launched a streamlining process for its European steel tube production units.

2016: VALLOUREC ACCELERATES ITS TRANSFORMATION AND ANNOUNCES MAJOR STRATEGIC INITIATIVES

On 1 February 2016, Vallourec announced major strategic initiatives to transform its operational set-up, improve its competitiveness in the short and longer term, and reinforce its financial structure to secure long-term profitable growth and create value for its shareholders. Vallourec is thus streamlining its industrial footprint in Europe and Brazil, acquiring control of Tianda Oil Pipe in China, and has raised nearly €1 billion through a capital increase. These strategic initiatives are described in Section 3.6 "Implementation of the Transformation Plan – Strategic Vision" of this Universal Registration Document.

(1) Since 18 August 2017, this company has been called Vallourec (China) Co., Ltd.

2017: VALLOUREC IS CONTINUING ITS TRANSFORMATION

Throughout the period, Vallourec continued its transformation, notably through the establishment of a new organization structured around four regions and two central departments, and the rollout of new production. Vallourec also strengthened its liquidity profile by raising €800 million on the bond and convertible bond markets.

2018: DEPLOYMENT OF NEW COMPETITIVE ROUTES

In 2018, the deployment of the new production routes from China and Brazil allowed the Group to win a number of tenders in all geographic areas. In Brazil, the Group also renewed its long-term contract (three years) with Petrobras for the supply of premium OCTG tubes and services. The disposal of Vallourec Drilling Products, announced in late 2017, was finalized. Lastly, the Group also strengthened its liquidity with a €400 million bond issue in April.

2019: LAUNCH OF SMARTENGO™, COMMERCIAL SUCCESS IN EA MEA AND THE ANNOUNCEMENT OF THE MANAGEMENT BOARD SUCCESSION PLAN

In March 2019, Vallourec launched Smartengo™, its new online sales platform for the Oil & Gas market. On 9 September 2019, Vallourec announced that it had won a contract worth USD 900 million for the supply of OCTG tubes to the Abu Dhabi National Oil Company (ADNOC) over five years with a two-year extension clause. Vallourec will also be supplying a wide range of services, from plant to wells, developed as part of its new global service range Vallourec.smart.

The Supervisory Board, which met on 17 September 2019 chaired by Vivienne Cox, selected Édouard Guinotte to succeed Philippe Crouzet as member and Chairman of the Management Board after the end of his term on 15 March 2020.

3.2 Description of the Group's business model and activities

3.2.1 Valllourec's economic model

3.2.1.1 General introduction to the Group

Vallourec is a world leader in premium tubular solutions, primarily aimed at the Oil & Gas, Industry, and Power generation markets. With nearly 19,000 employees in late 2019, integrated production sites, state-of-the-art Research and Development (R&D) and a presence in over 20 countries, the Group offers its customers innovative global solutions tailored to the energy challenges of the 21st century.

Originally based in France and Germany, Vallourec now has frontline positions in the United States, Brazil, Europe, the Middle East and Asia. With more than 50 production units and finishing lines around the world, Vallourec has integrated sites combining steel mills and tube mills in the United States and Brazil.

The Group provides a wide range of premium tubular solutions – high-performance solutions whose manufacture requires significant technological and industrial expertise – in addition to related specialized services that provide customers with a complete range of innovative solutions to meet their strictest requirements.

The Group's offer includes:

- a range of seamless tubes that is among the most extensive in the world in terms of sizes and proportions (length, diameter, thickness) going up to 1,500 millimeters in outside diameter, with a variety of more than 250 grades of steel (high-grade and low-grade carbon steel alloys, stainless steels, nickel alloys, etc.);
- specialty tubes; and
- connections, including VAM® and accessories; and
- innovative and connected services.

The Group offers products and services for the following three markets:

- Oil & Gas: tubes, connections and connected services for exploration and operation of oil and gas fields, including the most complex ones. Vallourec offers a full range, which allows it to make use of all oil extraction options: shale, onshore and offshore;
- Industry (mechanical, automotive, and construction): lightweight and resistant tubes for a wide range of applications, hollow sections, tubes, and hollow bars for the automotive, mechanical or construction markets;
- Power generation: a wide range of tubes needed to build conventional and nuclear power plants.

Developments in these three markets in 2019, and the outlook for these markets going forward, are presented in Section 3.4 of this Universal Registration Document.

AMBITION: TO BE THE INNOVATIVE AND AGILE PARTNER OF CHOICE FOR ITS CUSTOMERS

Vallourec's ambition is to be the innovative and agile partner of choice for smart and sustainable tubular solutions for its customers.

A partner of choice: a world player with leading regional positions, the Group aims to satisfy each customer at the lowest cost, thanks to a differentiated offer of products and services with high added value.

Agile: to respond to its customers' needs more and more quickly, Vallourec has reviewed its innovation policy to become more responsive and rapidly offer new solutions that meet market expectations. Furthermore, its regional presence allows it to offer its customers delivery and service time frames that address their concerns as much as possible.

Innovative: innovation is at the core of the Group's DNA, and is marked by the development of the most advanced products and connections. In order to continue to best respond to the expectations of its customers and markets, Vallourec's innovation strategy was expanded to the development of new products, services, as well as new business models. Developing digital in commercial offers is a key axis, marked by the launch of the smart services offering, Vallourec.smart, in 2018. This offering brings together the Group's physical and digital services.

A DIVERSIFIED PRODUCT AND SERVICES OFFER AND A GEOGRAPHICAL FOOTPRINT THAT SERVE ITS CUSTOMERS

In order to be as close as possible to its customers and assist them in all of their development projects, in 2017 Vallourec established a regional organization around four main hubs: Europe/Africa, Middle East/Asia, North America, and South America.

The Group has a diversified customer portfolio and a global presence that allows growth opportunities to be achieved in each of its markets. Vallourec benefits from a balanced distribution of its revenue. The Group's top ten customers represented 38% of total revenue in 2019 and the balanced geographical distribution of the revenue demonstrates the Group's strong positions in its strategic markets. The distribution of revenue by market is presented in Section 3.2.2.1 of this Universal Registration Document.

INNOVATION AT THE CORE OF THE GROUP'S DNA

Vallourec benefits from patented technology that gives it a strong competitive advantage: the VAM® connection, which ensures perfect sealing for tube columns in the equipment areas, makes the Group a leading manufacturer of seamless tubes.

Vallourec intends to maintain its technological progress, which allows it to anticipate its customers' needs. Innovation is at the heart of its growth strategy:

- Vallourec's customers want assistance in optimizing and securing their facilities. Vallourec responds to their expectations with full offers that have high added value, which integrate connected tubes and services;
- the Group innovates in the following areas: manufacturing processes, the development of new products, and the improvement of the performance of existing products, as well as rolling out new customer solutions and services.

The digital revolution has resulted in new possibilities for optimizing operations and making them more efficient, for the entire value chain, and in an increased demand from Vallourec's customers in all sectors for smart solutions of this type. Vallourec has already proposed connected solutions and is working to develop this offer to address its customers' concerns as closely as possible.

Vallourec is moreover preparing for energy transition by exploring how its products can be used in this context. Some of its products have already been incorporated into concrete applications, for example for geothermal plants, which require tubes with very demanding properties (corrosion, extreme heat conditions).

A RESPONSIBLE PLAYER

Vallourec has always integrated the highest standards of responsibility and requirements into its strategy, in terms of safety, quality, and social and environmental policy: its process and the corporate social responsibility objectives it has set for itself are formalized in the Sustainable Development Charter and are described in the consolidated statement of non-financial performance, which is included in Chapter 4 of this Universal Registration Document.

Vallourec is part of the Ethibel Sustainability (ESI) Excellence Europe index.

The Vallourec Group intends to play a part in energy transition and support its customers in their transformation. Vallourec's products and services are already in numerous applications for energy transition, and the Group participates in research on onshore and offshore wind, and the transport and storage of carbon and hydrogen.

The Group is studying development opportunities to meet the future needs of rapidly changing markets and has launched a structure dedicated to this activity, which targets four key areas: geothermal energy (in order to grow this activity which is already part of Vallourec's offering); offshore wind (notably focused on a wind turbine anchor solution, which is currently in the prototype stage); the capture, storage and utilization of carbon (CCUS); and hydrogen. The latter two areas draw on the Group's vast expertise and probably represents the highest potential, albeit within a slightly longer time frame.

3.2.1.2 Products and services for the Oil & Gas market

Vallourec has expanded its offer to serve its customers thanks to the combination of standard and highest-performing products, enabling it to meet both the requirements of the least demanding environments as well as those of the most sophisticated applications in terms of pressure, temperature, and corrosion. The Group is developing a service offer associated with these products to improve operators' costs, ease product implementation, and increase the lifetime of facilities.

PRODUCTS FOR THE OIL & GAS MARKET

Vallourec offers a line of tubular solutions to the oil and gas industry that satisfies the strictest requirements and covers the entire chain of production, from exploration to production and transport of oil and gas.

The standard product ranges meet the API international standards and contribute, thanks to Vallourec's competitive offer, to reducing operators' costs.

The Group's premium product lines are adapted to the most challenging extreme and increasingly complex environments, such as:

- deep wells;
- corrosive environments;
- deviated and horizontal wells; and
- HP/HT (high pressure/high temperature).

The Group's products and services cover the entire production chain of the Oil & Gas sector: exploration, development and production, transport and processing:

- **OCTG:** Vallourec OCTG (Oil Country Tubular Goods) products are seamless threaded tubes that are found in a large number of oil and gas wells throughout the world (casing and tubing). The tubes are generally connected using premium threaded VAM® connections, which are trademarked by Vallourec;
- **Transport and processing:** gas and oil are transported from the well to the processing units, whether offshore or onshore, using Vallourec tubes and accessories. Its stainless steel, super duplex welded tubes for umbilical applications connect seabed equipment to the control station at the surface.

Tubes and accessories for the Oil & Gas market

For production phases, the Group offers OCTG products, which are threaded tubes designed for oil and gas well equipment. The OCTG products produced by the Group include casing, which consists of tubes that are assembled using sealed connections to form a column supporting the walls of an oil or gas well. The Group also offers tubing, consisting of steel tubes, smaller in diameter, assembled using leak-tight connections to form a production string used to lift the fluids produced from the bottom of the well towards the surface.

The sealed assembly of OCTG premium tubes relies on VAM® connections offered by the Group (described below in the section on VAM® Connections). These connections have technical characteristics that enable them to withstand the strong forces that the OCTG products are subjected to under extreme conditions.

OCTG activities are being developed in Europe, Africa, the Middle East and Asia, as well as in North America and South America. Each region integrates tube rolling, heat treatment and threading facilities.

VAM connections®

VAM® connections, used for Oil & Gas activities, are premium threaded connections invented and patented by Vallourec. They provide tubes with connections that are resistant to pressure and compression and ensure a perfect seal.

The development of the VAM® connections is a joint activity of Vallourec and Nippon Steel Corporation (NSC, formerly NSSMC). This cooperation, which has allowed the VAM® brand to become a world leader on the OCTG market, is still as dynamic as ever and allows it to offer solutions that are best adapted to oil and gas operators' needs.

Since the first VAM® patent, which Vallourec filed in 1965, more than 30 VAM® product lines have been put on the market; specific developments have been added, which meet the most varied requirements. This offer particularly includes:

- VAM® 21: available in diameters of 3 1/2 to 14 inches (approximately 10 to 35 centimeters). This innovative connection has become the new leading product. As resistant as the tube itself, it was the first to offer performance meeting the CAL IV standard defined in the most recent changes to ISO 13679 and API RP 5C5, two technical specifications required by oil customers. The product line is constantly being supplemented by other versions that meet operators' specific needs: higher torque capacity, development of thick tubes, etc.;
- VAM® HTTC (High Torque Threaded and Coupled): designed for highly deviated wells with long horizontal sections, the VAM® HTTC premium connection for casing and tubing withstands extreme torque and compression when the column is being installed and maintains a perfect seal during production. Available in various dimensions, VAM® HTTC is a high-added-value product that allows the most complex horizontal drilling to be carried out safely. Following its commercial successes in 2018, the Group qualified this product in 2019 with the CLEANWELL® solution for the customer ADNOC. This qualification was realized through orders for production in 2020;
- VAM® EDGE SF and VAM® SPRINT: the Group is very involved with non-conventional oil and gas deposits in the United States and has developed connections to address these highly specific needs. VAM® EDGE SF, qualified in 2013, is a premium connection designed for long horizontal sections (up to 10,000 feet). Its technical characteristics are perfectly tailored to this type of drilling, in particular boasting better resistance to tension and to high torque, as well as gas tightness in compliance with the strictest ISO standards; VAM® SPRINT is an integral connection developed in 2019 to supplement the specific range on offer for non-conventional customers with a more economical solution for applications that are less demanding when it comes to sealing, but require high torque and tension performance;
- VAM® BOLT-II is a premium integral connection for large-diameter casing. Its mechanical integrity and seal make it especially well-suited to high-pressure, high-temperature deepwater offshore wells, which are common in the Gulf of Mexico, off the Brazilian coast and in the Gulf of Guinea, as well as in North Africa and the Asia Pacific region;
- VAM® SLIJ-3 covers the high-performance integral connection segment. This is a semi-integral connection that ranks among the best performers on the market. Already certified in accordance with the strictest standard currently applicable (API CAL IV: 2017), in several sizes from 7 5/8" to 16.25", it is primarily aimed at ultra-deepwater offshore applications. Feedback from highly satisfied customers underscores the performance of this new product;
- in 2018, the Group pursued an ambitious research and industrialization program on CLEANWELL®, a dry coating applied to VAM® connections, which provides grease-free lubrication and protects the threading from corrosion during transport and storage. The second generation of CLEANWELL® technology, placed on the market in 2016, has been used in several regions of the world (North sea, West Africa and Egypt) in the last few years with the aim of expanding the customer portfolio, with a success that has been praised by a number of different users as this solution improves safety conditions on rigs and reduces installation times and waste. In order to meet demand, the Group is working on the deployment of the third generation of CLEANWELL® with even better performance, launched in France in 2019, for which Vallourec has already received very positive customer feedback;
- VAM® EPIC is a premium integral connection using an "upset" or extruded tube (produced using a dedicated process tool), certified and validated in 2019, that combines increased performance compared to a standard integral connection with a finer profile and a transition zone with the tube that is more progressive than that of a threaded sleeved connection. This product allows a better quality of cementing to guarantee the integrity of the well, and makes it possible to execute projects involving wells with difficult pressure conditions, particularly in the Gulf of Mexico;
- to make the VAM® range a leader in premium joints, Vallourec consolidated coordination of the Research and Development Departments involved with this product line under Vallourec Oil & Gas France, with R&D branches close to the major OCTG markets in the United States (VAM USA in Houston) and Brazil (VSB in Belo Horizonte). Support for the VAM® product lines worldwide is provided by a broad network of local licensees close to our customers' operations.

The Group also continued to develop its site services network, which provides worldwide coverage from service centers based in Scotland, the United States, Mexico, Singapore, China, Angola, Nigeria and the Middle East. Since 2008, Vallourec has also produced petroleum accessories related to the VAM® joint through its subsidiary Vallourec Tube-Alloy, LLC (USA). This expertise is deployed in Mexico, Brazil, France, Singapore and Indonesia to provide, as a complement to its network of licensed partners, global coverage for accessory requirements to meet customer needs for the VAM® joint.

Development of high-performance steels for OCTGs

To combat corrosion in oil and gas wells, major research programs are underway to create high-tensile carbon steels resistant to H2S (hydrogen sulfide) corrosion and to market them.

Tubes and accessories for transportation of Oil & Gas

The Group's product line for transportation includes the following:

- rigid subsea line pipes (production and injection lines known as flowlines, which are pipes that rest on the seabed for the transport of production or injection fluids, and risers, which bring fluids up from the wellhead to the surface and then connect them to processing units);
- onshore rigid line pipes;
- specialized tubes for umbilicals, through its subsidiary Vallourec Umbilicals – France, which manufactures and sells super duplex welded (stainless steel) tubes for umbilicals, which are structures comprising tubes, cables and/or optical fibers that are used to connect seabed equipment to a control station at the surface for applications in the offshore oil industry; and
- process tubes.

Tubes for the processing of industrial fluids and hydrocarbons

The Group offers a wide range of carbon steel and steel alloy tubes, as well as hollow bars (semi-finished tubes for later processing into a product that meets the needs of a specific market) and connections adapted to the needs of each project.

In particular, for petrochemicals, the Group is a supplier of seamless tubes for refineries, petrochemical facilities, floating liquefied natural gas (LNG) plants, and production, storage and offloading units (FPSO).

SERVICES FOR THE OIL & GAS MARKET

To respond to the needs of its customers (operators, engineering firms, and distributors) in terms of efficiency, cost and integrity, Vallourec services has increased its offerings to include innovative solutions tailored to specific project needs, such as on-site offshore and onshore welding, coating, bending, and complex project management.

As a result, Vallourec offers a series of services to its customers through "Vallourec Global Solutions", which assists customers and provides them with the benefit of Vallourec's know-how throughout the lifetime of the facility. They include:

- the VAM® Field Service offering, which includes more than 167 technicians and engineers in 17 locations around the world, available 24 hours per day at the well site to assist customers in lowering tubes, inspecting connections, and supervising assembly. Furthermore, the Group has entered into partnerships with more than 200 licensees to repair Vallourec products and thread tubes with VAM® on all oil accessories;
- inventory management, in which Vallourec's logistics engineers can manage, at the customer's request, their tubular product inventory and coordinate the preparation of tubes to be sent to the platform;
- advisory services in which Vallourec provides guidance including with respect to well design. Vallourec experts recommend the best tailored tubing and casing (in terms of sizing and steel grade) to customers and the connections that best respond to the requirements of the well;
- training sessions in which "Tubular Essentials" are provided by the Group's experts to teach operators best practices for optimal use of tubes and connections, handling, and inventory management.

The Group proposes a series of tailored services grouped within the Vallourec™.smart offering, adapted to the customer's needs including tube inspection, maintenance and repair, on-site services, preparation for drilling operations, and well coordination and supply based on the drilling plan. For example, Vallourec has delivered deepwater offshore projects in which it managed execution of all of the tube production, coating, welding, and manufacture of the line pipe to be installed in the water.

The Group also offers specific integrated solutions for the subsea line pipe market, including welding, coating, insulation, logistics and service agreements that may be specifically entered into depending on the customer's needs. In partnership with a thermal insulation specialist, Vallourec provides line pipes using pipe-in-pipe technology, in which the line pipe is covered with an insulating, high-performance material and then inserted into another tube. This technology keeps oil and gas at the proper temperature to ensure that it flows properly during transport from the wellhead to the production platform.

In addition, the Group offers tube coating and welding services on site, primarily through the following subsidiaries:

- Serimax – France, a global leader in integrated welding solutions for offshore line pipes, with an international presence consisting of service units close to project sites. Serimax relies on its new welding research centers in order to develop joint research programs with its customers and to respond to projects' increasing technical requirements;
- Serimax Field Joint Coating – UK, which carries out coating activities on the end-to-end welded section of line pipes both onshore and offshore on installation vessels, complementing the welding solutions offered by Serimax.

3.2.1.3 Products and services for other markets

The Group offers complete solutions for the Power generation market and for the industrial market (mechanical, automotive and construction).

PRODUCTS AND SERVICES FOR THE POWER GENERATION MARKET

Vallourec's tube portfolio for the Power generation market is one of the largest in the world. For conventional thermal power plants, new generation "ultra-supercritical" coal-fired powered plants, or nuclear power plants, Vallourec responds to the different needs of power producers.

The Group offers its customers seamless tubes for boilers and steam generators, in all sizes and all grades, from carbon steel to nickel alloy, through high alloy steel. The tubes cover all the carbon steel grades required in power plants and the entire size range, from small diameters for boiler tubes to very large diameters for steam pipes.

Vallourec's products respond to the challenges of power producers, and the Group's services support their performance, from logistics to risk assessment and customer-specific training.

The reduction in the number of coal-fired thermal power plants under development in Asia since 2018 has led to a drop in the demand for tubes for these applications. The increased customs tariffs applied by the Chinese authorities since June 2019 on a significant portion of the steel tubes produced in Germany for the Chinese conventional powergen market makes the divestiture of this business unlikely. In the first quarter of 2020, the decision was made to close the plant in Reisholz (Germany), which specializes in tubes for conventional power plants. This decision will take effect in the second half of 2020.

Vallourec also participates in various innovation projects concerning renewable energies, such as, for example, onshore and offshore wind, and the transport and storage of carbon and hydrogen.

PRODUCTS AND SERVICES FOR THE INDUSTRIAL MARKET

Products offered to customers in the industrial market are designed for highly varied mechanical, automotive and construction uses. The Group produces tubes, hollow bars (semi-finished tubes for subsequent processing into products meeting the needs of a specific market), and sections (circular, square, rectangular or octagonal sections for a vast array of applications), in all sizes and grades of steel. Its offerings respond to the needs of the most varied and demanding industrial applications with special grades of steel.

Vallourec's premium tubular solutions are found in much infrastructure construction: bridges, stadiums, industrial and logistics buildings, airports and other ambitious architectural projects. The mechanical industry uses Vallourec's tubes and rings to manufacture cranes, construction machinery, agricultural machinery, and hydraulic cylinders. Automotive manufacturers equip their heavy-weight and light-weight vehicles with the tubes and axles produced by the Group.

IRON ORE PRODUCTION

In Brazil, the Group extracts iron ore in its Pau Branco mine, in Minas Gerais State, 30 kilometers south of Belo Horizonte. The mine supplies the blast furnaces and the pellet plant of its affiliates located at Jeceaba, in the Minas Gerais, and also markets its production locally.

Its annual production capacity in 2018 was 4.7 million metric tons of iron ore. In the second quarter of 2019, Vallourec was granted the required license from the Minas Gerais authorities to extend production capacity by building a new processing unit which should make it possible to reach a total production capacity of 8.5 million metric tons in 2022. The production volume achieved in 2019 was 6.2 million metric tons. Iron ore production should stay at a similar level until completion of the extension project.

3.2.2 Markets and customers

3.2.2.1 Vallourec's markets

The Group's principal market is the Oil & Gas and Petrochemicals market, representing 71.7% and 72.9% of the Group's revenue in 2018 and 2019 respectively. The table below shows the breakdown of the Group's revenue by market in 2018 and 2019.

In € million	2018	% of revenue	2019	% of revenue
Oil & Gas	2,469	63%	2,752	65.9%
Petrochemicals	344	8.8%	290	7.0%
Total Oil & Gas and Petrochemicals	**2,813**	**71.7%**	**3,042**	**72.9%**
Mechanicals	469	11.9%	368	8.8%
Automotive	148	3.8%	115	2.8%
Construction & other	202	5.2%	456	10.9%
Industry	**819**	**20.9%**	**939**	**22.5%**
Power generation	**289**	**7.4%**	**192**	**4.6%**
TOTAL	**3,921**	**100.0%**	**4,173**	**100.0%**

For an analysis of changes in the market, see Section 3.4 "Market environment" and for an analysis of the variation in the Group's revenue by market, see Section 3.7, "Results of operations" of this Universal Registration Document.

A breakdown of revenue by geographic region in 2019 is presented in Section 3.7 "Results of activities" of this Universal Registration Document.

3.2.2.2 Principal customers

The Group's largest customers include:

- in the Oil & Gas market, international oil companies (such as Total and Shell), national companies (such as Adnoc and Petrobras), private independent companies, American distributors, oil service companies, as well as engineering and construction companies (such as TechnipFMC);
- in the Industry market, European and international distributors and manufacturers of industrial equipment.

In certain geographical markets, and in particular in the United States and in Germany, the Group's principal customers are distributors. In the rest of the world, the Group's customers are end-users.

In 2019, the Group's 10 largest customers represented 38% of consolidated revenue, and the five largest customers represented 26% of consolidated revenue.

3.2.3 Competitive position

The information below is broken down into the various markets in which Vallourec participates. It is based on the Group's internal analyses and constitutes its own estimates.

See paragraph "Risks related to competition" of Section 5.1.1 of this Universal Registration Document.

3.2.3.1 Oil & Gas

Vallourec operates in two markets: threaded seamless tubes for the equipment of oil and gas wells used for exploration and production (OCTG), and the offshore and onshore line pipes for oil and gas transportation:

- in the OCTG market, Vallourec is among the world's leading suppliers of premium products in terms of volumes delivered:
  - in the market for premium connections that satisfy demanding technical performance criteria, the VAM® ranges produced in cooperation with Nippon Steel Corporation (NSC, formerly NSSMC), is the world leader,
  - the Group's main competitors in the OCTG market are Tenaris, NSC, JFE, US Steel Tubulars, TMK, TPCO and Voest Alpine Tubulars;
- Vallourec is one of the three major players in the offshore line pipe market for premium seamless tubes, with Tenaris and NSC:
  - the Group has a strong position in deep water (over 500 meters) projects, which require high-tech products,
  - Vallourec also has a presence on the onshore line pipe segment,
  - through its subsidiary Serimax, Vallourec has also positioned itself as the world leader in welding and coating solutions for both offshore and onshore line pipes,
  - moreover, Vallourec is offering a premium line of welded super duplex steel tubes that can be fitted into umbilicals at offshore oil and gas fields. The first tubes were successfully assembled in 2016 for a project in the North sea (Glenlivet project, Scotland). In 2018, tubes were delivered for a project along the Angola coast (project Block 15/06, Angola), in the Okhotsk sea (Kirinskoye project, Russia) and in the Gulf of Mexico (Who Dat project, United States).

3.2.3.2 Petrochemicals

Vallourec is a supplier for several applications: seamless tubes for refineries, petrochemical facilities, floating liquefied natural gas (LNG) plants, and production, storage and offloading units (FPSO): Vallourec is a significant market player, its main competitors being Tenaris, ArcelorMittal, NSC (formerly NSSMC) and Chinese groups.

3.2.3.3 Power generation

Traditionally, Vallourec offered a large range of tubes, product sizes and steel grades (including patented grades) for the Power generation market, mainly for thermal power plants. However, at the beginning of 2020, the Group decided to close the Reisholz specialized site in Germany and only continue its repair and maintenance activity in Europe and North America, as well as activities related to biomass in Brazil, to certain tube applications in China, and to certain applications for the nuclear market.

3.2.3.4 Industry and Other

MECHANICALS

Vallourec is one of the European leaders in seamless tubes for mechanical engineering applications. This market is characterized by:

- a wide range of applications: tubes for hydraulic cylinders, construction and civil engineering cranes, agricultural machinery, construction and mine exploitation machinery, industrial building frames, public facilities, and oil rigs, etc.;
- competition from numerous technical alternatives: welded tubes, drilled steel bars, cold-drawn tubes, forged and formed tubes, etc.

AUTOMOTIVE

Vallourec provides a wide range of products for the automotive industry, such as axle tubes and gearbox applications. Thanks to its subsidiary Vallourec Bearing Tubes, Vallourec is a leader in the European market for ball-bearing rings manufactured from seamless tubes.

In Brazil, Vallourec Soluções Tubulares do Brasil is the market leader for seamless hot-rolled, cold-formed, forged or drawn tube manufacturing. The products from Vallourec Soluções Tubulares do Brasil have numerous industrial applications for various market segments such as light and heavy vehicles, and two-wheel vehicles, primarily for transmission and steering systems, as well as for construction and agricultural equipment and machinery.

CONSTRUCTION

Vallourec is an important supplier of seamless and streamlined tubes for construction projects. It provides solutions for civil constructions such as concourses, stadiums, museums, or other infrastructure such as bridges, as well as solutions for offshore projects, in particular offshore oil and gas platforms.

In Brazil, Vallourec Soluções Tubulares do Brasil also offers standard or formed seamless tubes for the construction of bridges, stadiums, airports, power lines, foundations for walkways, and other infrastructure projects.

3.2.4 The Group's facilities

The teams and production of premium Vallourec solutions are positioned where the customers are. The Group thus has more than 50 production units throughout the world. As at 31 December 2019, its facilities included:

- three steel mills, including one in Germany, Hüttenwerke Krupp Mannesmann (HKM), 20% held by the Group, one in the United States and one in Brazil;
- 14 tube mills in Europe, the United States, Brazil and Asia;
- six Research and Development centers, described in Section 3.3 below;
- 26 finishing units;
- numerous sales offices and service centers located near our customers; and
- a group of forest assets and an iron mine in Brazil.

The Group benefits from rolled tube production capacities of nearly 3 million metric tons, relatively balanced across its four operating regions:

Rolled tube production capacities by region

Europe	~25%
North America	~25%
Brazil	~30%
China	~20%

3.2.5 Procurement

3.2.5.1 Raw materials and purchasing

The Group's purchases for production activities are broken down as follows:

- raw materials (ferrous alloys, electrodes, refractories, scrap steel, etc.);
- pre material (roundbars, flat products, etc.);
- manufacturing consumables and supplies (mechanical and electrical supplies, cutting tools, lubricants, thread protectors, etc.);
- maintenance (services and spare parts); and
- energy (electricity, natural gas, etc.).

Purchases consumed for the production in fiscal years 2018 and 2019 included the following:

In € thousand	As at 31/12/2018	As at 31/12/2019
Scrap metal and ferrous alloys	483,663	466,464
Rounds/billets	504,343	763,064
Flat parts	-	-
Tubes	112,626	80,803
Miscellaneous[(a)]	591,704	221,543
TOTAL[(b)]	**1,692,336**	**1,531,874**

(a) *Including change in inventories.*

(b) *Including €1,441 million (2019) and €1,485 million (2018) of raw materials classified under Cost of raw materials consumed. The balance is composed of miscellaneous purchases (consumables, tools, etc.) classified in Other industrial costs.*

The purchase of rounds and billets represented 50% of the Group's consumed purchases in 2019, and the purchase of tubes represented 5%.

Other purchases include the following purchases:

- non-production:
  - external services (engineering, temporary labor, waste treatment, industrial cleaning, etc.),
  - IT (software, hardware, network, professional services, etc.), and
  - logistics (sea, air, road, rail, warehousing, etc.);
- solutions:
  - major equipment infrastructure and investments, and
  - customer-specific solutions.

For a description of the risks related to changes in the prices of raw materials, see Chapter 5, "Risk and risk management" of this Universal Registration Document.

3.2.5.2. Sourcing policy

The Group has implemented a structured, consistent purchasing strategy providing a balance between central management and local guidance:

- use and continued improvement of effective, formalized purchasing processes to optimize the Group's performance in terms of quality, cost, and delivery times;
- together with the Group's internal customers, selection of the best suppliers on the basis of business line needs, purchasing strategies by area, supplier risk analysis and criteria approved before the calls for tender are launched;

- sharing a solid contractual approach with all of the Vallourec entities that takes local characteristics into account to limit risks, ensure compliance with global directives and improve visibility;
- sharing a common and global approach and monitoring suppliers to continuously improve the Group's performance in terms of quality, cost and delivery times, as well as social and environmental responsibility;
- identifying and minimizing the supplier risks borne by the Group under its ongoing responsible purchasing policy;
- the purchasing function is centralized regionally or globally according to purchasing family, whenever pertinent. Supply is primarily managed locally and has gradually merged into the regional shared services centers.

3.2.6 Organization of the Group

3.2.6.1 Vallourec Group organization chart as at 31 December 2019

VALLOUREC

100%

VALLOUREC TUBES

EUROPE / AFRICA (EA)

FRANCE
- 100% Vallourec Bearing Tubes
- 100% Vallourec Oil and Gas France
- 100% Vallourec Tubes France
- 51% Vallourec Umbilicals
- 80% Serimax Holdings

REST OF EUROPE
- 100% Vallourec Deutschland GmbH (Germany)
- 100% Vallourec Oil & Gas UK (United Kingdom)
- 100% Vallourec Rus (Russia)
- 50.1% Vallourec Niko Tube Holding GmbH (Germany)
- 20% Hüttenwerke Krupp Mannesmann (Germany)

AFRICA
- 100%(1) VAM Field Service Angola, LDA (Angola)
- 100%(1) Vallourec Nigeria Limited (Nigeria)
- 100%(1) Vallourec Oil and Gas Kenya Limited (Kenya)
- 100% Vallourec O & G Nigeria Limited (Nigeria)
- 100% Vallourec Oil and Gas Uganda (Uganda)

MIDDLE EAST / ASIA (MEA)

MIDDLE EAST
- 75% Vallourec Al Qahtani LLC (Saudi Arabia)
- 100% Vallourec Middle East FZE (United Arab Emirates)
- 80% Vallourec Saudi Arabia LLC (Saudi Arabia)
- 100% Vallourec Tubular Services LLC (United Arab Emirates)(2)

CHINA
- 99,7% Vallourec Tianda (Anhui) Co., Ltd.
- 100% Vallourec (Beijing) Co., Ltd.
- 100% Vallourec (China) Co., Ltd.
- 100% Vallourec Oil & Gas (China) Co., Ltd.
- 100%(1) VAM Changzhou Oil & Gas Premium Equipments Co., Ltd.

REST OF ASIA
- 81.7%(1) PT Citra Tubindo Tbk (Indonesia)
- 100% Vallourec Asia Pacific Corp. Pte Ltd. (Singapore)
- 51% VAM Far East (Singapore)

SPECIALTY TUBES
- 100% Valinox Nucléaire (France)(3)
- 100% Valinox Nucléaire Tubes Guangzhou Co., Ltd.

NORTH AMERICA (NA)

OCTG
- 100% Vallourec Canada Inc. (Canada)(4)
- 100% Vallourec Oil & Gas Mexico, SA de CV (Mexico)
- 80.5%(1) Vallourec Star, LP (United States)
- 100%(1) Vallourec Tube-Alloy, LLC (United States)
- 51%(1) VAM USA LLC (United States)

MARKETING COMPANIES
- 100% Vallourec Canada Inc. (Canada)(4)
- 100%(1) Vallourec USA Corp. (United States)

SOUTH AMERICA (SA)

BRAZIL
- 84,6%(1) Vallourec Soluções Tubulares do Brasil S.A.
- 100% Vallourec Tubos do Brasil Ltda
  - 100%(1) Tubos Soldados Atlântico Ltda
  - 100% Vallourec Florestal Ltda
  - 100% Vallourec Mineração Ltda
  - 100% Vallourec Transportes e Serviços Ltda

OTHERS
- 100% Vallourec Trading South America (Uruguay)

(1) Percentage of Group's direct and/or indirect interest.

(2) Company founded in December 2019.

(3) Valinox Nucléaire is associated with the Middle East/Asia Region.

(4) Vallourec Canada Inc. performs both OCTG and marketing activities.

3.2.6.2 Organization of Group activities

Following the establishment of its Transformation Plan and to best serve its customers worldwide, since April 2017 the Group has adopted and deployed a new organization with two central departments – Development & Innovation (D&I) and Technology & Industry (T&I) – and with four main Regions: Europe/Africa (EA), Middle East/Asia (MEA), North America, and South America:

- the Regions are responsible for all of the sales and industrial operations located within their geographic scope;
- the Development & Innovation Department (D&I) is responsible for defining and implementing the development strategy for product lines. It is also responsible for innovation and R&D;
- the Technology & Industry (T&I) Department is responsible for defining the Group's industrial strategy, with the aim of continuing to improve its cost base. It is in charge of technology and manages the Group's supplies, as well as central planning.

The goal of this organization is to strengthen the Group's local presence and proximity to its customers, to optimize overall use of its resources, and stimulate its development.

In addition to its operating entities, the Group also includes holding and marketing companies.

TECHNOLOGY & INDUSTRY

The Technology and Industry Department (T&I) includes the various business lines of the Industrial Division in charge of the Group's strategy and performance with respect to safety, quality, customer service, know-how and performance in key technologies, production cost optimization, procurement and logistics. T&I is in charge of the Group's industrial strategy and with the Regions determines changes in its industrial system. It manages the investment portfolio and makes sure investments are properly carried out from a technical standpoint, within the prescribed time limits and economics conditions.

It is structured in eight "business line" departments that interact with one another and coordinate the activities of the Regions defined in the industrial plan:

- the **Safety/Quality Department** defines the policy, objectives and methodologies of the Group in terms of improving safety performance (accident frequency rate), the quality perceived by the customer (number and processing of claims), approval/certifications and regulatory requirements;
- the **Lean Management & Maintenance Department** coordinates the establishment of competitiveness improvement plans for the Regions through the "CAP20" Group initiative, and prepares and deploys the Group's Operational Excellence guidelines, relying on lean management methodologies. It is also in charge of the Group's industrial equipment maintenance policy, and the associated improvement processes;
- the **Industrial Layout/Masterplanning Department** conducts strategic studies that are associated with the Group's industrial plan, along with the transformation studies of the industrial system. It is also in charge of strategy, and of deploying the industrial digital plan ("Industry 4.0");
- the **CAPEX/Projects/Engineering Department** manages the investment portfolio under the strategic plan and the annual budget process, and is in charge of the process of qualifying and authorizing investment projects. It is also in charge of project and engineering management methods for the Group as a whole, as well as for the development of know-how concerning automated technologies. It participates in the operations of major investment or M&A projects;
- the **Sourcing Department** is in charge of all of the Group's purchasing. It defines and coordinates purchase policies, and the operational teams based in the Region that relate to it from a hierarchical standpoint;
- the **Supply Chain Department** is operationally in charge of preparing the medium-term production and of determining allocations of orders and management of production capacities at the Group level (Sales & Operation planning). It defines the policies, objectives and methodologies for improving delivery performance (punctuality, lead times) and logistics (service, costs);
- the **Technology & Performance Upstream Department** is in charge of monitoring and improvement of the technical performance of production tools, and of their technological development (Research and Development on processes) in the areas of steel manufacturing, rolling, heat treatment and non-destructive testing. It is also in charge of the industrialization methods and plan for tubular products, and for promoting digital industry ("Industry 4.0") among the Regions and their industrial sites;
- the **Technology & Performance Downstream Department** is in charge of monitoring and improvement of the technical performance of production tools, and of their technological development (Research and Development on processes) in the areas of tube finishing, threading and "Dopefree" (Cleanwell®) technologies applied to VAM® connections. It is in charge of the industrialization of VAM® products for all of the Group's threading sites.

DEVELOPMENT AND INNOVATION

The Development and Innovation Department (D&I) comprises the Group's various Product Line Departments and the various businesses serving to develop them: marketing, sales, technical promotion and innovation, Research and Development, industrial property.

D&I is in charge of the strategy of developing product lines and defines the Group's objectives with the regions for developing new markets, optimizing the product portfolio, the customer portfolio and in particular major accounts, Research and Development, innovation to expand Vallourec's cornerstones for differentiating itself and creating value in customer solutions (including digital).

D&I manages the product development and services portfolio and makes sure they are put on the market within the time limits and at the performance levels expected to successfully create the expected value.

It is structured in three product lines that interact with the regions and coordinate development activity across the Company. The product line directors are supported by the Innovation and Research and Development Department. The action plan is defined by Product Line and supported by several cross-company roadmaps which cover the various areas of Commercial Excellence and Excellence in Innovation.

The Product Line Departments cover all of the Group's markets, i.e.:

I. OCTG and Accessories

- **OCTG** (Oil Country Tubular Goods), which comprises the casing and production tubes used to construct onshore or offshore Oil or Gas production wells. This segment includes the VAM® range of joints, as well as the entire VAM® system, which includes: teams of construction engineers capable of assisting our customers with their rigs 24/7 (VAM® Field Services International); the network of approximately 200 VAM® licensees, audited annually, who provide maintenance and repair services for VAM® joints worldwide as close as possible to the operating areas; the VAM® Global Solutions engineer teams providing assistance in well design, product training, and assistance in supply chain optimization for our customers until the service contracts have been implemented.

- **Accessories** comprise all products, mainly Oil & Gas, that are designed and manufactured by Vallourec, integrated into the production strings and necessary for optimizing production of oil or gas wells.

II. Line Pipe Project

- The **Line Pipe Project** linked to EPCI (Engineering, Procurement and Construction, and Installation) markets comprises the tubes, expertise and integrated solutions used to connect all of the offshore and onshore facilities of an oil field from the wellhead to the platform or production vessel, as well as the tubes needed to connect these production facilities to the onshore refining and treatment facilities.

III. Specialties

- The **Line Pipe Process** comprises the tubular products in which the hydrocarbons are transported or transformed, both in offshore operations (FPSO: Floating Production Storage and Offloading/ Floating Liquefied Natural Gas (FLNG)) and onshore (Liquefied Natural Gas (LNG), refining, petrochemical).
- **Industry** comprises a wide variety of industrial applications: agricultural machinery, cylinders, cranes, construction (offshore, bridges, stadiums, etc.), mechanical industries.
- The **Conventional Thermal Power Plant market**(1) using carbon or gas in a combined cycle comprises all of the tubes provided for the construction of boilers, exchangers and tubes for the circulation of steam up to the turbines.
- The **Thermal Power Plant market using nuclear energy** concerns tubes of steam generators for the primary circuit, as well as the tubes for supplying steam to the turbines.
- **Renewables** comprises all of the applications for which the Group markets its products (geothermal, biomass, etc.) and/or for which it is seeking development opportunities (in addition to the previous applications, this concerns solar, biofuels and hydrogen).

The functions supporting the Product Line Departments include:

- the **Marketing Strategy** Department, which is in charge of anticipating the development of our markets to help the Group's Product Lines adapt their offers and evaluate opportunities to diversify;
- the **Key Accounts Department**, which is in charge of optimizing the commercial development of the Group's key accounts for all of the regions and all of the product lines;
- the **Research and Development Department**, which includes all of the Group's resources and laboratories in France, Germany, Brazil and the United States. It is in charge of developing the high-performing products and processes needed to develop Vallourec's customer offerings within the prescribed time limits and budgets. It takes steps to capitalize on the Group's know-how in Research and Development of internal skills. It also develops partnerships with companies or universities that are able to provide us additional expertise and participates in numerous Joint Industry Programs (JIPs) to develop adapted solutions with our customers;
- the **Innovation Department,** which is in charge of accelerating the diversification of Vallourec's offer by helping product lines to expand proposed value to services, thanks to the evaluation of new business models, particularly in relation to digital. It is in charge of identifying the growth catalysts that can be envisaged beyond the heart of the Group's current business;
- the **Industrial Property Department,** which is in charge of technical oversight, the filing of patents, and defending the industrial property of the Group. In 2019, the Group filed 20 patents.

EUROPE/AFRICA REGION

The historical and technological cradle of the Group, the Europe/Africa Region serves all of Vallourec's markets from its production and service units. The industrial activity includes the rolling mills, heat treatment plants, finishing and specialties units.

The business activities of the Europe/Africa Region aim to ensure the satisfaction of its customers by providing them with a wide range of products that meet their expectations at a competitive price. The Region also supplies Vallourec's other Regions and can sell their products in its own geographic area to help develop the Group's global activities in its various markets.

The business relies among other things on the complementarity between Vallourec Tubes France – France (100%), which operates heat treatment plants in Déville-lès-Rouen (Seine-Maritime), Saint-Saulve (Haut-de-France) and a forge in Aulnoye-Aymeries (Haut-de-France), and Vallourec Deutschland GmbH – Germany (100%), which operates four tube mills in Mülheim, Düsseldorf-Rath and Düsseldorf-Reisholz (North Rhine-Westphalia). The tube mills are equipped with continuous-process, plug and pilger rolling mills and Erhardt presses, allowing them to manufacture, with the Aulnoye-Aymeries (Haut-de-France) forge and the Montbard (Côte-d'Or) rolling mill, products with one of the world's widest range of diameters, thicknesses and grades of steel, in addition to offering finishing operations.

All of the European rolling mills are primarily supplied with raw materials from European steel mills, and in particular, as concerns ordinary steels, by the Huckingen mill in Hüttenwerke Krupp Mannesmann (HKM), in which Vallourec Tubes has a 20% stake in the capital.

In addition to continuing to implement the Group's Transformation Plan launched in 2016, for which one of the major components was streamlining production capacities in the Europe/Africa Region, at the end of 2018 Vallourec began a major savings plan to restore the competitiveness and profitability of its German activities. The new program includes a significant reduction in staff, a reduction in costs (raw materials, industrial, administrative and sales) and the optimization of production flows.

The streamlining of European industrial assets in France and Germany is reflected in the decrease in the number of Group sites. Europe is now positioning itself as a center of excellence for the production of premium products, addressing local markets while offering a flexible production route that facilitates short lead times for export.

In particular, the Group has decided to close the plant in Reisholz (Germany), which specializes in tubes for conventional power plants. This decision will take effect in the second half of 2020.

See Section 3.6 "Implementation of the Transformation Plan – Strategic Vision" below.

(1) The number of coal-fired thermal power plant development projects was reduced in Asia in 2018, leading to a drop in the demand for tubes for these applications. Given this long-term drop, the Group announced on 20 February 2019 that it had initiated a plan to sell dedicated assets to conventional coal-fired power plants. The Group is seeking a partner for the Power generation activities dedicated to the conventional coal-fired power plants, including the Reisholz (Germany) and VCHA (China) plants.

Oil Country Tubular Goods (OCTG)

Coordinated globally at the Region level, the industrial and commercial activities of OCTG Europe/Africa are carried out through the following subsidiaries:

- Vallourec Oil & Gas France (VOGFR) – France (100%) which produces standard threaded connections and the full VAM® range of products. It has a production unit in Aulnoye-Aymeries, which includes several Oil and Gas tube threading lines that allow all of the dimensions and connections of the VAM® product line to be made as well as a line to apply the multifunctional Cleanwell® coating on certain products, which was especially designed for VAM® connections as a substitute for storage and assembly greases;
- Vallourec Deutschland GmbH – Germany (100%) has threading and finishing lines for the production of standard joints and all premium VAM® products at its Düsseldorf-Rath industrial site;
- Vallourec Oil & Gas UK Ltd. – United Kingdom (100%) combines facilities specializing in threading, in Clydesdale Bellshill (Scotland), and service bases in Scotland and Norway to satisfy, in particular, the market needs of the North sea;
- Vallourec Nigeria Ltd. – Nigeria (100%); operates a tube threading and finishing plant for line pipes located in the Onne free-trade zone at Port Harcourt (Rivers State, Nigeria). In operation since December 2009, it supplies the local market.

Onshore line pipe/process

The Onshore Line Pipe business is dedicated to the transportation needs of the Oil & Gas market, with a dual strategic position in the production sectors (upstream oil) and in downstream activities. It groups together all the products and services used by engineering and oil companies, from the wellhead to the refineries, petrochemical and gas treatment plants.

The Onshore Line Pipe Project activities are exercised through Vallourec Tubes France and Vallourec Deutschland GmbH through strong synergies with the Group's Services subsidiaries, such as Serimax – France (80%) for welding, and with Serimax Field Joint Coating – United Kingdom (a 100%-held subsidiary of Serimax).

Powergen/ST&P

In the past few years, the accessible markets in Europe for Vallourec in the coal-fired thermal power plant segment have dropped considerably. The demand for new power plants has shifted to Asia, and in particular China, where Chinese electricity producers have qualified Chinese suppliers for their critical tube needs. In addition, energy policies increasingly favor the development of renewable energies.

In 2018, as the Group is no longer able to provide a satisfactory load for its plants in this market on its own, it decided to close the finishing line for small-diameter tubes for boilers at the Saint-Saulve tube mill and to begin the search for a strategic partner to take over its Reisholz (Germany) and Changzhou (China) plants, which specialize in the production of large-diameter tubes for boilers. The increased customs tariffs applied by the Chinese authorities since June 2019 on a significant portion of the steel tubes produced in Germany for the Chinese conventional powergen market makes the divestiture of this business unlikely. In the first quarter of 2020, the decision was made to close the plant in Reisholz (Germany), which specializes in tubes for conventional power plants. This decision will take effect in the second half of 2020.

Industry

The Group markets hollow sections, tubes and bars manufactured in its European industrial units for mechanical markets (cranes, hydraulic cylinders, agricultural machines, OCTG mechanical parts, etc.), automotive markets (bearing tubes, bars to be drawn, etc.) and construction (bridges, stadiums, offshore jack-up platforms, airport terminals, exhibition halls, etc.). The Industry sales and industrial activities are carried out through Vallourec Tubes France, Vallourec Deutschland GmbH, and Vallourec Bearing Tubes.

Vallourec and Interpipe, a Ukrainian producer of seamless tubes, created a joint venture, Vallourec Niko Tube – Ukraine (50.1%) to cooperatively produce non-OCTG carbon seamless tubes for the European market. These products, mostly for mechanical applications, are rolled by Interpipe before being conditioned and controlled in a common finishing unit, which is managed by Vallourec and located in Nikopol (Ukraine). These tubes have been sold in Europe since late 2018 under the Vallourec brand.

Specialty Activities

Vallourec Bearing Tubes – France (100%), a historical European leader in seamless tubes and rings for the manufacture of bearings. In addition to the bearing tube activities, Vallourec Bearing Tubes produces and supplies made-to-measure tubes for Mechanicals and tubular hollow bars for the Oil & Gas markets. Vallourec Bearing Tubes has a plant in Montbard (Côte-d'Or), which is equipped with heat treatment and a hot rolling mill.

Vallourec Umbilicals – France (100%), located in Venarey-lès-Laumes (Côte-d'Or, France), manufactures welded stainless steel super duplex tubes for umbilicals for the offshore Oil & Gas market.

MIDDLE EAST/ASIA REGION

Oil Country Tubular Goods (OCTG)

The activities of OCTG Middle East/Asia are carried out through the following subsidiaries:

- VAM Changzhou Oil & Gas Premium Equipments Co., Ltd. – China (100% held directly or indirectly by the Group) was created in September 2006 for the operation of a premium connection threading plant for oil and gas well equipment;
- Vallourec Oil & Gas (China) Co., Ltd. – China (100%), created in April 2010. The company sells Vallourec premium OCTG products on the Chinese domestic market, along with Vallourec Tianda (Anhui) Co., Ltd. (formerly Tianda Oil Pipe Company Limited (TOP)) "API" product exports, and provides technical support and quality control services;
- Vallourec Asia Pacific Corp. Pte Ltd. – Singapore (100%), operates in the OCTG tubes and accessories market in the Asia-Pacific region;
- PT Citra Tubindo TBK – Indonesia (81.7% held directly or indirectly by the Group), which has carried out heat treatment on tubes and threading of API, NS® and VAM® joints since 1985;

- Vallourec Saudi Arabia Ltd. – Saudi Arabia (80% held directly or indirectly by the Group). In November 2011, the Group acquired Saudi Seamless Pipes Factory Company Limited, the leading processing and finishing company for seamless OCTG tubes in Saudi Arabia (located in Dammam), from the Zamil group. This acquisition brought Vallourec heat treatment and premium threading facilities;
- Vallourec Tianda (Anhui) Co., Ltd. (formerly Tianda Oil Pipe Company Limited (TOP)) – China (99.6% held directly and/or indirectly by the Group). This company operates in particular a PQF® continuous rolling mill to produce seamless tubes for the Oil & Gas market. Since 2011, Vallourec has owned 19.5% of Vallourec Tianda (Anhui) Co., Ltd. (formerly Tianda Oil Pipe Company Limited (TOP)). At the end of 2016, Vallourec acquired 79.6% of the domestic shares of this company, then went on to purchase shares from individual shareholders during 2017. This acquisition allows Vallourec to develop an expanded offer of highly competitive solutions that combine the VAM® connections with the Vallourec Tianda tubes.

Powergen/ST&P

Powergen's activities are notably exercised through Vallourec China, formerly known as Vallourec Changzhou Co., Ltd. (China).

Vallourec (Changzhou) Co., Ltd was created in 2005 in order to increase the Group's machining capacity for large-diameter hot-rolled tubes produced in Europe for the Chinese Power generation market. The plant at Changzhou, in the province of Jiangsu, began production in July 2006. On 13 September 2012, a new hot-forging and heat treatment unit was inaugurated that enables manufacturing operations for seamless large-diameter pipes to be integrated locally.

As indicated above, the Group decided in 2018 to begin the search for a strategic partner to take over its Reisholz (Germany) and Changzhou (China) plants, which specialize in the production of large-diameter tubes for boilers.

Specialty Tubes ("Specialty Products")

The Specialty Products activity brings together companies specialized in the manufacture and processing of seamless tubes in stainless steel and special alloys, primarily for the nuclear energy markets.

The Specialty Products Division principally involves the following companies:

- Valinox Nucléaire – France (100%) specializes in nuclear island tubes. The production unit in Montbard (Côte-d'Or, France) is the original site of Valinox Nucléaire;
- Valinox Nucléaire Tubes Guangzhou Co., Ltd. – China (100%), specialized in nuclear island tubes, was formed in November 2010 in Guangdong Province, China, and opened on 6 June 2013.

NORTH AMERICA REGION

Oil & Gas

The activities in North America are carried out through the following subsidiaries:

- Vallourec Star, LP – United States (80.5% held directly or indirectly by the Group) is an integrated manufacturer of seamless tubes for the oil and gas industry. Its facilities include an electric steel mill, two rolling mills equipped with the latest technology and heat treatment and threading units. It dedicates 80% of its production range to the OCTG market. Sumitomo Corporation is a partner, with a 19.5% stake in Vallourec Star, LP.

  The company's production units are located in Youngstown (Ohio), Houston (Texas) and Muskogee (Oklahoma) ;
- VAM USA LLC – United States (51% held directly or indirectly by the Group). Partnering with NSC with a 34% stake, and with a 15% stake in Sumitomo Corporation, this company works in the threading of premium VAM® joints and the provision of services.

  The VAM® and Atlas Bradford® brands complement Vallourec's product offering, providing significant expertise in the field of flush connections for the industry's most demanding applications;
- Vallourec Oil & Gas Mexico SA de CV – Mexico (100%), which specializes in premium VAM® connections and provides the Mexican Oil & Gas industry with the complete range of VAM® products;
- Vallourec Canada Inc. – Canada (100%) has production units in St. John's (Newfoundland), as well as sales offices in Calgary (Alberta);
- Vallourec Tube-Alloy, LLC – United States (100% directly held by the Group), produces and repairs accessories used inside oil and gas wells. It specializes in complex threading operations and in machining bespoke parts for both oil operators and component manufacturers. Its production units are located in Houma (Louisiana) and Houston (Texas).

SOUTH AMERICA REGION

Brazil

In 2018, Brazil continued to roll out the Transformation Plan that was launched on 1 October 2016, creating a new subsidiary as a result of the merger of the assets and activities of Vallourec Sumitomo Tubos do Brasil Ltda. and Vallourec Tubos do Brasil S.A. The newly created company, Vallourec Soluções Tubulares do Brasil S.A. (VSB), was designed to strengthen the industrial base in Brazil and optimize the competitiveness of the Brazilian production base. Under the Transformation Plan, in July 2018, the blast furnace of the Barreiro plant was shut down to promote synergies and optimize industrial production. Still under the Transformation Plan, the majority of activities are now geared toward exports to foreign markets.

The activities of the South America Region are carried out through the following companies, which are held by Vallourec Tubos do Brasil S.A. (VBR) (100%), a holding company for Brazilian entities since 1 October 2016:

- Vallourec Soluções Tubulares do Brasil S.A. (VSB) (VBR, 84.6%) in partnership with Nippon Steel Corporation (NSC, formerly NSSMC, 14%) and Sumitomo Corporation (0.4%) is the result of the above-mentioned merger of assets and activities, which combine the Jeceaba, Barreiro (Minas Gerais state) and Serra (Espirito Santo state) industrial sites:
  - the Jeceaba industrial site is located 120 kilometers south of Belo Horizonte. It consists of a premium rolling mill and also includes a pelletization unit whose pellets are used by the Jeceaba blast furnaces and the local Brazilian market, a steel mill (with a blast furnace and electrical furnace), for the Barreiro production and the Jeceaba plant, an innovative rolling mill, and finishing lines. The Jeceaba site performs all types of API and premium threading types, in particular the VAM® product range,

- the Barreiro site has been located in the Belo Horizonte district for more than 60 years and occupies an area of more than 300 hectares. This integrated unit combines production equipment and hot rolling equipment for the tube finishing lines. The Barreiro site in particular provides tubular products for ultra-deep water projects, notably the pre-salt reservoirs. Since 2015, the site has housed the Vallourec Research Connections Center Brazil (VRCC Brazil), which tests that all the new exclusive threaded connections comply with industry standards, and guarantees the level of performance needed for difficult pre-salt environments,
- VSB also participates as an industrial supplier of all Vallourec entities, primarily for the international Oil & Gas markets. Semi-finished products are exported to Vallourec's finishing plants throughout the world,
- the seamless tubes of VSB do Brasil S.A. are intended for the following applications:
  - the Oil & Gas market, delivering seamless steel tubes for oil production and exploration (casing, tubing, accessories, and premium VAM® connections) and the transport of oil and gas (line pipes, columns, flow lines, etc.). The VSB tubes offer not only resistance to high pressures and high temperatures, but also resistance to corrosion by carbon dioxide and sulfates,
  - the Industry market (Petrochemicals, Power generation, Mechanicals, etc.), a market that is mainly served by distributors working closely with Vallourec Soluções Tubulares do Brasil S.A. to guarantee quality and technical assistance,
  - the automotive industry (light vehicles, trucks and agricultural equipment), with precision parts like tubes for diesel injectors, bearing rings and forged parts such as transmission shafts and axles, and
  - the civil engineering and construction sector: tubes for infrastructure and industrial foundations, structural tubes for commercial assets, capital goods, ancillary machines and materials;
- Vallourec Florestal Ltda. – Brazil (100%) plants and operates eucalyptus forests for the production of charcoal from wood. Charcoal is one of the principal necessary components in the production of liquid crude iron by blast furnaces. Vallourec Florestal Ltda. owns 230,000 hectares of agricultural land in the north of the State of Minas Gerais and currently has approximately 113,000 hectares of eucalyptus forest. The production process can be broken down into the following activities: forest planting, forest harvesting, charcoal production, and delivery on a just-in-time basis for the blast furnaces of VSB;
- Vallourec Mineração Ltda. – Brazil (100%) has been extracting iron ore at its Pau Branco mine since the early 1980s. The mine is located in the city of Brumadinho in the State of Minas Gerais, 30 kilometers south of Belo Horizonte. Its annual production capacity totaled approximately 4.7 million metric tons of iron ore in 2018. In the second quarter of 2019, Vallourec was granted the required license from the Minas Gerais authorities to extend production capacity by building a new processing unit which should make it possible to reach a total production capacity of 8.5 million metric tons in 2022. The production volume achieved in 2019 was 6.2 million metric tons. Iron ore production should stay at a similar level until completion of the extension project. The mine supplies the blast furnaces and the pellet plant of its affiliated companies. It also sells its production on the local markets;
- Tubos Soldados Atlântico Ltda. (TSA) – Brazil (100%), provides anticorrosion coatings (triple-layer polypropylene, or polyethylene) applied to seamless, welded tubes;
- Vallourec Transportes & Serviços Ltda. – Brazil (100%) offers tube inspection and repair services, premium accessories for the Oil & Gas market, as well as a vast array of operational assistance services for the same sector.

Uruguay

- Vallourec Uruguay SA. – Uruguay (100%) was formed on 13 July 2017 to market the tubes produced by the Group for OCTG and process applications in South America.

ACTIVITIES OF THE HOLDING COMPANIES

Vallourec is a holding company that:

- manages its shareholdings. Its income is mainly financial, including dividends, interest on long-term loans to subsidiaries and investment income from cash and cash equivalents. It also bears the cost of its debt;
- owns its trademark and the Group image, of which it entrusted management to Vallourec Tubes in 2014;
- has no industrial activity.

Vallourec Tubes is a sub-holding company, wholly owned by Vallourec, that manages its shareholdings and has no industrial activities. Its income is mainly financial, including dividends, interest on long-term loans to subsidiaries, provisions for subsidiaries and investment income from cash and cash equivalents.

MARKETING COMPANIES

In the United States, Vallourec USA Corporation (100% held American subsidiary) markets all of the tubular goods produced by Vallourec Tubes' various subsidiaries. It also carries a stock of tubes intended for US oil and gas distributors, which usually thread the tubes themselves according to the end-customer's requirements. Its offices are located in Houston, Texas, and Pittsburgh, Pennsylvania.

In addition, sales and marketing companies reporting to Vallourec Tubes are established in:

- Canada;
- the United Kingdom;
- China;
- Russia;
- Dubai;
- Singapore;
- Italy; and
- Sweden.

3.3 Innovation, Research and Development

A key factor for competition and growth, innovation has always been at the heart of Vallourec's strategy, and has largely contributed to its leading position in premium tubular solutions. In a very competitive global environment, the Group intends to continue to detect and foresee the technological challenges faced by its customers. It must respond to the radical and rapid evolution of their needs by offering them tailored solutions that are simultaneously safe, reliable and environmentally friendly, and that create value, in line with its premium position.

3.3.1 Organization of innovation and Research and Development

3.3.1.1 Information and key figures

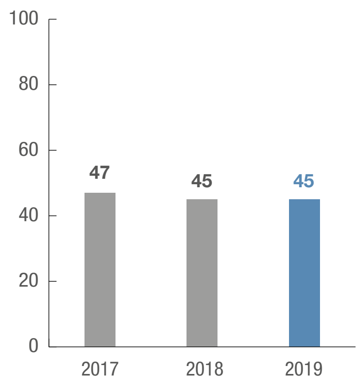
Research and Innovation are at the heart of the Group's business focus. Innovation is a key priority for the Group in maintaining its technological leadership and anticipating its customers' needs.

The three cornerstones of the Group's research are:

- manufacturing processes;
- new products and improving the performance of existing products; and
- services and solutions.

In 2019, Research and Development (R&D) expenses totaled €45 million. The following chart represents the R&D expenses amount during the past three years. The Group maintained a significant effort with respect to the development of new products and new solutions dedicated to innovation.

In € million



Since April 2017, Vallourec's expertise in R&D, Marketing and Innovation have been coordinated within a new department: the Development & Innovation (D&I) Department. This central department also includes the product lines. Thanks to this structure, the R&D and Innovation teams have been established in close proximity to the markets. A total of some 500 researchers and technicians were involved in research and development in the Group in 2019.

The Group's key technological challenges include the following:

- for the Oil & Gas market, the Group must address the growing complexity of the fields and the transport of oil and gas (onshore and offshore) and assist the EPCI (Engineering, Procurement, Construction and Installation) operators in finding solutions to reduce their total cost of ownership (TCO); the Group is developing digital solutions across the entire life cycle of its products (from the design of facilities, to covering the traceability, implementation and even integrity monitoring during use) to support its customers in this regard;
- for the renewable energy market, the Group must measure the contribution of characteristics from its range of products and solutions for power generation, as well as the storage of energy and mobility, to assist in energy transition;
- for the Industry market, the Group has to reduce the weight of mechanical engines, by designing lighter structures and increasing the useful load of the existing designs.

3.3.1.2 Research centers and expertise: global presence

Vallourec has six research centers throughout the world specializing in specific products, processes or technologies.

In Aulnoye-Aymeries, France:

- the Group's historic research complex, the Vallourec Research Center France, specializes in metallurgy, non-destructive testing, corrosion resistance, surface treatments, process and product digital simulations, particularly for Oil & Gas applications. It also provides technical assistance to the Group's plants and divisions. New skills have recently been developed such as in the field of Additive Manufacturing processes, and in the transport and storage of CO_2 to support the Group's new areas of growth;
- the Vallourec Research Center Connections develops and validates the range of VAM threaded connections. For more than 50 years, its team of experts have developed the range of threaded connections and assisted with their commercial production throughout the worldwide network of licensees. Whatever the needs of the oil and gas company operators, the performance of the solution developed is validated through tests on real-sized samples. These tests, which are conducted at one of Vallourec's three test laboratories worldwide, aim to subject our products to all operating constraints (make-and-break operations initially, followed by combined loads simulation at various temperatures). The expertise of the Vallourec Research Center Connections has expanded in recent years, with two main focuses. The first focus is the CLEANWELL® solution to meet the growing demand of our customers to eliminate assembly grease. The second focus is digital solutions, and has resulted in the creation of the VAM DATA department to provide better support to our customers during on-site product implementation phases.

In Düsseldorf and Riesa, Germany:

- the Vallourec Research Center Germany is dedicated to designing and developing steel tubes for power plants, mechanical infrastructures, and oil and gas pipelines. Its fields of competence are mainly steel design, creep strength, and resistance to oxidation or corrosion occurring at high temperature (above 400°C). It also houses a welding lab. In addition, it provides technical assistance to the Group's plants and divisions;

- the Vallourec Research Rolling Technology is in charge of research on hot forming for seamless steel tube production. This long-established center had made innovations in Vallourec's core processes by relying on the expertise of external partners, including universities. It operates alongside the Vallourec Competence Center Riesa, a laboratory containing the most modern equipment, which allows Vallourec to increase the pace of development of innovations in process methodologies and equipment. Its versatile piercing, rolling and forging facilities will push back the current limits of steel and alloy hot-forming within the Group. They are also used as training tools and pilot units for the Industry 4.0 developments.

In Belo Horizonte and Rio de Janeiro, Brazil:

- the Vallourec Research Center Brazil research units have teams of experts and test laboratories, adapting the Group's solutions to the specific needs of its Brazilian customers, as well as developing new solutions. Vallourec Competence Center Rio is located in the Industrial Park of the University of Rio de Janeiro in close proximity to CENPES, the Petrobras research center, and academic laboratories. It takes part in technical partnerships that use the mature technologies of today and tomorrow. Lastly, Vallourec Florestal, Vallourec's subsidiary, which operates the Group's eucalyptus forest in Brazil, conducts research work on forestry, the transformation of wood into charcoal and the preservation of the environment.

In Houston, Texas (USA):

- the VAM USA Research Center Connections, coordinating with the Vallourec Research Center Connections in Aulnoye-Aymeries, is dedicated to specific developments in VAM® for the American market. Its design and testing capacities have allowed it to market connections for the exploitation of shale deposits (VAM® SG, VAM® EDGE SF, VAM® 21 HT, VAM® SPRINT) and for Deep Offshore wells (VAM® BOLT-II, VAM® HP, VAM® SLIJ-3) on the market.

As concerns the threading of connections, the VAM Threading Competence Center industrializes all production methods of the VAM® connections and provides assistance to the operations at the Group's plants. It provides plants with the equipment standards to invest in, tools, as well as with critical maintenance and operating methods. This competence center has a dedicated production line to optimize threading operations and test solutions industrially before the R&D developments phase.

The Group also performs R&D activities in other regions of the world, notably in Indonesia, through its subsidiary P.T. Citra Tubindo, and in Japan, with its longstanding partner NSC (formerly NSSMC).

3.3.1.3 A collaborative approach to innovation with customers and markets

Innovation is at the source of numerous advances, which allow Vallourec's customers to push back technological borders, tap into unused resources until then unexplored, and improve the performance of their facilities. As Innovation is a process of ongoing dialog with customers, the Group works in close collaboration with some of these customers to develop solutions that meet their operational needs.

With Petrobras, the Group develops innovative tubular solutions for exploration and production in hard-to-access oil and gas deposits (ultra-deep water, pre-salt fields, corrosive environments with H2S, CO2). The Group supports Petrobras and new oil players (ExxonMobil, Total, Statoil) in the development of the complex and highly-corrosive pre-salt fields (Deep Offshore).

With Total, in the North sea, the Group develops connections delivering unmatched performance in difficult high pressure/high temperature (HP/HT) type wells or tubes for umbilicals.

In the Middle East, in 2019 the Group qualified its VAM® HTTC product (a connection combining excellent sealing performance with unequaled torsional resistance) with the CLEANWELL® solution for its customer ADNOC. This qualification was realized through orders for production in 2020. Moreover, this activity remained very strong with our customer Saudi Aramco.

With Chevron, a new generation of semi-integral high-performance connections, VAM® SLIJ3, for developments in Deep Offshore in the Gulf of Mexico, were qualified.

In 2019, several column descents using the CLEANWELL® solution were carried out in particular in the North sea, and highlighted the product's advantages: less waste, increased seed implementation, while also providing greater safety on the platforms and better protection of the environment.

In 2019, the Group also qualified its first order, to be produced at the beginning of 2020, for tubes fitted with a new connection called VAM® EPIC for SHELL in the Gulf of Mexico.

With its traditional customers diversifying into renewable energies (offshore wind, solar, hydrogen, etc.), the Group is thinking about the necessary transformations for its product portfolio.

With new customers from renewable energy, the Group is continuing its innovation processes to explore new solutions together.

The Group is also developing R&D programs in all countries where it is established, in association with institutions with leading positions in their field. This is the case with NSC in particular, with which a collaboration has been in place since 1976 in the area of VAM® connections for the Oil & Gas market.

The Group also participates in the most essential research work with numerous university laboratories in Europe and around the world.

3.3.2 A strengthened culture of innovation

The Group's innovation strategy is to differentiate ourselves with our premium product range, while developing new solutions linked to the use of our products as well as new markets. In line with this strategy, the Development & Innovation Department (D&I) is strengthening the innovation expertise and capacities of the Group's teams, both by developing deeper knowledge and sharing it on our markets, and by establishing agile and efficient innovation methods.

3.3.2.1 Innovation methods and culture

In order to optimize the generation and selection of ideas that will be the innovations of tomorrow, D&I organizes workshops to better understand its customers' needs and generate ideas, called front-end innovation workshops.

These workshops enable the Group to deploy and share a common language of innovation, to reinforce and disseminate market knowledge to the teams contributing to innovation, and to successfully use Vallourec-specific creativity tools. All departments that take part in innovation participate in these workshops: R&D and Marketing, as well as Sales and Commercial Production.

This process, based on collaboration and collective intelligence, the sharing of knowledge and experiences, the generation of ideas in groups, allows effective results to be achieved while strengthening the Group's culture of innovation.

Since 2017, these workshops have also been organized directly with our customers. They allow us to discuss any issues they have had using our products, so that we can better understand their needs, and respond more effectively. Customer feedback shows that these measures strengthen Vallourec's image as a partner and provider of innovative solutions beyond premium products.

At the same time, with respect to projects already in development, D&I supports the project teams to ensure their efficient execution so that products are brought to market as rapidly as possible. Execution is managed based on various criteria, including customer value, technical feasibility, turnaround times, as well as related risks. These factors are reviewed at various milestones by a validation committee.

The product line project portfolio is reviewed regularly to verify its value. This helps arbitrate between and prioritize projects.

To ensure the rapid development of new solutions, "Boosters", which are execution tools, have been introduced in recent years. These are driven by a Business Manager – Product Manager working pair who aim to develop our new technology-based solutions as quickly as possible while also improving the new associated skills.

Vallourec has extended its innovative approach to all of its employees by launching an internal innovation platform. This cross-divisional and international tool aims to bring employees' innovative ideas to the market. The objective is to generate ideas for which the chances of technical and commercial success are high, in order to propose new value offers to our customers. This platform has placed innovation at the heart of the company and drives the creativity of its teams.

Finally, in 2019 the Group launched its second Open Innovation Challenge, to build new partnerships with innovative companies, laboratories and start-ups. An external Open Innovation platform was launched online to coincide with the challenge.

This platform is run as an open challenge on specific themes. This year's theme was to propose solutions to add new functions to our tubes, augmented pipes, using new surface properties, or energy and/or information transition.

External participants were invited to suggest ideas which meet this challenge. More than 40 start-ups and companies from all continents presented their offers. The development of innovative solutions, in the spirit of a win-win partnership, is underway with the best companies selected.

The partnerships launched with the start-ups selected at the time of these initiatives allow Vallourec to integrate the most recent and innovative technologies, accelerate development projects and deepen discussions between teams.

The experts, the process communities, project teams and R&D teams are developing and participating in online collaborative spaces and tools, which allow them to share information across the Group.

3.3.2.2 The Expert Career program

Vallourec established the Expert Career program which covers 14 areas of expertise including the production of steel, rolling, heat treatment, non-destructive testing, threading, digital modeling, materials science and product applications. Specially designed to develop and recognize employees with sought-after technical skills, the program provides a career development path and provides our technical minds with the best-possible resources to continue to develop their skills. There are currently more than 250 expert employees following one of the four levels of our expert career program. Links between management responsibilities and technical expertise were established under the coordination of the Human Resources Department, guaranteeing the same level of recognition.

3.3.3 State-of-the-art manufacturing processes

3.3.3.1 Forest and blast furnaces

In Brazil, Vallourec operates eucalyptus forests to produce charcoal to fuel its blast furnaces. The Group is pursuing its efforts to improve performance in this area. The main thrusts of this research include: scientific tree selection, improving forest nutrition programs and industrializing the continuous charcoal-making process, and optimizing steel production.

3.3.3.2 Steel production

The development and production of steels using continuous-casting processes forms the basis of the Group's range of high-tech solutions, and is the purpose of much of its work. Research on the cleanliness of steel is a cornerstone of research on the manufacture of premium products. Innovations made in continuous casting processes also allow the capacity and quality of the steel to be improved, thereby strengthening the Group's autonomy in terms of premium steel supply.

3.3.3.3 Hot-process seamless tube production

The hot-process production of seamless steel tubes, invented in 1886 by the Mannesmann brothers, is a fundamental technology for Vallourec, and is constantly being improved thanks to research. Vallourec offers a wide range of steel, containing up to 13% chrome.

The Group has developed other processes, including the Premium Forged Pipes (PFP®) patented process to produce very wide, thick tubes, in particular for the mechanical and energy sectors. It has been used industrially in Europe since 2008, and in China since 2012.

Developments are underway for the most modern hot-rolling processes (PQF, FQM, etc.).

3.3.3.4 Heat treatment

A large share of the Group's premium products is heat-treated to reach exceptional levels of performance. The heat treatment process is continually being improved, in order to meet the needs of the Group's customers, in particular in terms of respect for the environment, deformation resistance or breaking strength, corrosion resistance and tube weldability.

3.3.3.5 Non-destructive testing

Non-destructive tests, which enable the assessment of the integrity of structures or materials with no degradation at various stages of life, are being developed to ensure that the Group's products are extremely reliable. Innovations in this sector are major differentiating factors. Cutting edge non-destructive test benches, capable of detecting imperfections independently of direction, are used on a daily basis to inspect premium products.

3.3.3.6 Process communities

Process communities rolled out within the Group allow rapid and ongoing progress to be achieved, through the sharing of best practices and available technologies for the main processes of the Group: production and continuous casting of steel, heating rounds, hot rolling, forging, heat treatment, non-destructive testing, threading and tube finishing (coating, marking, machining, etc.). Benchmarks are regularly reviewed to ensure that Vallourec's practices and technologies remain compliant with best practices and best available technologies. We continually improve our processes through the significant internal efforts in Research and Development. The SHALYN Industry 4.0 internal platform was established to manage and control manufacturing processes. The cutting edge level 2 systems and applications are connected to continuously improve the performance of our products and services.

3.3.4 Standards applicable to the Group's projects

3.3.4.1 Standards applied by the Group

The Group complies with regulations, standards and certifications in the countries in which it markets its products. These standards vary by geographic region, by product and by its use. The Group also carried out a monitoring process to ensure that its products comply with applicable regulations, standards and certifications.

The Group is subject to two types of standards: the mandatory standards set by law, and the non-mandatory standards that the Group voluntarily chose to apply in response to customer demand.

Mandatory standards generally require certification by laboratories and/or independent organizations, and are provided by the government. Their principal purpose is to protect user health and safety by demonstrating that the product complies with regulatory requirement. They relate principally to the properties of fire resistance and slip resistance and to limits on toxic emissions. Non-mandatory standards are required by the Group's customers, who include compliance with these standards in their specifications.

3.3.4.2 Standards organizations and the standards applied in different geographical regions

Standards organizations define the technical characteristics and performance required of a product, as well as the tests to be used. At the international level, the main organization that promulgates standards applicable to the Group is the International Standardization Organization ("ISO"). ISO standards, which are established based on principles of the World Trade Organization, are in theory voluntary, but compliance is often required by the Group's customers.

The Group relies on the Vallourec Management System (the VMS), whose fundamental objective is to improve the Group's performance in the fields of quality, health, safety, the environment and logistics, which are grouped under an ambitious program known as Index and run by one of the Management Board's members. This system ensures that the requirements for managing quality (ISO 9001, ISO/TS 16949, API, ASTM and ASME), health and safety (ISO 45001), the environment (ISO 14001) and energy (ISO 50001) are taken into account.

3.3.5 Industrial property

The strengthening of the Group's organization in the area of industrial property continued with the monitoring of major Research and Development projects and the holding of sessions to heighten industrial property awareness among Research and Development teams, in France and abroad, and the development of expertise in the Group's new areas of innovation.

The Group's patent filing activity remained very sustained in 2019. The Group thus filed 20 new basic patents and proceeded with 500 geographical extensions of patents. Individual patent protection has been maintained at a very high and stable level with more than 4,100 patents worldwide and a successful and sustained defense of Group patents under dispute. The budget dedicated by the Group to protecting inventions via patents remained stable in 2019, as compared to 2018.

In 2019, Vallourec also continued its efforts to protect its trademarks, through registrations, renewals, and opposition procedures. In particular, the Vallourec trademark was refiled to cover new services being developed within the Group.

3.4 Market environment

3.4.1 Oil & Gas

3.4.1.1 Global Oil & Gas market

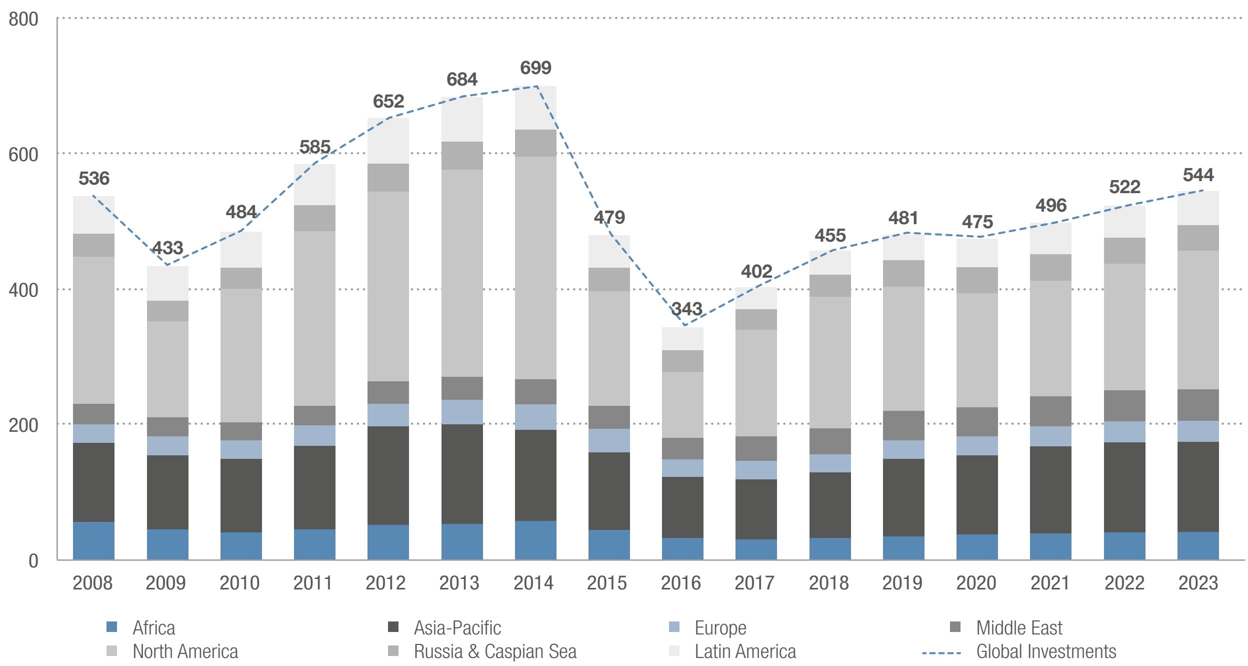
Demand for seamless tubes depends mainly on the level of capital expenditures for Exploration and Production (E&P) by participants in the Oil & Gas market.

December 2019 updated estimates of IHS Markit indicate upstream capex annual growth of 5.6% in 2019 versus 2018.

Looking ahead for the period 2019–2023, the upstream capex growth estimate stands at +3%

Upstream E&P Capex by geographical zone

In USD billion

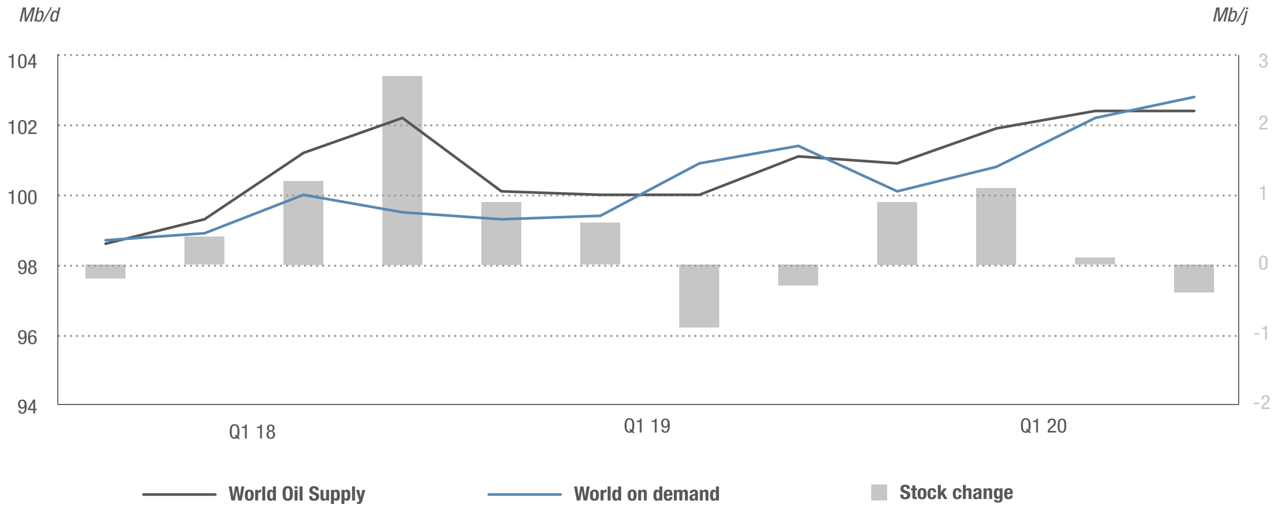


Source: IHS – Global Upstream Spending – December 2019

Anticipated Oil & Gas demand and supply, as well as price fluctuations, are the main elements that determine the changes in the market.

The graphic below shows the evolution for the balance of supply and demand in oil and Vallourec assumptions until mid-2020, expressed in millions of barrels per day (mb/d). These forecasts could be impacted by Covid-19 crisis.

Oil Demand/Supply Balance 2019



FIELD DEPLETION IS A KEY DRIVER OF DRILLING ACTIVITY AND DEMAND FOR OIL AND GAS TUBULAR SOLUTIONS

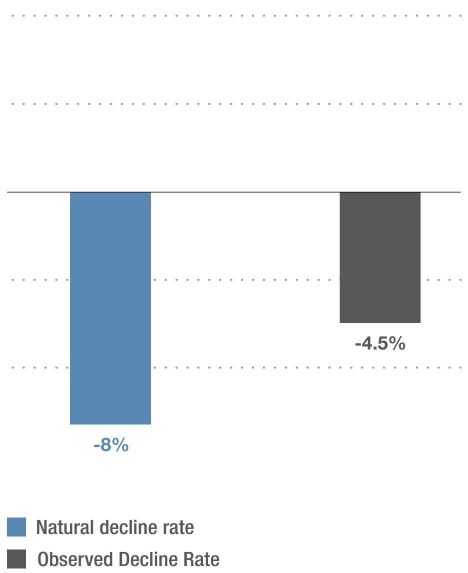
Over time, oil fields begin to produce less and less oil, until their production declines to a point where oil fields are no longer profitable, known as the "decline rate", The Group's customers must accordingly develop new exploration and production projects to replace lost volumes from older oil wells in order to continue to respond to demand when their production volumes fall as a result of this decline, thereby creating demand for the Group's Oil & Gas tubular solutions.

"Observed decline rate" is the annual decline in production if only investments to enhance already producing fields output are made, no new field is brought on.

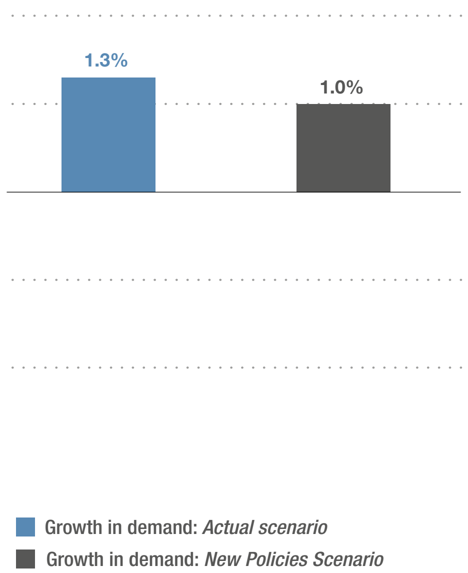
"Natural decline rate"(1) is the production evolution if no investment is made, either to bring new field onstream or to enhance already producing field output.

The graphics below show estimated annual decline rates as well as annual growth rates of oil demand until 2025 (source IEA). They are good indicators to illustrate how future supply, and therefore upstream E&P investment, should evolve in order to (i) compensate the production decline and (ii) meet demand growth for Oil & Gas.

Production decline rates



Oil demand growth: 2018-2025



Source: International Energy Agency, « World Energy Outlook » – November 2019.

(1) Formerly known as "New Policies Scenario", "Stated policies scenario" consider today's policy ambitions detailed by States on the energy sector.

LONG TERM TREND FOR OIL DEMAND

According to IEA, global oil demand should grow by around 1 mb/d on average each year to 2025 in the Stated Policies Scenario.

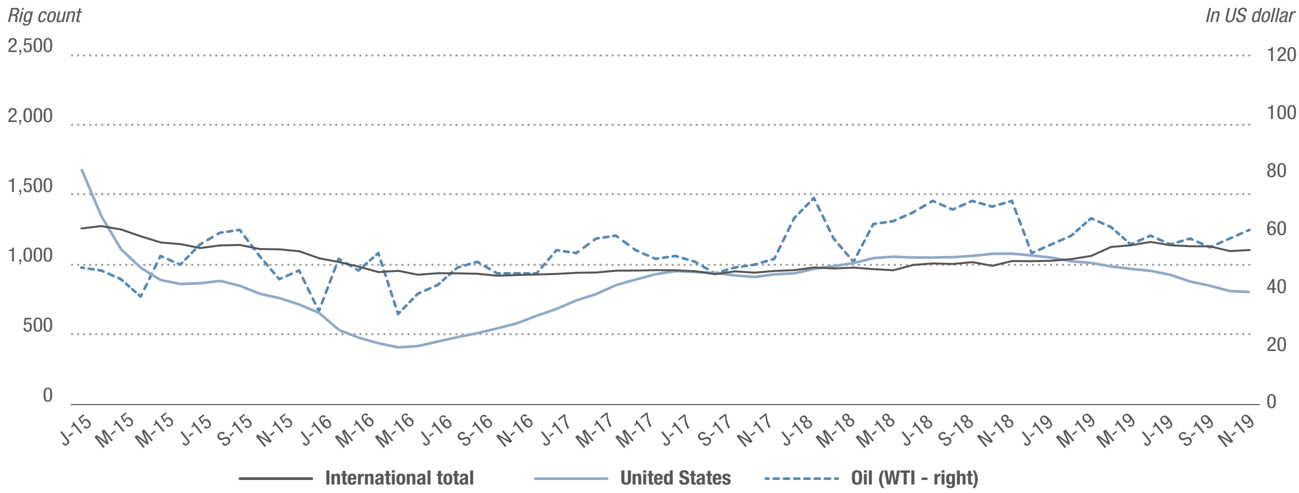
The IEA[1] expects a material slowdown after 2025. Demand would then increase by 0.1 mb/d each year on average during the 2030s and would ends up at 106 mb/d in 2040.

In addition, Vallourec considers data relating to the active rig count as indicative of the market situation.

The average number of international rigs saw[2] steady annual growth of 8% to 1,104 units at the end of December 2019 driven by Europe, Africa and the Middle East.

- In Europe, rig count increased markedly to 139 units in December 2019 versus 95 in 2018.
- This number was up 9% in December 2019 in the Middle East, with a total of 430 units.
- In Africa, rig count was up 9% in 2019 (118 versus 108 units).
- In Brazil, this number reached 14 units at end-December 2019, reflecting the upward trend in business seen during the fourth quarter of 2019 (8 units).

Rig count in the United States reached a low point in May 2016 (407 units), before steadily improving until the end of 2018 where it reached an average of 1,078 units in December. At the end of December 2019, average rig count was 804 units, a drop of 25% compared to the December 2018 average. The continued decrease in rig count is mainly due to operators' strong capex discipline.



Source: Baker Hughes and IR Nasdaq December 2019

As illustrated in the graph above, for the full year 2019, average WTI price[3] stood at USD 57/b vs. USD 65/b in 2018, declining thus by 12% year-on-year.

Following the same trend, average Brent price for the full year 2019 stood at USD 64/b compared to USD 72/b in 2018, declining by USD 8 or 11% year-on-year.

The average gas price on the full year 2019 stood at USD 2.52/Mbtu declining by 18% vs. 2018 average price of USD 3.06/Mbtu.

3.4.1.2 Oil & Gas market in the United States

In the United States, average rig count reached a lowest in May 2016 (407 units) and then recovered steadily until the end of 2018, with 1,078 units in average for the month of December. As at the end of December 2019, average rig count was 804 units, a 25% decline versus the average of December 2018. The continuous decline in rig count is mainly explained by an increasing operators' cash discipline along with a higher focus on balance sheet strengthening. Since beginning of 2020 the number of rigs stabilized around 790-800 rigs.

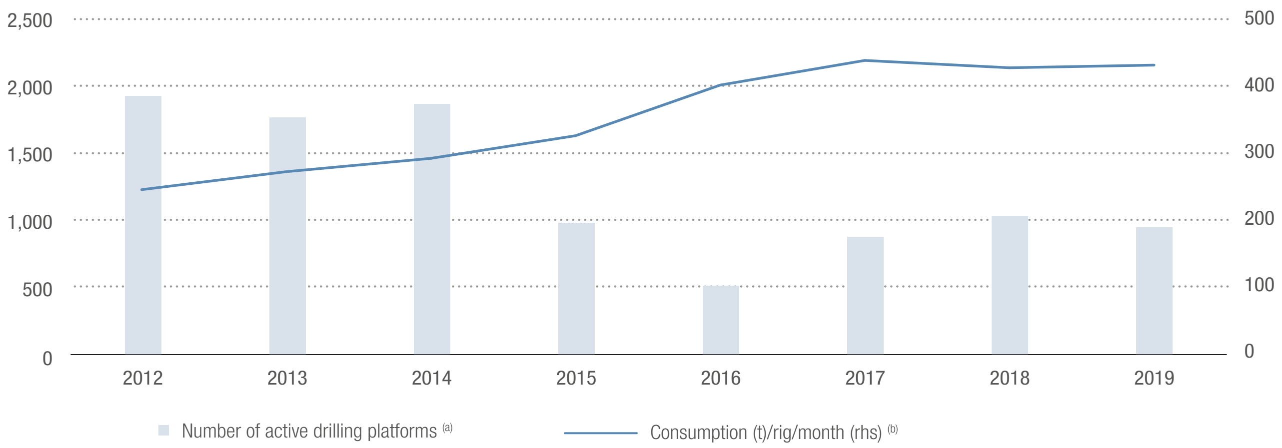
DRILLED BUT UNCOMPLETED ONSHORE WELLS (DUC)

The number of DUC wells in the five USA oil-dominant regions has increased significantly since the end of 2017 (6,566) to reach a peak in May 2019 (8,473). Since then and because of cash constraints that lead operators to focus on margins instead of growth, they are privileging completion of existing wells instead of new drillings. The number of DUC wells is decreasing: at the end of December, DUC wells count totaled 7,573 units representing a decline of 11% versus peak.

(1) World Energy Outlook 2019
(2) EA-MEA + Latin America.
(3) Price of WTI: IR Nasdaq – data collected in December 2019.

OCTG CONSUMPTION

The graphic below shows that US OCTG consumption per rig remains at higher levels compared to 2016.



Sources: (a) Baker Hughes (December 2019).
(b) Preston US OCTG consumption (December 2019).

In the Gulf of Mexico, the number of active drilling platforms at the end of 2019 stood at 22 units[1], a flat level comparing to the end of 2018 (22 units).

3.4.1.3 Oil & Gas market in the rest of the world

BRAZIL: RAMP-UP IN EXPLORATION AND PRODUCTION MAINLY DRIVEN BY OFFSHORE INVESTMENTS WITH RISING PRESENCE OF IOCS

Deep Offshore will drive Brazil oil production growth.

The Oil & Gas Brazilian market is still dependent on Petrobras' capital expenditure plans, although international oil companies are increasing their presence in the country.

Petrobras has been one of the leading players in the nine offshore bidding rounds organized since 2017, by Brazilian Petroleum Agency ANP: the company acquired several high potential deep-water blocks auctioned (25 offshore blocks of which 10 pre-salt) representing approximately USD 18 billion ("signature bonuses").

Additionally, international oil companies acquired through those bidding rounds 45 offshore blocks of which six pre-salt representing US$ 9 billion, confirming their high interest in the Brazilian market.

Brazil continues to offer new additional blocks. For 2020 and 2021, four rounds are already planned by the ANP, two of them exclusively for pre-salt fields.

Petrobras has updated its 2020-2024 capex program in December 2019: it forecasts total investments of USD 75.7 billion of which USD 64 billion (85%) for Exploration & Production. Priority is still given to the pre-salt areas with 59% of the E&P investments allocated (USD 38 billion). As result, pre-salt production share is expected to increase from 63%[2] of Petrobras total production in 2020 to 66% in 2024.

With regard to the number of projects to reach Final Investment decision (FIDs), three new deep-water projects have been approved in 2019. In 2020, eleven FID projects should be submitted; almost all being deep offshore projects.

As a consequence, OCTG consumption is expected to strongly rebound in 2020 with increasing number of wells.

The number of offshore wells in Brazil should follow a steady upward trend in 2020 and 2021, according to Vallourec estimates due to the increase in exploration drilling activities by Petrobras and international oil companies. The OCTG deliveries are expected to increase sharply from the second quarter of 2020.

Thanks to its unique offer smart tubular solutions, including pipes, accessories, services and digital, Vallourec is very well positioned to win in Brazil. In April 2018, Vallourec renewed for an additional three years its long-term contract with Petrobras for the supply of premium seamless OCTG pipes and accessories with premium steel grades and connections using state-of-the-art technology and specialized services. Regarding IOCs, the Group has already signed multi-year comprehensive agreements (pipes and services) with three majors. Contracts with other key IOCs in Brazil are under final phase of award.

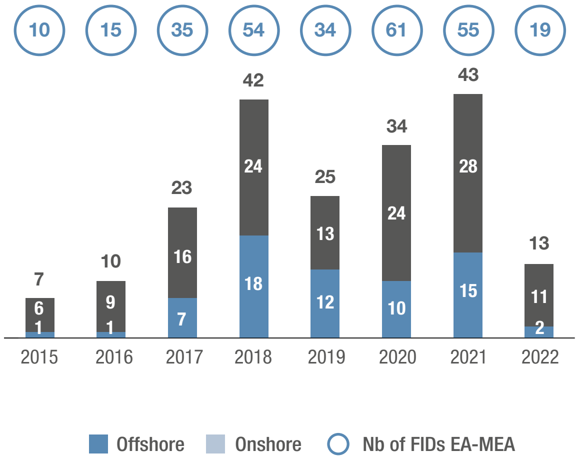
(1) Baker Hughes, North America Rotary rig count December 2019.
(2) Petrobras Investor Day, published 4 December 2019.

THE EA-MEA REGIONS ARE MAINTAINING THE UPWARD TREND

After the low point reached in 2015, the number of projects approved[(1)] in EA-MEA regions (Europe – Africa – Middle East – Asia) increased significantly to reach a pick at 42 FIDs in 2018. In 2019, the number of FIDs is comparable to 2010-2014 period, as reported by Wood Mackenzie.

For 2020, 34 projects are candidates to Final Investment Decisions (FID) in the EA-MEA region, out of which 24 are offshore projects.

Final Investment Decisions with reserves >50 mbpd



Source: Wood Mackenzie December 2019 (latest available).

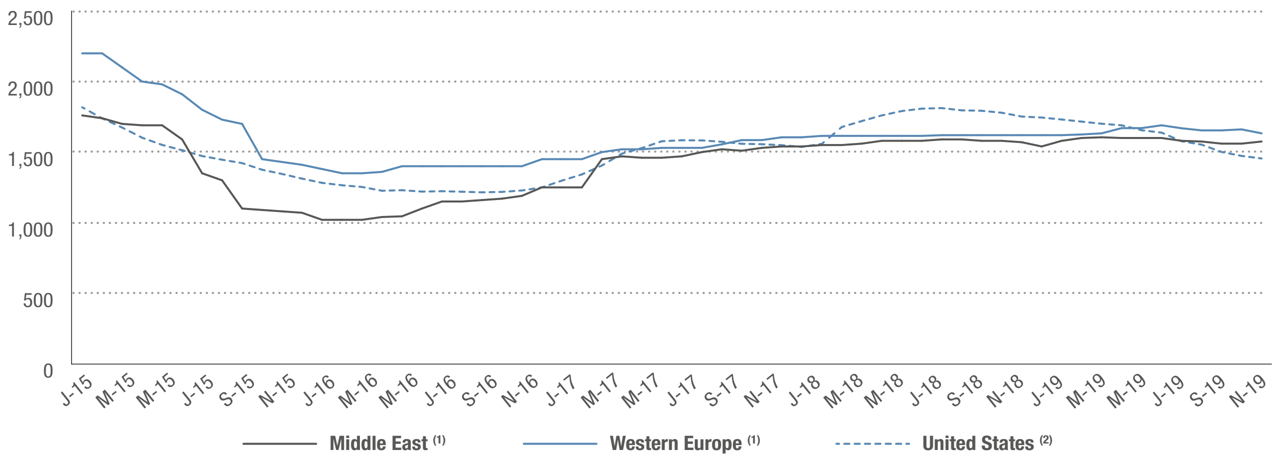
3.4.1.4 OCTG pricing evolution for Oil & Gas market

The graph below shows the price evolution of OCTG in the Middle East, in the US and in Western Europe.

Prices are broadly stable for MEA and Western Europe at the end of 2019 as shown in the below graph, while are declining on the US market.

In EA-MEA regions the market for special steel products remained strong throughout 2019 with prices moving up due to tight supply conditions.

In US dollar/t



Sources: (1) OCTG casing L80 premium connection – December 2019.
2) Pipe Logix (average Seamless pipes) – December 2019.

(1) *Major projects with reserves greater than 50 MMboe.*

3.4.2 Industry and other markets

Demand for industrial applications is dependent upon the growth or decline of sectors, such as automotive, agriculture, construction or industrial manufacturing. Such growth is driven by numerous factors, but overall bears a broad correlation to GDP growth.

BRAZIL

The projection for GDP growth in 2019 was revised upward from 0.9% to 1.2%[1]. Agriculture and services were the main drivers for growth while manufacturing and civil construction were relatively stable. Automotive sector was negatively impacted by the Argentina crisis, partially compensated by growing domestic demand for heavy vehicles.

For 2020, GDP forecasts have been revised upwards to 2.3%, conditional on progress to be made on economic reforms. With regards to industry, increased projections result from improved perspectives for various economic sectors, as mining and construction. Agriculture is continued to be seen as playing an important role on Brazilian growth. With the main conditions to a sustainable growth – controlled inflation (3.5%) and the lowest interest rate level in the last decade (4.5%) – Brazilian economic outlook is positive.

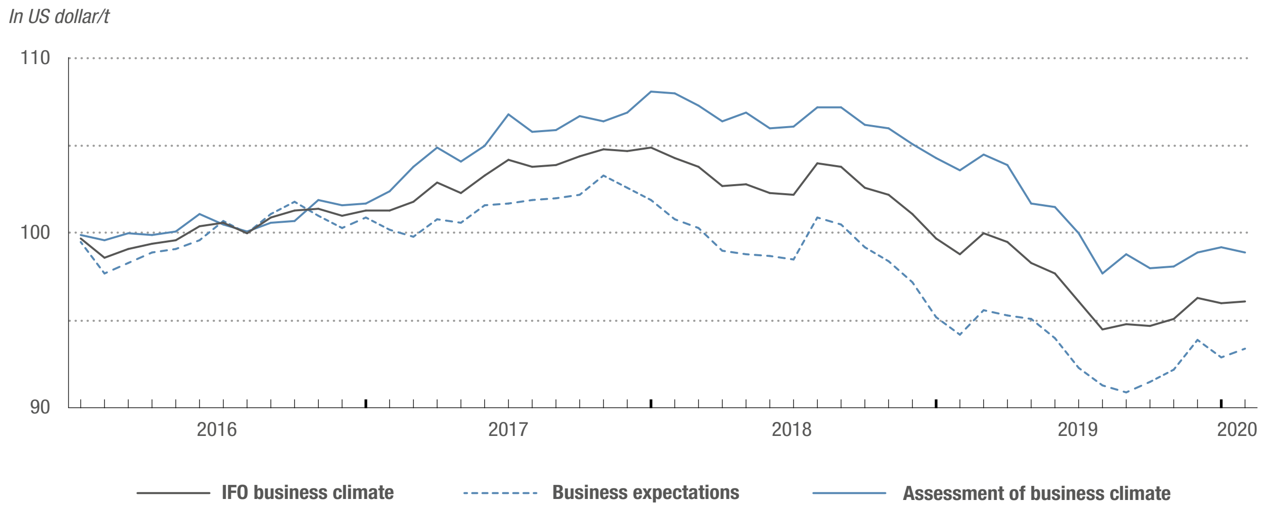
IRON ORE

For the full year 2019, average international price amounted to 93 USD/t[2] compared with 69 USD/t for the full year 2018. In Q4 2019, after a peak in July at 120 USD/t, the iron ore price came back as a result of increase in supply to an average of 89 USD/t and stood at 91 USD/t in December 2019. Vale has indeed started to resume its iron ore production.

EUROPE

The ifo Business Climate Index evolution below reflected the weak German business environment until the end of Q3 2019. In the Industry market, European distributors and manufacturers of industrial equipment have been hit by a weakening demand for consumer durables and particularly in the automotive industry.

Since the announcement in December 2019 of the "phase 1" agreement between the US and China, the ifo Business Climate have started to rebound.



3.4.3 Power generation

Demand for seamless tubes in the Power generation market depends on the construction or maintenance of conventional or nuclear power plants.

3.4.3.1 Conventional energy

Demand for conventional power plants is declining worldwide.

Given this long-term evolution, the Group announced on February 2019 that it had initiated a plan to divest this activity. The higher tariffs applied by Chinese authorities since June 2019 on a significant part of the steel pipes produced in Germany for the Chinese conventional powergen market made the divestiture of the Group's German conventional power business unlikely.

The decision to close the Reisholz mill (Germany), specialized in tubes for conventional power plants was announced on 19 February 2020. It will close in the second half of 2020.

(1) According to the Focus and Inflation reports by the Central Bank of Brazil, January 2020.
(2) Platts SBB – IODEX Iron ore fines 62% CFR North China $/T.

3.4.3.2 Nuclear energy

The development of nuclear power is slowing down due to a combination of several factors: difficulties of funding, more demanding requirements regarding safety, as well as the political reluctance of some countries to switch to nuclear energy.

China, with targets of 58 GW of nuclear capacity installed in 2020 (32 GW in 2017) and 150 GW by 2030, is the largest market for the new build.

In Europe, the market is mostly maintenance driven, with the supply of tubes to extend the lifetime of existing reactors. In France, a major revamping program is ongoing to refurbish the French nuclear park (Grand Carenage Programme handled by EDF).

With regard to the new built business, the United Kingdom has initiated a nuclear program targeting an additional capacity of the nuclear fleet in operation of 16 GW by 2030.

3.4.4 Renewable energies and energy transition

In the wake of COP21 and the Paris agreement, there is a strong push from public authorities as well as the private sector for the development of renewable energies to pave the way for an energy transition toward decarbonized and sustainable living. Vallourec is involved in different innovation projects to enable the Group to seize new opportunities linked to the energy transition. Demand for tubular solutions may be boosted by:

- geothermal energy for power generation. This currently represents around 1% of total installed capacity for renewable energy production and is mainly located in volcano hot spots (e.g. Western United States, Indonesia, East Africa). Capacity should increase by 5% per year through to 2040;
- wind energy represented almost half of installed capacity for renewable energy production and has enjoyed a steady growth rate of around 10% per year in recent years. Within this segment, offshore wind remains fairly limited (mainly present in the North sea) but should continue to see a marked growth over the next ten years or so;
- carbon capture, utilization and storage (CCUS): the technology for carbon capture, utilization and storage (CCUS) remains an emerging technology and must progress through various demonstration phases before reaching the commercial development stage. Reaching emission targets would require the capture, storage or reuse of approximately 850 million metric tons of carbon dioxide per year between now and 2030 according to the IEA. The recent increase in carbon prices in the EU, the launch of the carbon market in China in 2017 and the 45Q tax credit reform in the United States (which allocates a tax credit of USD 50 for each metric ton of CO_2 captured and stored) all point to the opening up of new prospects;
- the production of "blue" hydrogen (relating to carbon capture) and of "green" hydrogen (produced through electrolysis) may represent a competitive solution with interesting opportunities. The development of hydrogen applications will be facilitated by reductions in electrolysis costs driven by economies of scale, as well as support from public bodies to facilitate the roll-out of the necessary infrastructure (refueling stations, hydrogen-based products).

3.4.5 Raw materials

The cost of raw materials, such as scrap metal, has an impact on Vallourec's results, in particular in the United States and Brazil. The Group's US-based steel mill is equipped with an electric arc furnace fed with scrap metal. In the United States, average scrap metal prices in 2019[(1)] stood at USD 289/LT compared to USD 367/LT in 2018, i.e. a decline of 21%.

The blast furnace and steel mill in Belo Horizonte, Brazil, were closed in July 2018. Steel production in Brazil is now concentrated at the Jeceaba steel mill, a modern site that is equipped with an electric arc furnace (EAF) using scrap and with a blast furnace using iron ore supplied by the Group's mine located in Minas Gerais.

3.4.6 Currencies

The Group remains sensitive to volatility in foreign currencies (notably the Brazilian real and the US dollar) against the euro.

The translation effect is the impact of the difference in the valuation of the financial statements of subsidiaries whose functional currency is not the euro in the Group's consolidated financial statements. When subsidiaries generate profits, the effect is positive when the currency rises against the euro and negative when it falls against the euro.

The transaction effect represents the gain or loss in revenue (or costs) when contracts are invoiced in a currency which is different from the entity's functional currency. The transaction effect is expressed in the functional currency of the entity. It is positive when the functional currency declines and negative when it rises, with a delay resulting from hedges in place.

(1) CRU – Shredded Pittsburgh – $/LT.

3.5 Significant events in 2019 and early 2020

3.5.1 Fiscal year 2019

GOVERNANCE

On 22 February 2019, the Supervisory Board announced the creation of a new special committee in charge of assisting it on issues pertaining to the Corporate Social Responsibility (CSR) strategy.

On 21st March 2019, the Supervisory Board decided to co-opt Ms. Corine de Bilbao as a Supervisory Board member, to replace Mr. José Carlos Grubisich, who resigned.

On 23 May 2019, the Shareholders' Meeting renewed the terms of office of Supervisory Board members Ms. Maria-Pilar Albiac-Murillo, Mr. Philippe Altuzarra, Ms. Pascale Chargrasse and ratified the co-optation of Ms. Corine de Bilbao as member of the Supervisory Board.

On 17 September 2019, Vallourec's Supervisory Board meeting, chaired by Ms. Vivienne Cox, discussed the succession plan for the Management Board, whose term expires on 15 March 2020. As Mr. Philippe Crouzet did not wish to renew his term of office, the Supervisory Board launched an internal and external process to select his successor. Following this process, and upon the recommendation of the Appointments, Compensation and Governance Committee, the Board chose Mr. Édouard Guinotte to succeed him in the role of Chairman of the Management Board when his term of office expires. He shall be appointed for four years.

FINANCING

On 19 February 2019, Vallourec announced that it had obtained an extension until February 2021 of €600 million in bank facilities that were initially maturing in 2020.

On 2 August 2019, private bonds worth €400 million were repaid at maturity.

COMMERCIAL SUCCESSES

On 16 April 2019, Vallourec Soluções Tubulares do Brasil signed a contract with TechnipFMC in Brazil to supply around 12,000 tons of seamless steel rigid line pipe with outside diameters 8" and 10". The pipe will be used in the fabrication of the riser and flowline system for interconnecting 13 wells (six production wells and seven water alternating gas injection wells), to be installed in the pre-salt field Mero 1, which is part of the giant Libra reservoir.

On 9 September 2019, Vallourec won a USD 900 million contract for the provision of OCTG[1] tubes, over five years with a two-year extension clause, to Abu Dhabi National Oil Company (ADNOC). Vallourec will supply a complete range of products ranging from standard API[2] to high-end premium, for conventional and complex applications, at onshore and offshore oil fields. Vallourec will also be supplying a wide range of services, from plant to wells, developed as part of its new global service range Vallourec.smart. This contract is one of the largest ever won by Vallourec on international markets.

LAUNCH OF SMARTENGO AN ONLINE SALES PLATFORM FOR THE OIL & GAS MARKET

On 4 March 2019, Vallourec announced the launch of its new e-commerce platform Smartengo[3], which allows its customers to buy some 15 top OCTG threaded welded tubes online. This targeted offer will afford operators greater flexibility, allowing them for example, to very rapidly finish equipping their oil and gas wells in Europe or Africa, as a first step. The Smartengo platform will gradually expand its offer for products and services to all sectors of Vallourec's business and all regions of the world.

On 6 May 2019 Vallourec launched its Open Innovation platform, an Internet site designed to build new partnerships to make its pipes "augmented". To submit an application, start-ups, laboratories and companies can log in at https://openinnovationplatform.vallourec.com.

VALLOUREC UMBILICALS

On 5 June 2019, The "Sociétés de Projets Industriels" funds ("SPI funds"), managed by Bpifrance, took an equity stake in Vallourec Umbilicals, which specializes in fabricating tube for umbilicals, to support and finance its industrialization phase on a larger scale. Thanks to this investment, Vallourec Umbilicals will be able to triple its production capacity enabling it to become a key player in the growing market of offshore umbilical tubes. The Vallourec Umbilicals plant in Vénarey-les-Laumes (Côte-d'Or, France) currently has a production line with an annual capacity of 1,000 kilometers. On November 16, 2018, the SPI funds invested €25m in the capital of Vallourec Umbilicals, becoming a shareholder together with Vallourec, which holds 51% of the capital.

ESG: A COMMITMENT RECOGNIZED BY NON-FINANCIAL RATING AGENCIES

The Group's Sustainable Development policy is regularly recognized by non-financial rating agencies. Our performances, in particular in the three main areas of energy, water and waste management, underline Vallourec's contribution as a responsible market player.

In June 2019, MSCI ESG Rating revised up its rating of Vallourec from "A" to "AA", highlighting the numerous changes introduced.

The Sustainalytics rating agency ranked Vallourec among the 15 best performing companies in the "Oil & Gas" sector of a panel of 116 companies.

CDP (Carbon Disclosure Program) placed Vallourec on its "A" list for carbon management, which places the Group among the top 2% of the best performing companies in the world.

(1) Oil Country Tubular Goods.
(2) API = American Petroleum Institute Certification.
(3) Smartengo is a trademark.

3.5.2 First quarter 2020

LAUNCH OF THE ACCELERATION PROGRAM TO STRENGTHEN COMPETITIVENESS

On 19 February 2020, Vallourec announced its intention to continue to improve its competitiveness with the launch of a new program, called Acceleration, aimed at achieving additional gross savings of €200 million over 2021-2022 through the cross-business and regional initiatives described in paragraph 3.6.2.4 below.

CAPITAL INCREASE WITH PREFERENTIAL SUBSCRIPTION RIGHTS

Vallourec also announced plans on 19 February 2020 to launch a capital increase for an amount of approximately €800 million, with preferential subscription rights. This will significantly reduce the Group's debt, decrease its financial expenses and provide the increased flexibility needed for the successful implementation of its strategy.

Bpifrance and Nippon Steel, Vallourec's leading shareholders, have undertaken to subscribe to the capital increase with i) Bpifrance subscribing *pro rata* to its share of the capital and ii) Nippon Steel subscribing for an amount that would enable it to hold approximately 10% of Vallourec's capital upon completion of the capital increase[(1)]. Vallourec has obtained a standby commitment from a syndicate of banks to underwrite the balance of the capital increase, subject to customary conditions.

The resolutions on the capital increase will be submitted to the vote of the Vallourec shareholders at the Shareholders' Meeting on 6 April 2020. Bpifrance and Nippon Steel have committed to vote in favor of the resolutions related to the capital increase.

The capital increase is expected to be launched in Q2 2020, subject to market conditions and the approval of the prospectus by the French Financial Markets Authority (*Autorité des marchés financiers*).

REFINANCING OF CREDIT FACILITIES

On 19 February 2019, Vallourec also announced the refinancing of its credit facilities, with a new credit facility of €800 million committed by its relationship banks. The new RCF, the availability of which is subject to the completion of the capital increase referred to above, will provide Vallourec with a long-term source of liquidity with a maturity of 4 years and a 1-year extension option. The new facility will be subject to a covenant to maintain a gearing ratio of a maximum of 100%, similar to Vallourec's current facilities.

COMPOSITION OF THE MANAGEMENT AND SUPERVISORY BOARDS

The Supervisory Board indicated on 19 February 2020, in line with the succession plan announced on 17 September 2019, that it had appointed Mr. Édouard Guinotte as a member and Chairman of the Management Board for a term of four years beginning on 15 March 2020 and had renewed the term of office of Mr. Olivier Mallet as a member of the Management Board and Chief Financial Officer of the Group until the end of the 2023 Ordinary Shareholders' Meeting.

The Supervisory Board decided to submit to the vote of the Annual Shareholders' Meeting on 6 April 2020 the renewal of the terms of office of Ms. Corine de Bilbao and Bpifrance Participations, represented by Mr. Alexandre Ossola, for a four-year term and the renewal of the term of office of Mr. Pierre Pringuet, for a period of two years. The Supervisory Board also announced that it had coopted Ms. Virginie Banet and Mr. Antoine Cahuzac as independent members of the Board to replace Ms. Alexandra Schaapveld and Mr. Philippe Altuzarra, respectively, who resigned. These appointments will be proposed to the 6 April 2020 Annual Shareholders' Meeting for ratification. Ms. Virginie Banet and Mr. Antoine Cahuzac were appointed as members of the Finance and Audit Committee. Mr. Antoine Cahuzac has also joined the Appointments, Compensation and Governance Committee. Ms. Corine de Bilbao was appointed as a member of the Strategy Committee and member of the CSR Committee.

3.6 Implementation of the Transformation Plan – Strategic Vision

3.6.1 A successfully implemented Transformation Plan, a Group that is now more agile and more competitive

3.6.1.1 Cost reduction objectives exceeded

Under the Transformation Plan, which was launched in early 2016, the Group had announced an objective of €400 million in gross savings over a four-year period (2016-2020). Vallourec exceeded its initial objective when it reached €445 million in cost reductions at the end of 2018. The additional cost reduction objective of €200 million for 2019-2020 will also be exceeded (€141 million in savings already made in 2019).

Since 2014, the Group's workforce has been reduced by 21% (18,827 at end-2019), 35% of which in Europe and 19% in Brazil.

In 2019, the Group's workforce was down 1.8%, from 19,164 employees (end-2018) to 18,827 employees (end-2019), with a greater reduction in Europe (-6.3%). In Germany, the workforce was reduced by 392 employees following measures announced in February 2019 aimed reducing the number of employees by 600 by the end of 2020.

These cost savings, as well as the introduction of new routes, led to a 40% decrease between 2016 and 2019 in production costs and in sales, general and administrative costs per metric ton, to reach €1,035 per metric ton.

3.6.1.2 Major streamlining of the Group's European assets

The streamlining of the Group's European industrial assets in France and Germany is reflected in the decrease in the number of Group sites. Europe is now positioning itself as a center of excellence for the production of premium products, addressing local markets while offering a flexible production route that facilitates short lead times for export.

(1) *The total amount that may be invested by Nippon Steel, subject to the usual conditions, may not exceed €35 million and €120 million for Bpifrance.*

In particular, the Group has decided to close the plant in Reisholz (Germany), which specializes in tubes for conventional power plants. This decision will take effect in the second half of 2020.

3.6.1.3 Continued roll-out of our competitive production routes

New production routes have been rolled out from the highly competitive plants in Brazil and Asia.

Brazilian activities have been streamlined and major savings made. Exports represent around 60% of VSB's total production.

Tianda, which was acquired at the end of 2016, has been fully integrated into Vallourec's global network. The share of premium rolled volumes at the Tianda site has increased from 4% of production in 2017 to 20% in 2019. Tianda's products are intended for recently awarded contracts in the Middle East and North Africa.

The utilization rate of our competitive VSB (Brazil) and Tianda (China) production routes for premium OCTG and line pipe products delivered to the EA-MEA regions has increased to 55% in 2019, compared to 19% in 2015 (i.e. around 300,000 metric tons of premium products exported in 2019 compared to 40,000 metric tons in 2015).

3.6.1.4 A more agile, flexible industrial footprint leading the way in the sector

Cost savings, streamlining the industrial footprint with Europe's share in the Group's total capacity reduced from 45% to 25%, and the development of new routes have allowed the Group to lower its cash flow breakeven point[1] by some 25% since 2017.

Commercial efficiency has been markedly improved thanks to the development of competitive production centers in Brazil and Asia.

Brazil and Asia are highly competitive both in terms of their local markets and in export, whereas North America is mostly self-sufficient.

3.6.1.5 A return to competitiveness which is already generating commercial success

Vallourec's newfound competitiveness and its comprehensive offering of products and services that perfectly meet customers' needs has led to significant commercial success, as highlighted by the USD 900 million contract signed with ADNOC. Vallourec will supply a complete range of products ranging from standard API to high-end premium OCTGs that will be supplied from Europe, Brazil and China, for conventional and complex applications, at onshore and offshore oil fields.

The Group's success rate in tenders doubled between 2017 and 2018, and continued to improve in 2019[2], thanks to the development of new routes.

3.6.2 A strategic vision based on clearly-identified value drivers

3.6.2.1 Favorable market fundamentals and strong positions on the most attractive markets

In Brazil, the Group enjoys a unique position and expertise in the offshore market, which is set to be the most dynamic in the years ahead, and in which it is recognized as a leading partner by Petrobras and IOCs present in this market.

Moreover, Vallourec owns a very competitive iron ore mine in Brazil, where the capacity expansion for an additional 3 million metric tons will help increase EBITDA generation. The corresponding investment, for an amount of around €65 million, will be spread over 2021 and 2022, with a return on investment of some 2.5 years.

In EA-MEA regions, Vallourec will draw on its return to competitiveness on a market driven by a pick-up in projects subject to final investment decisions, many of which are located offshore. The strength of our positioning is reflected in the 16% increase in the number of orders in 2019, after these already doubled in number between 2018 and 2017.

In North America, Vallourec owns extremely flexible local industrial facilities, which allow the Group to adapt to a volatile market which is nonetheless stabilizing.

3.6.2.2 Building on our technological advantage and brand recognition to develop new products and solutions

The Group also intends to increase its revenue by building on its technological advantage and brand recognition to develop new products and solutions.

The new VAM® connections for the premium Oil & Gas markets are now used by our customers across the globe.

New digital solutions, including the Smartengo offer, are already available on the market and contribute to differentiating Vallourec's sales offering.

3.6.2.3 Taking advantage of opportunities relating to the energy transition

The Group is preparing for the future by developing sustainable solutions in response to opportunities presented by the energy transition and in particular for geothermal energy, offshore wind, carbon capture and storage, and hydrogen applications.

Vallourec will draw on its industrial expertise, its design capacities, as well as its relationship with customers committed to the energy transition to take advantage of these opportunities. Vallourec has introduced a dedicated structure to conduct innovative projects and expects to generate significant revenue from these opportunities by 2025.

(1) This breakeven point is defined as the sales volume necessary to cover variable and fixed costs included in EBITDA and capex requirements.
(2) Volume of tenders won to date, compared with the total volume of tenders launched.

3.6.2.4 Launch of the Acceleration program to strengthen competitiveness

The Group remains committed to continuing to improve its competitiveness with a new program, called Acceleration, aimed at achieving additional gross savings of €200 million over 2021-2022 through cross-business and regional initiatives.

Cross-business initiatives will focus on strengthening industrial excellence to enhance performance and improve the efficiency of support functions and of sales, general and administrative costs (SG&A).

Regional initiatives will mainly target:

- in Europe: the Group will benefit from the full-year impact of the cost reduction plan in Germany, the implementation of the One Mill concept, including the cutting of around 800 jobs at end-2020 compared to 2018 and the optimization of the product portfolio;
- in Brazil, the Group will continue to improve the Jeceaba site and develop the new Mini-Mill program at the Barreiro site; and
- in North America, the Group will improve the performance of maintenance and quality control cycles; it will continue to apply debottlenecking measures for its finishing capacities and will optimize its cost structure, as well as re-insourcing certain services.

3.6.2.5 Allocation of the majority of growth in demand for premium Oil & Gas tubes in EA-MEA regions to the new routes

The Group will also continue to roll out the most competitive routes for VSB (Brazil) and Tianda (China) in response to the majority of growth in demand for premium Oil & Gas products in EA-MEA regions, which corresponds to volume growth of around 300 kt in 2019 and around 500 kt in 2024.

This ambition will be made possible by the finalization of the industrialization of premium grades at Tianda and the certification by Majors and NOCs of Tianda and VSB. The share of premium rolled volumes at the Tianda site will increase from 20% in 2019 to around 40% in 2024.

3.7 Results of operations

3.7.1 Consolidated Group results

3.7.1.1 Income statement

Comparison of FY 2019 with FY 2018

Consolidated data *(in millions of euros)*	2018	2019	Change
Production shipped *(in thousands of metric tons)*	**2,364**	**2,291**	**-3.1%**
Revenue	**3,921**	**4,173**	**+6.4%**
Industrial costs of products sold[(a)]	(3,342)	(3,435)	+2.8%
Industrial margin	**579**	**738**	**+27.5%**
(as a % of revenue)	*14.8%*	*17.7%*	*+2.9pts*
Selling, general and administrative expenses (SG&A)[(a)]	**(405)**	**(378)**	**-6.7%**
(as a % of revenue)	*10.3%*	*9.1%*	*-1.3pt*
Autres	(24)	(13)	n.a.
EBITDA	**150**	**347**	**+197M€**
(as a % of revenue)	*3.8%*	*8.3%*	*+4.5pts*
Depreciation of industrial assets	(266)	(249)	+17M€
Depreciation and amortization, restructuring and other	(108)	(85)	n.a.
Impairment of assets and goodwill	(53)	(30)	n.a.
Operating income (Loss)	**(277)**	**(17)**	**+260M€**
NET INCOME, GROUP SHARE	**(502)**	**(338)**	**+164M€**

(a) Before depreciation and amortization.

3.7.1.2 Production

The diversity of the Group's products and the absence of appropriate units of measurement, other than financial units, prevent the provision of meaningful information on production volumes. However, the following table provides a summary of production output, which corresponds to the volumes produced in Vallourec rolling mills, expressed in metric tons of hot-rolled seamless tubes:

In thousands of metric tons	2018	2019	Change
Q1	515	571	+10.9%
Q2	572	605	+5.8%
Q3	583	595	+2.1%
Q4	694	520	-25.1%
TOTAL	**2,364**	**2,291**	**-3.1%**

The 3.1% decrease in 2019 compared to 2018 is primarily explained by the slowdown in the onshore Oil & Gas market in North America, lower entry-level tube volumes delivered in China and the slowdown in the Industry & Other market in Europe.

3.7.1.3 Revenue

The data presented "at constant exchange rates" is calculated by eliminating the translation effect into euros of the revenues of the Group's subsidiaries whose functional currency is not the euro. The translation effect is eliminated by applying 2018 exchange rates to these subsidiaries' 2019 revenue. However, the transaction effect – resulting from commercial exposure from sales and purchases entered into by certain of the Group's subsidiaries in currencies other than their functional currency – has not been eliminated.

CONSOLIDATED REVENUE

Consolidated revenue amounted to €4,173 million in 2019, up 6.4%. At constant exchange rates, the Group's annual growth stood at +4.6%. It reflects the combination of a +7.7% price/mix effect, and a volume effect of -3.1%.

REVENUE BY GEOGRAPHICAL MARKET

The following table shows the change in consolidated revenue by geographic region in which products were sold between 2018 and 2019:

In € million	2018	% of revenue	2019	% of revenue	2019/2018 change at current exchange rates	2019/2018 change at constant exchange rates
France	88	2.2%	88	2.1%	-	-
Germany	298	7.6%	242	5.8%	-18.8%	-18.8%
Other EU countries[(a)]	201	5.1%	265	6.4%	+31.8%	+30.8%
Total Europe	**587**	**15.0%**	**595**	**14.3%**	**+1.4%**	**+1.0%**
North America	**1,281**	**32.7%**	**1,215**	**29.1%**	**-5.2%**	**-9.9%**
Brazil	597	15.2%	685	16.4%	+14.7%	+17.4%
Other Central & South America	29	0.7%	17	0.4%	-41.4%	-37.9%
Total South America	**625**	**15.9%**	**702**	**16.8%**	**+12.3%**	**+15.0%**
China	339	8.6%	279	6.7%	-17.7%	-18.3%
Other Asia and Middle East	749	19.1%	943	22.6%	+25.9%	+23.0%
Total Asia and Middle East	**1,088**	**27.7%**	**1,222**	**29.3%**	**+12.3%**	**+10.1%**
CIS	28	0.7%	39	0.9%	+39.3%	+39.3%
Rest of the world	312	8.0%	400	9.6%	+28.2%	+27.6%
Total Rest of the world	**340**	**8.7%**	**439**	**10.5%**	**+29.1%**	**+28.5%**
TOTAL REVENUE	**3,921**	**100.0%**	**4,173**	**100.0%**	**+6.4%**	**+4.6%**

(a) Other European Union countries, excluding Germany and France.

In Europe, the improvement in the Oil & Gas activity is offset by the decline in the Industry market.

In North America, revenue was down slightly compared to 2018, reflecting both lower volumes sold in Petrochemicals and the slight increase in Oil & Gas activities where the good performance seen in the first half was offset by a slowdown in the onshore market during the second half, amplified by the temporary impact of inventory reductions by distributors.

In South America, revenue was driven by an increase in mining activity, whereas Oil & Gas revenue was down over the first three quarters compared to 2018, with a recovery in the Brazilian offshore market during the fourth quarter.

In Asia and Middle East, revenue growth was mainly due to the price/mix effect of the Oil & Gas activity.

In the rest of the world, Oil & Gas revenue was up markedly compared to 2018, boosted by a favorable price/mix effect.

REVENUE BY ACTIVITY

In 2019, the consolidated revenue for Oil & Gas and Industry & Other activities increased, while revenue for Petrochemicals and Power generation activities was down. The following table shows the breakdown of the Group's revenue by activity in 2018 and 2019:

In € million	2018	2019	% change at current exchange rates	% change at constant exchange rates[(a)]
Oil & Gas	2,469	2,752	+11.5%	+8.5%
Petrochemicals	344	290	-15.7%	-17.4%
Oil & Gas and Petrochemicals	**2,813**	**3,042**	**+8.1%**	**+5.3%**
Power generation	**289**	**192**	**-33.6%**	**-33.6%**
Mechanicals	469	368	-21.5%	-21.7%
Automotive	148	115	-22.3%	-20.9%
Construction & other	202	456	+125.7%	+129.2%
Industry & other[(b)]	**819**	**939**	**+14.7%**	**+15.6%**
TOTAL	**3,921**	**4,173**	**+6.4%**	**+4.6%**

(a) The change at constant exchange rates is defined as the change in revenue between two periods obtained by translating the revenues of consolidated subsidiaries whose functional currency is not the euro at the average cumulative rate of the prior period. It does not include foreign currency impacts on sales entered into by certain subsidiaries in currencies other than their functional currency. Rather, that impact is built into price/mix effects.

(b) Including sales of iron ore.

Oil & Gas, Petrochemicals (73% of consolidated revenue)

In 2019, Oil & Gas revenue was €2,752 million, up 11.5% from 2018 (+8.5% at constant exchange rates):

- in the EA-MEA regions, Oil & Gas revenue was up markedly, driven by volume and price/mix effects;
- in North America, Oil & Gas revenue was up slightly compared to 2018, with the first half performance offsetting the slowdown in the onshore market during the second half, amplified by the temporary impact of inventory reductions by distributors;
- in South America, Oil & Gas revenue declined during the first nine months, followed by a strong recovery in the Brazilian offshore market during the fourth quarter which should pick up pace in 2020.

In 2019, Petrochemicals revenue totaled €290 million, down 15.7% compared to 2018 (-17.4% at constant exchange rates), due to a decrease in volumes sold in North America.

Industry & Other (22% of consolidated revenue)

In 2019, Industry & Other revenue amounted to €939 million, up 14.7% from 2018 (+15.6% at constant exchange rates).

- In Brazil, the increase in revenue driven by iron ore led to higher volumes sold (+32% compared to 2018) thanks to improved productivity, and the increase in iron ore prices. Industry saw a fall in revenue, within a market that was also falling.
- In Europe, Industry (Mechanical, Automotive, Construction) declined in a challenging market environment, impacting volumes and prices.

Power generation (5% of consolidated revenue)

In 2019, Power generation revenue amounted to €192 million, down 33.6% from 2018 (-33.6% at constant exchange rates), due to a decline in global demand for coal-fired conventional power plants.

REVENUE BY QUARTER

In € million	Q1	Q2	Q3	Q4	Fiscal year
2018	862	982	961	1,116	3,921
2019	1,025	1,084	1,060	1,004	4,173
% change, compared to the previous year	+18.9%	+10.4%	+10.3%	-10.0%	+6.4%
volume effect	*+10.9%*	*+5.8%*	*+2.0%*	*-25.1%*	*-3.1%*
translation effect	*+1.8%*	*+2.2%*	*+3.3%*	*+0.3%*	*+1.8%*
other effects (price, mix, etc.)	*+6.2%*	*+2.4%*	*+5.0%*	*+14.8%*	*+7.7%*

During the first quarter of 2019, Vallourec recorded revenue of €1,025 million, a 19% increase compared with the first quarter of 2018 (+17% at constant exchange rates), with a positive volume impact of 11%, and a positive price/mix effect of 6%.

During the second quarter of 2019 revenue reached €1,084 million, an increase of 10% compared with the second quarter of 2018 (+8% at constant exchange rates), with a positive volume impact of 6%, a positive price/mix effect of 2%, and a positive currency impact of 2%.

During the third quarter of 2019, revenue reached €1,060 million, a 10% increase compared with the third quarter of 2018 (+7% at constant exchange rates), with a positive price/mix effect of 5%, a positive volume impact of 2%, and a positive currency impact of 3%.

In the fourth quarter of 2019, Vallourec recorded revenue of €1,004 million, down 10.0% compared to the fourth quarter of 2018 (-10.3% at constant exchange rates) with:

- a -25.1% volume effect, mainly due to a decline in deliveries in North America following a slowdown in the market, and lower entry-level tube volumes delivered by Tianda in China;
- a positive price/mix effect of +14.8%, driven by the Oil & Gas activity in EA-MEA and South America;
- a +0.3% currency impact.

3.7.1.4 EBITDA

For the 2019 fiscal year, EBITDA reached €347 million, improving by €197 million compared to 2018, with:

- a 2.9 percentage point improvement in the industrial margin to €738 million, an increase of €159 million compared with the 2018 fiscal year. This improvement was mainly due to a favorable price/mix effect for Oil & Gas in EA-MEA regions, the contribution from the mine activity and cost savings, which largely offset the lower contribution from North America;
- a -7% decrease in sales, general and administrative costs (SG&A) at -€378 million, representing 9.1% of revenue versus 10.3% for the 2018 fiscal year;
- a net decrease in provisions of €21 million (versus €56 million in 2018) was included in EBITDA, mainly reflecting provisions released to offset losses recorded on the sale of depreciated inventories over the same period.

The impact of IFRS 16 on EBITDA is positive in the amount of €33 million for the fiscal year.

The following table shows the changes in the principal components of EBITDA in 2018 and 2019.

In € million	2018	2019	Change
Revenue	**3,921**	**4,173**	**+6.4%**
Cost of sales	(3,342)	(3,435)	+2.8%
Industrial margin	**579**	**738**	**+27.5%**
(as a % of revenue)	*14.8%*	*17.7%*	*+2.9 pt*
Selling, general and administrative expenses (SG&A)[a]	(405)	(378)	-6.7%
Other	(24)	(13)	N/A
EBITDA	**150**	**347**	**+€197 M**
(as a % of revenue)	*3.8%*	*8.3%*	*+4.5 pt*

(a) Before depreciation and amortization.

INDUSTRIAL MARGIN

Industrial margin is defined as the difference between revenue and cost of sales (excluding amortization).

In 2019, the industrial margin amounted to €738 million, up €159 million compared to 2018 (+2.9 pts) mainly driven by an increase in the Oil & Gas price/mix effect in the EA-MEA region. Coupled with the increased contribution from the mine activity and cost reductions, this improvement largely offset the decline in the contribution from North America.

The following table shows the breakdown of cost of sales (excluding amortization) in 2018 and 2019:

In € million	2018	2019	Change
Direct cost of sales	207	238	+15.0%
Cost of raw materials consumed	1,485	1,441	-3.0%
Labor costs	757	742	-2.0%
Other manufacturing costs[a]	964	939	-2.6%
Change in non-raw material inventories	(72)	75	N/A
TOTAL	**3,341**	**3,435**	**+2.8%**

(a) "Other manufacturing costs" mainly include the costs of energy and consumables, and the costs of outsourcing, maintenance and provisions.

SELLING, GENERAL AND ADMINISTRATIVE EXPENSES

Selling, general and administrative expenses (SG&A) were reduced by 6.7% to €378 million in 2019, reflecting the strict cost control.

The following table shows the breakdown of SG&A (excluding amortization) in 2018 and 2019:

In € million	2018	2019	Change
Research and Development expenses	44	44	-
Selling and marketing costs	77	76	-1.3%
General and administrative expenses	284	258	-9.2%
TOTAL	**405**	**378**	**-6.7%**

PERSONNEL EXPENSES

Labor costs are divided among cost of sales, SG&A, and other operating expenses.

In 2019, total labor costs were €956 million compared to €958 million in 2018, with:

- wages and salaries down 1.6%, in line with the decrease in total workforce (-1.25%) due to the restructuring of sites, in particular in Germany and France;
- an increase in profit sharing.

Personnel expenses are broken down as follows:

	2018	2019	Change
Wages and salaries	(750)	(738)	+12
Employee profit-sharing and bonuses	(16)	(32)	-16
Expenses related to share subscription and share purchase options and performance shares[a]	-	(2)	-2
Social security costs	(192)	(184)	+8
TOTAL	**(958)**	**(956)**	**+2**

(a) Including income of €0.1 million from all share subscription plans and an expense of €2.6 million for all share subscription plans for 2019 (versus income of €1.3 million and an expense of €1.2 million respectively for 2018).

The workforce of consolidated companies as at 31 December 2019 was 18,100 people[1], compared to 18,330 people as at 31 December 2018:

Workforce of the consolidated companies at year-end	2018	2019	Change
Managers	3,116	3,130	+14
Technical and supervisory staff	2,703	2,595	-108
Production staff	12,511	12,375	-136
TOTAL	**18,330**	**18,100**	**-230**

For more detail on the workforce, see Section 4.2.2.1 “Group workforce” of this Universal Registration Document.

3.7.1.5 Operating income

Operating result represented a loss of €17 million, compared to a loss of €277 million in 2018.

This €260 million improvement was primarily the result (i) of the €197 million increase in EBITDA, and (ii) of the drop in depreciation and amortization, restructuring costs and asset impairments.

DEPRECIATION OF INDUSTRIAL ASSETS

The depreciation of industrial assets decreased, amounting to €249 million in 2019, compared to €266 million in 2018. This change is due to falling investments and depreciation during previous years.

AMORTIZATION, RESTRUCTURING AND OTHER, AND ASSET IMPAIRMENT

The depreciation of other, non-industrial assets was €58 million, compared to €34 million in 2018. This increase was due to recognition of the depreciation of rights of use since 1 January 2019 relating to the application of IFRS 16.

In 2019, as impairments related to individual assets they were recognized as impairment losses (mainly €21 million on an individual asset due to the deterioration of its medium-term outlook on the nuclear market in China).

Reorganization measures totaled €39 million in 2019 (including €29 million in allocations to provisions). The increase in provisions covers the restructuring charges announced or which had started to be implemented before the reporting date (mainly the closure of the Reisholz site in Germany). These costs include termination and end of employment contract payments, early-retirement payments, various social measures and contract termination compensation paid to suppliers.

Other non-recurring items in 2019 included the impact of changes to the retirement scheme in Brazil and the United States for €9 million and income from the disposal of assets.

Asset impairment can be broken down as follows:

In € million	2018	2019
Impairment of property, plant and equipment	(51)	(30)
Other impairment of assets	(2)	-
TOTAL	**(53)**	**(30)**

3.7.1.6 Financial income/(loss)

Financial income was negative at -€244 million versus -€220 million in 2018. This increase was mainly due to (i) higher interest expenses, and (ii) an IFRS 16 impact on interest expenses on lease debt of -€11 million, (iii) partly offset by a reduction in currency risk hedging costs.

Financial income/(loss) is broken down as follows:

In € million	2018	2019	Change
Financial income	14	14	-
Interest expenses	(189)	(188)	-0.5%
Net interest expenses	**(175)**	**(174)**	**-0.6%**
Other financial income and expenses	**(35)**	**(24)**	**-31.4%**
Interest expenses on leases	**-**	**(35)**	**N/A**
Other discounting expenses	**(10)**	**(11)**	**+10.0%**
FINANCIAL INCOME/(LOSS)	**(220)**	**(244)**	**-€24M**

(1) *It is noted that this number only includes the workforce from the Group’s consolidated companies.*

3.7.1.7 Income tax

Income tax represented an expense of €75 million in 2019 compared to an expense of €5 million in 2018, mainly due to the marked increase in the income expense in Brazil (-€37 million), the expiry of deferred tax on losses in China and the United States (-€7 million) and, finally, the tax rate differential (-€15 million) notably in Brazil.

The actual tax rate was -29%, compared to -1% in 2018, and is primarily due to the following:

- the impact of tax loss carryforwards and timing differences is explained mainly by the non-recognition of deferred tax assets (DTAs) for the year in France, Germany, China and the United States;
- the permanent differences are explained by the reintegration of financial expenses, the application of IFRS 2 (stock options and free share plans) and the impact of withholding tax;
- differences in taxation mainly reflect the range of tax rates applied in each country (France 34.4%, Germany 31.6%, United States 21%, Brazil 34.0%, China 25.0% and Saudi Arabia 20%).

3.7.1.8 Net income

The share of non-controlling interests totaled -€2 million in 2019, compared to +€2 million in 2018. This decline was mainly due to the decline of activities in the United States.

Net income, Group share was a loss of -€338 million, compared to a loss of -€502 million in 2018.

The Group's net result, Group share on a per-share basis was a loss of -€0.7 per share, compared to a loss of -€1.1 per share in 2018.

3.7.2 Liquidity and capital resources

3.7.2.1 Overview

In 2019, the free cash flow (as defined in Section 3.7.2.4. "Free cash flow" below) was negative by €41 million; this significant improvement compared to 2018 (-€494 million) was due to EBITDA which more than doubled, as well as lower working capital requirements and despite higher investments than in 2018. Net debt increased from €1,999 million at the beginning of 2019 (post IFRS 16) to €2,031 million as at 31 December 2019.

As at 31 December 2019, gross consolidated financial debt totaled €3,824 million, including €1,747 million in medium and long-term financial debt and €2,077 million in current financial debt. As at that date, the Group had €1,794 million in cash and cash equivalents, and had undrawn credit lines for €426 million.

Group equity decreased in 2019 due mainly to negative consolidated net income.

3.7.2.2 Cash flow

Simplified statement of cash flows

In € million	2018	2019
Cash flow from operating activities	(210)	(6)
Change in operating working capital requirement (+ decrease/(increase))	(155)	124
Net cash flow from operating activities (1)	**(365)**	**118**
Net cash flow from investing activities (2)	**(95)**	**(139)**
Net cash flow from financing activities (3)	**219**	**1,085**
Impact of changes in exchange rates (4)	(32)	(8)
CHANGE IN CASH (1 + 2 + 3 + 4)	**(273)**	**1,056**

NET CASH FLOW FROM OPERATING ACTIVITIES

Net cash flow from operating activities was €118 million in 2019, compared to -€365 million in 2018.

Cash flow from operating activities amounted to -€6 million in 2019, compared to -€210 million in 2018.

The working capital requirement linked to activity decreased by €124 million, compared to an increase of €155 million in 2018. It includes a net working capital requirement, which represented 95 days of sales at the end of 2019, a comparable level to at the end of 2018 (94 days). In the second half, operating working capital requirement decreased €241 million. As a reminder, working capital requirement days are subject to the seasonality of activity: the highest level is generally recorded in the first quarter and the lowest in the fourth quarter.

Capital expenditure were €159 million in 2019, compared to €129 million in 2018.

The change in working capital requirement is broken down as follows:

Gross amounts	31/12/2018	Translation difference	Change	Reclassification and other	31/12/2019
Inventories	1,274,594	8,917	(167,839)	6,689	1,122,361
Trade receivables	609,838	3,142	37,301	(6,210)	644,071
Trade payables	(582,272)	(5,704)	3,992	4,245	(579,739)
Working capital requirement	**1,302,160**	**6,355**	**(126,546)**	**4,724**	**1,186,693**
Other receivables and payables	2,819	666	(1,723)	3,329	5,091
Operating working capital requirement	**1,304,979**	**7,021**	**(128,269)**	**8,053**	**1,191,784**
Impact of hedging instruments			**3,948**		
TOTAL			(124,321)		
Change in Operating Working Capital Requirements under the cash flow statement			**124,321**		

NET CASH FLOW FROM INVESTMENT ACTIVITIES

Net cash flow from investment activities was -€139 million in 2019, compared to -€95 million in 2018. See Section 3.7.2.3, "Industrial Capital expenditure" below for a description of the main investments in 2018 and 2019.

NET CASH FLOW FROM FINANCING ACTIVITIES

Net cash flow from financing activities was +€1,085 million in 2019, compared to +€219 million in 2018. Net cash inflow in 2019 consisted primarily of cash inflows relating to €2,632 million in new loans, partially offset by loan repayments in the amount of €1,546 million and the repayment of a shareholder's loan in the amount of €10 million.

3.7.2.3 Industrial capital expenditure

INVESTMENT DECISIONS

Investment decisions are a central pillar of the Group's strategy, addressing the following requirements:

- innovation for new products or services, digitalization;
- keeping personnel and facilities safe and complying with legal obligations, such as those relating to safety and the environment;
- developing Vallourec's activities through organic and external growth;
- optimizing production units' economic performance and enhancing the quality of Group products; and
- maintaining facilities and replacing them when obsolete.

In all its investment projects, the Group attaches great importance to ensuring that environmental impact and energy savings receive special focus.

Investment decisions are made through a dedicated process that systematically includes an economic study and risk assessment to ensure that the selected projects will support long-term growth and deliver an acceptable return on investment.

For projects with an amount higher than €1 million, the investment authorization process is strengthened by implementing the following actions:

- systematic preparation for each project through three "Front-End Loading" steps;
- qualification of each of the three steps by a Qualification Committee bringing together the Group's experts. During this process, the essential aspects of the projects (market assumptions, technical choices, budget, planning and risks), are systematically examined and fleshed out; and
- an authorization at each of the three steps by a committee including the Director of Management Control and the Director of Investments, Projects and Engineering for projects of over €1 million. The members of the Management Board are part of this committee for projects of over €5 million. During these Committee meetings, the projects are verified in terms of alignment with strategy, that they meet profitability requirements while also complying with the Group's budget.

MAIN INVESTMENTS DURING THE 2018-2019 PERIOD

In recent years, industrial capital expenditure programs have been directed mainly toward streamlining production facilities, improving quality and process control, adapting product lines to reflect customers' changing requirements, expanding premium product finishing capacity and reducing production costs.

Over the past two fiscal years, investments have been made as follows:

Industrial capital expenditure excluding changes in scope (property, plant and equipment, intangible and biological assets)

In € million	31/12/2018	31/12/2019
Europe	51	57.3
North America	33	35.1
South America	27.5[(a)]	60.6[(b)]
Asia	18	14.1
Other	0.2	0.2
TOTAL INDUSTRIAL CAPITAL EXPENDITURE[(B)]	**128.7[(c)]**	**167.3[(c)]**
Capital expenditure payments during the fiscal year	129.2	158.7

(a) Including €6.2 million in biological assets.

(b) Including €9.7 million in biological assets.

(c) The difference between capital expenditure payments made during the fiscal year and the total of industrial capital expenditure corresponds to the change in amounts payable on fixed assets.

The largest investment programs carried out in 2018 and 2019 are outlined below:

In 2018

Capital expenditure decreased in 2018 (-17% compared to 2017).

The programs initiated in previous years accounted for 32% of expenditure in 2018.

The main new investments in 2018 were as follows:

- completion of the first industrial line in Europe for the new Cleanwell® process for OCTG products;
- continued installation of a horizontal forging press for edges at the tube manufacturing plant in Düsseldorf-Rath;
- numerous projects to strengthen the Tianda facilities, or aimed at improving productivity and costs to support the Group's Transformation Plan, as well as safety and general condition of equipment.

In 2019

Capital expenditure increased in 2019 (+30% compared to 2018).

The programs initiated in previous years accounted for 28% of expenditure in 2019.

The main new investments in 2019 were as follows:

- the launch of a project to reuse blast furnace gas at the Jeceaba steel mill;
- the launch of a project to renew saws for cutting billets at the Barreiro rolling mill;
- the commissioning of the horizontal forging press for edges installed at the tube manufacturing plant in Düsseldorf-Rath;
- several projects aimed at improving productivity and costs to support the Group's Transformation Plan;
- numerous projects to digitize, maintain and restore installations, as well as improve the safety of people and facilities.

MAIN INVESTMENTS PLANNED FOR 2020

The investment expenditure target in 2020 is set at €200 million.

The 2020 program provides for a volume of new investments that is considerably higher than preceding years, in particular:

- the completion of a project to renew saws for cutting billets at the Barreiro rolling mill;
- the completion of a project to reuse blast furnace gas at the Jeceaba steel mill;
- the launch of project to extend the capacity and lifetime of the iron ore mine in Brazil;
- the launch in Brazil of the second industrial line of the new Cleanwell® process for OCTG products;
- the launch of a project to modernize non-destructive testing facilities at the Youngstown rolling mill, which are aimed at improving quality, cost, time frames and capacities;
- numerous projects to digitize, maintain and restore installations, as well as improve the safety of people and facilities.

3.7.2.4 Free cash flow

In 2019, free cash flow totaled -€41 million, compared to free cash flow of -€494 million in 2018. Free cash flow is defined as net cash flow from operating activities minus gross capital expenditures. The following table shows the calculation of free cash flow in 2018 and 2019:

In € million	2018	2019
Cash flow from operating activities	(210)	(6)
Change in operating WCR + decrease, (increase)	(155)	124
Net cash flow from operating activities	**(365)**	**118**
Gross capital expenditures	(129)	(159)
FREE CASH FLOW	**(494)**	**(41)**

3.7.2.5 Liquidity and Indebtedness

As at 31 December 2019, gross consolidated financial debt totaled €3,824 million, including €1,747 million in medium and long-term financial debt and €2,077 million in current financial debt. As at that date, the Group had €1,794 million in cash and cash equivalents. Net debt thus totaled €2,031 million at the end of 2019, an increase of €32 million compared to €1,999 million as at 1 January 2019. €59 million of net debt was reclassified as lease debt as at 1 January 2019 in accordance with IFRS 16.

As at 31 December 2019, Vallourec had undrawn confirmed credit lines in the amount of €426 million. These credit lines do not benefit from a surety or guaranty. Given the expected amortizations, the amount available under these credit lines will be €1,834 million at end-2020 and €110 million at end-2021.

No material repayment deadline has been planned prior to December 2020, excluding the drawings on the bank facilities (for €1,701.5 as at 31 December 2019), commercial paper (€110.0 million as at 31 December 2019) maturing in more than one year, as well as various lines of financing (€17.0 million as at 31 December 2019) within the Brazilian and Chinese subsidiaries.

The Group's financial resources are composed of bank financing and market financing.

The majority of long-term and medium-term bank financing has been put in place in Europe through Vallourec and, to a lesser extent, the subsidiaries in Brazil. Market financing is arranged exclusively by Vallourec.

The following table shows the Group's principal financial indebtedness as at 31 December 2019:

In € million	As at 31 December 2019
Private placement – maturing in August 2027	54
Bond issue – maturing in September 2024	499
Non-convertible bond issue – maturing in October 2022	545
Convertible bond issue – maturing in October 2022	233
Bond issue – maturing in October 2023	396
Commercial paper	110
RCF drawings	1,702
BNDES loan	20
ACC ACE	207
Other	58
TOTAL GROSS FINANCIAL INDEBTEDNESS	**3,824**

All of these bank facilities (confirmed credit facility of €1.1 billion maturing in February 2019, extended once for €1,078 million maturing in February 2020, and a second time for €1,034 million maturing in February 2021, a confirmed credit facility of €400 million maturing in July 2020, extended by €300 million from July 2020 to February 2021, a confirmed credit facility of €450 million maturing in February 2020, extended by €300 million from February 2020 to February 2021, a confirmed bilateral facility of €90 million maturing in February 2021, a confirmed bilateral facility of €110 million maturing in 2027) provide for Vallourec's compliance with a consolidated net debt-to-equity ratio ("banking covenant") that is less than or equal to 100%, calculated on 31 December of each year. The Group's consolidated debt to equity ratio was 81% as at 31 December 2019, as calculated under the banking covenant. As defined in the financing agreements, the banking covenant ratio is the ratio between the Group's net consolidated debt (including financial lease debt and the shareholder loan in Brazil) and the Group's equity, restated for gains and losses on derivatives and valuation differences (gains and losses on the consolidated subsidiaries in foreign currencies), as provided in the table below:

Banking covenant	31/12/2018	31/12/2019
Net debt (excluding financial lease debt)	1,998,776	2,030,539
Financial lease debt[(a)]	59,157	50,042
Net debt	**2,057,933**	**2,080,581**
Shareholder loan	28,892	20,560
Restated net debt[(a)]	**2,086,825**	**2,101,141**
Equity	2,264,276	1,980,045
Foreign currency translation reserve – Group share[(b)]	623,585	608,335
Reserves – changes in fair value of financial instruments[(b)]	9,279	(3,893)
Equity restated[(b)]	**2,897,140**	**2,584,487**
Ratio of banking covenant restated [(a)(b)]	72%	81%

(a) Included in net debt as at 31 December 2018.

(b) Including minority interests.

A change in control of Vallourec could trigger repayment of all or part of the debt, as decided by each participating bank. It is also stipulated that the entire debt will be immediately due and payable if the Group defaults on one of its debt obligations (cross default), or in case of a major event with consequences for the Group's business or financial position and its ability to repay its debt.

The following table shows the repayment schedule for the Group's medium- and long-term debt as at 31 December 2019:

	2018	2019
> 1 year	11,011	1,723
> 2 years	11,736	781,368
> 3 years	784,995	399,722
> 4 years	407,474	502,211
5 years or more	581,421	62,037
TOTAL	**1,796,637**	**1,747,061**

3.7.2.6 Equity

The Group's equity totaled €1,980 million as at 31 December 2019, compared to €2,264 million as at 31 December 2018. This drop can be explained by the following main factors:

- the Group's negative net income recorded in 2019, in the amount of -€340 million;
- the capital increase of Vallourec Star, a Vallourec subsidiary in the United States, by Sumitomo Corporation pro rata of its holding percentage (19.47%) on 19 February 2019 for an amount of $59 million (€52 million).

3.8 Outlook

In a press release dated 20 March 2020, the Group suspended the guidance announced in its 19 February 2020 press release relating to its full year 2019 results.

The environment in which Vallourec operates went through significant changes in recent weeks: the coronavirus epidemic (Covid-19) in the countries where the Group is present, combined with the sudden decline in the price of oil, will have an impact on the Group's activities, especially in North America where unconventional oil and gas operators are announcing drastic reductions in their drilling plans.

It is impossible at this stage to quantify the impact of these factors on Vallourec's 2020 performance and targets. Therefore, Vallourec suspends the guidance previously communicated. Vallourec, whose teams are determined and mobilized, implements decidedly all the necessary mitigation measures and is accelerating the execution of its cost savings program to deal with the situation, which it is facing after having considerably improved its competitiveness in recent years.

Vallourec also enjoys a solid liquidity position [1] which to date has not been specifically affected by the coronavirus epidemic or by the fall in the price of oil and has evolved in line with the usual seasonality.

Vallourec is in close contact with its banks and maintains a constructive dialogue with them in order to launch the Rights Issue of €800 million announced on 19 February 2020 as soon as conditions allow. The principle of the Rights Issue will be submitted to the vote of shareholders at the General Meeting scheduled for 6 April 2020

The suspension of guidance published on 19 February 2020 was presented to the Finance and Audit Committee on 19 March 2020. The Supervisory Board has been kept regularly informed of the latest developments.

(1) €2,220 million as of 31 December 2019, reduced in February 2020 by €194 million due to the partial maturity of two credit lines.

3.9 Parent company results

Vallourec posted an operating loss of €17.0 million for the 2019 fiscal year, an improvement compared to 2018, which showed a loss of €14.9 million. The loss stems from the costs incurred by the holding company (personnel expenses, legal and communications fees, loan issue expenses and changes in provisions).

Financial income represented a loss of €47.3 million as at 31 December 2019, compared to a loss of €57.0 million in 2018. This change was due in part to an increase in net financial income (€112.0 million in 2019, compared to €75.9 million in 2018) and also to an increase in interest expenses (€159.3 million in 2019 compared to €133.2 million in 2018). The net financial cost consists of expenses and interest on bond issues and commercial paper, commissions from medium-term bank facilities, and income from financial interests Vallourec granted to its subsidiary Vallourec Tubes.

Corporate income tax was a gain of €0.6 million.

The net income for the 2019 fiscal year was a loss of €63.6 million, compared to a loss of €34.7 million at end-2018.

Subscribed capital, fully paid up, totaled €915,975,520, divided into 457,987,760 shares, each with a nominal value of €2.

Equity dropped by €63.6 million and was €4,071 million as at 31 December 2019, compared to €4,135 million as at 31 December 2018.

Financial debt amounted to €3,608 million, up €1,266.4 million compared to 2018. This change is a result of the drawing of €1,701.5 million on the confirmed bank facilities, which was partly offset by the repayment of a €400 million private placement which matured on 2 August 2019 and by the decrease in outstanding commercial paper established in October 2011, with a maximum amount of €1 billion, which as at 31 December 2019 totaled €110.0 million for maturities of up to one year, compared to €161.4 million at end-2018. This commercial paper program was rated B by Standard & Poor's.

To the Company's knowledge, fiscal year 2019 did not generate any of the expenses referred to in Article 39-4 of the French General Tax Code (CGI).

In accordance with Article D.441-4 of the French Commercial Code, the following tables provide a breakdown of the balance of trade payables and receivables by time past due as at 31 December 2019.

Time past due (D=31/12/2019) *In € thousand*	**Not yet due**	**0 to 30 days past due**	**31 to 60 days past due**	**61 to 90 days past due**	**91+ days past due**	**Total past due**
Total amount of invoices concerned, all taxes included	2,308	13	-	-	-	13
Number of invoices of invoices concerned	46	4	1	-	5	10
Percentage of the amount of purchases, all taxes included	19.53%	0.11%	0.00%	0.00%	0.00%	0.11%
Invoices excluded, all taxes included	1,262					
Suppliers price difference, all taxes included	-					
TOTAL	**3,570**	**13**	**-**	**-**	**-**	**13**

Time past due (D=31/12/2019) *In € thousand*	**Not yet due**	**0 to 30 days past due**	**31 to 60 days past due**	**61 to 90 days past due**	**91+ days past due**	**Total past due**
Total amount of invoices concerned, all taxes included	1,485	-	-	-	892	892
Number of invoices of invoices concerned	7	-	-	-	3	3
Percentage of the amount of sales, all taxes included	31.22%	0.00%	0.00%	0.00%	18.75%	18.75%
Invoices excluded, all taxes included	-					
Customers price difference, all taxes included	-					
TOTAL	**1,485**	**-**	**-**	**-**	**892**	**892**

3.10 Location of main facilities

3.10.1 Property, plant and equipment

The Group's registered office is located at 27, avenue du Général-Leclerc – 92100 Boulogne-Billancourt, France. The premises are occupied under the terms of a nine-year lease with effective date 1 October 2015. The properties occupied by the Company and its subsidiaries are not owned by any of the Company's corporate officers.

As at 31 December 2019, the Group operated some 50 production facilities, almost all of which were owned on a freehold basis. These plants are located mainly in France, Germany, Brazil, China and the United States, reflecting Vallourec's international character (see Section 3.2.4 "The Group's facilities" of this Universal Registration Document). The Group considers these plants an essential resource for conducting its various activities and a primary concern in its manufacturing resource planning.

The Group's property, plant and equipment (including assets held under leases) and biological assets held by consolidated companies had a net carrying amount of €2,704.6 million at the end of 2019 (€2,750.3 million at end-2018 and €3,048.4 million at end-2017). Property, plant and equipment mainly consists of property assets and industrial equipment:

- the Group's property assets mainly include factory buildings and administrative offices; and
- industrial equipment consists of steel-making and tube-manufacturing facilities.

The following items are described in the Notes to the Consolidated Financial Statements in Chapter 6, Section 6.1.7 of this Universal Registration Document:

- analysis of property, plant and equipment (including rights of use) by type and flow in Note 4.4;
- geographical distribution of industrial property, plant and equipment and intangible assets for the fiscal year (excluding changes in consolidation scope) in Note 4.4;

Details of capital investments made in 2019, which extended the Company's property, plant and equipment base, are provided above (see Section 3.7.2.3 "Industrial capital expenditure" of this Universal Registration Document).

3.10.2 Environmental considerations relating to the Company's property assets

3.10.2.1 Operational facilities and environmental regulation

The Group's French facilities are subject to environmental protection regulations under a classified facilities system (ICPE), which imposes certain obligations according to the type of activity conducted at the site and the environmental hazards and nuisances concerned. These facilities comply with the following requirements:

- five facilities are subject to authorization and are therefore run in accordance with specific operating requirements issued via prefectural order, following the submission of an operating license application, consultations with various organizations and a public inquiry; as at 31 December 2019, all of these facilities held valid prefectural orders;
- one facility is subject to a register regime, i.e., operated in compliance with standard operating obligations.

Vallourec's facilities in other countries are subject to similar local regulation, requiring specific permits in various areas relating to the environment, including water, air, waste and noise. All of the Group's foreign facilities have the prescribed permits, which are regularly renewed pursuant to local regulations.

3.10.2.2 Environmental situation of former industrial sites

Following its closure, the Anzin plant in northern France was sold to the Valenciennes urban community on 17 November 2004. A file containing soil studies was produced at that time, and decontamination work stipulated by the authorities was carried out; the quality of the groundwater at the site continues to be monitored using piezometric sensors.

All of the other sites sold (VPE, VPS, VCAV, CEREC, Spécitubes, Valti Krefeld plants, VHET Les Laumes, VD Aulnoye, VD Tarbes, VD Cosne, and the Saint-Saulve steel mill), underwent complete environmental investigations. The VDFR Cosne site also underwent groundwater monitoring and rehabilitation.

The situation of operational sites with regard to soil pollution is described in Chapter 4 "Corporate social responsibility" of this Universal Registration Document.

The environmental constraints that may impact the Group's utilization of its tangible assets are described in Section 4.2.4 "Environmental commitment" and in the "Industrial and environmental risks" paragraph in Section 5.1.2 "Operational risks" of this Universal Registration Document.

3.10.3 Changes in scope

There were no significant changes in the scope of consolidation during the 2019 fiscal year.

The main changes in the scope of consolidation in fiscal year 2018 were as follows:

- on 18 April, Vallourec began a partnership with Interpipe, a Ukrainian manufacturer of seamless tubes, to produce in cooperation non-OCTG carbon seamless tubes for the European market;
- on 25 April, Vallourec finalized the sale of its "Drilling Products" business with the American oil services group National Oilwell Varco (NOV). The sale concerned Vallourec's industrial Drilling Products business in North America, the Middle East, the Netherlands, and France (one plant in Aulnoye-Aymeries);
- on 26 April, the Group sold Vallourec Fittings, a subsidiary that produces fittings in France (plant in Maubeuge) to Allied Group;
- on 2 July 2018, Vallourec finalized the sale of Vallourec Drilling Products France (plants in Cosne-Cours-sur-Loire and Tarbes), a French entity, to Altifort;
- since 16 November 2018, Vallourec has exercised joint control over Vallourec Umbilicals following the capital increase subscribed by Banque Publique d'Investissement (BPI) intended to finance its industrial development project. Vallourec and BPI hold 51% and 49% of the company respectively following the operation.

The main changes in the scope of consolidation in fiscal year 2017 were as follows:

- on 26 January 2017, Vallourec and Asco Industries finalized the latter's acquisition of a majority interest in the Saint-Saulve steel mill, which appeared in the statement of financial position as at 31 December 2016 under assets and liabilities held for sale. 60% held by Asco Industries and 40% by Vallourec Tubes France, Ascoval S.A.S. has been consolidated under the equity method since the transaction date. The assets of the Ascoval steel mill (40% held by Vallourec and 60% by Asco Industries) were the subject of a bid by the Altifort Group. The takeover plan was approved by a court decision dated 19 December 2018, effective 1 February 2019. It was then cancelled by a subsequent decision on 27 February 2019. The company Ascoval is currently awaiting the outcome of the insolvency procedure.

3.11 Related party transactions

Transactions with related parties are described in Note 21 to the consolidated financial statements, "Information on related parties" in Chapter 6 of this Universal Registration Document.

3.12 Legal and arbitration proceedings

To the best of the Company's knowledge, at the date of approval of the Universal Registration Document, there are no administrative, legal or arbitration proceedings, which could have or have had material effects on the financial position or profitability of the Company over the past 12 months.

CHAPTER 4

Corporate Social Responsibility information

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Introduction

STRATEGIC GUIDELINES

The Vallourec Group has long taken a proactive approach to corporate social responsibility issues, in an effort to act responsibly. Vallourec's approach to these social issues is formalized in the Group's Sustainable Development Charter, which is available at www.vallourec.com.

Over the past decade, the Group has made strong commitments in these areas, in particular with the 2008 signing, along with a global employee representation organization, of its "principles of responsibility" and by becoming a signatory to the United Nations Global Compact in 2010. It has also signed several commitments to promote climate action and the circular economy, under joint initiatives with the AFEP, the MEDEF and the Cercle de l'Industrie, as well as the Sustainable Development Charter of the International Steel Federation. Lastly, in 2018 the Group adopted a "carbon policy" to mobilize the Company on the many facets of these issues.

At the end of 2018, the Supervisory Board decided to create a special committee in charge of assisting it in issues involving a Corporate Social Responsibility strategy. This committee is responsible for ensuring that the Group best anticipates the challenges, opportunities and non-financial risks associated with its business in order to promote long-term and harmonious value creation.

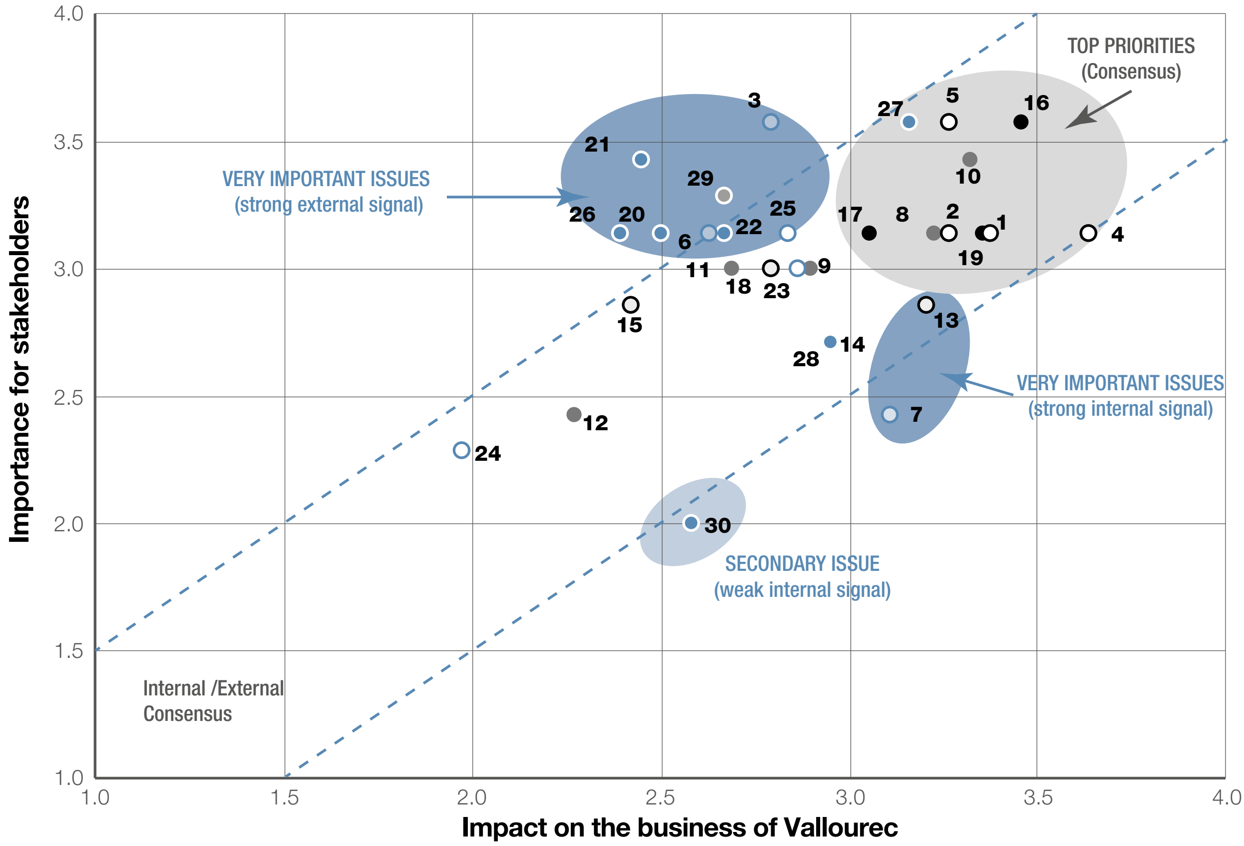
Since 2014, the Sustainable Development Department has been implementing a strategic plan for Sustainable Development and Corporate Social Responsibility (CSR). This plan has been incorporated into the medium- to long-term guidelines of the Group and is updated annually. It relies on the following seven cornerstones:

- strengthening governance in Sustainable Development and CSR;
- setting medium-term objectives;
- increasing consideration of Sustainable Development issues in the Group's business model;
- involving more employees in their daily actions to promote CSR;
- developing the Group's social commitments;
- strengthening ongoing actions for progress; and
- obtaining institutional recognition of the efforts made.

Actions intended for the implementation of this plan are subject to the approval of the Executive Committee whenever necessary.

To appreciate better the relevance of these choices, the Group prepared in 2016, with the aid of a specialized consultant, its "materiality analysis" in an effort to identify the issues it faced, both from the perspective of its management and that of its stakeholders. The analysis, which was conducted using proven methodology, allowed the Group to get the opinion of our main stakeholders on the 30 issues that had been identified as important and specific to the Company's particularities. The opinion gathering process was based on questionnaires and interviews, with senior executives, employees, investors, customers, suppliers, NGOs and the media. In all, 200 questionnaires were sent with a total response rate of nearly 60%. The results of the analysis are as follows:

Materiality Matrix: results



Legend

1	Energy transition	11	Stakeholder dialogue	21	Non-renewable resources consumption and circular economy
2	Resilience of the business model	12	Transparent and fair tax strategy	22	Air pollutions
3	Sustainable product design	13	Quality of social dialogue in all economic circumstances	23	Water footprint and water pollution
4	Customer Relationships / Satisfaction	14	Fair compensation and benefits	24	Biodiversity
5	Innovation strategy and sustainability	15	Diversity	25	Eco-design of processes and industrial equipments
6	Climate change adaptation	16	Occupational safety	26	Sustainable logistics
7	Trade barriers	17	Occupational health	27	Respect of Human Rights
8	Corporate governance	18	Noise	28	Local socio-economic development & local content
9	Accountability and transparency	19	Employees' skills and development	29	Responsible procurement standards and supplier relations
10	Respect for ethics	20	Energy use & own GHG emissions	30	Corporate citizenship

Through this analysis, Vallourec was able to confirm that the issues identified were pertinent, and that the importance given to them by the Company was in line with the perspectives of its stakeholders. It also demonstrated that the strategic plan actions were generally addressing the needs, while at the same time highlighting that some matters could have been taken into further consideration. This is why several actions have been undertaken since, particularly with regard to the sustainability of the economic model. The analysis will be repeated in 2020 in order to take into account the changes within the Group's businesses and its new industrial footprint. The methodology will also be reviewed to expand the contributors' base in order to achieve the strongest learning outcomes possible.

The Group formalized its commitments to the Sustainable Development Goals the UN defined in 2015 and defined four goals, for which it selected a key performance index (KPI) and set a target to achieve them by 2025.

Thus the Group selected:

- Goal 5, to achieve gender equality and empower women and girls;
- Goal 7, to ensure access to clean energy, including cleaner fossil energies, and promote energy efficiency; This goal refers in particular to the ETO plan (see Chapter 3);
- Goal 8, by confirming its commitment to respect labor rights and offer safe working conditions for all categories of workers;
- Goal 12, to promote sustainable production methods by significantly limiting the need for natural resources.

The table summarizing the goals and associated targets is as follows:

Reference to the Sustainable Development Charter	Corresponding Key Indicator	2018 Benchmark Value	2025 Target
Satisfy our shareholders over the long-term	Average rating of a panel of non-financial rating agencies	B+	A
Train and motivate our employees through skills development, recognition of expertise, talent promotion and career development	% of females in management roles	22	25
Ensure the safety and protect the health of our employees; offer each employee good working conditions	TRIR index for employees and temporary staff	3	<=1
Improve the energy efficiency of our equipment and reduce carbon emissions from our manufacturing processes	Ratio of non-biogenic carbon emissions, i.e. from our manufacturing processes and the carbon content of the electricity used, to production shipped. Forest emissions and sequestration are not taken into account.	0.57	0.36
Respect our environment and protect biodiversity by preventing all types of pollution, reducing water consumption, re-using waste products and reducing nuisances	Tonnage of industrial waste in thousands of metric tons sent to landfill	33	15

METHODOLOGY

Most of the indicators presented were constructed in reference to the Global Reporting Initiative (GRI), which aims to facilitate the measurement of companies' economic, environmental and social reporting indicators on a global basis. This information provides a factual demonstration of the Group's commitment to Corporate Social Responsibility and highlights the results of its key actions.

The way that this information was gathered by Vallourec and the limitations of this type of data collection are described in the methodological notes found in Appendix 3 to this Chapter. One of the Company's Statutory Auditors conducted audits with a moderate level of assurance as to all of the information presented in the consolidated statement of non-financial performance, and issued an opinion with reasonable assurance on selected indicators, which resulted in the report that appears in Appendix 1 to this Chapter. The indicators verified with a reasonable level of assurance are preceded in the text and appendices by the symbol ☑.

ASSESSMENT

This information forms the basis for the periodic evaluations of the main non-financial agencies or specialized SRI funds such as Vigeo-Eiris, Oekom, MSCI, Sustainalytics, Ecovadis, etc. Even though each of these bodies uses its own methodology, experts have summarized the result of these evaluations as representing an "A-" rating, on a scale ranging from A to D. This represents real progress compared to 2018 despite tendency to apply more stringent evaluation grids.

This assessment is consistent with the Group attaining the Advanced level of the "Communication on Progress" of the Group in Global Compact, obtained four years ago, and with its belonging to the most committed global enterprises in terms of human rights, according to the Vigeo Eiris study published in 2017. It is also appropriate to emphasize that the Group received a rating of "A" in 2019 for the first time from the Carbon Disclosure Project for its actions to promote a low-carbon economy.

However, the Group is no longer included in the Euronext Vigeo and FTSE4Good indices, not because of an insufficient commitment to CSR, but because these bodies still considered its capitalization to be too low in 2019.

4.1 Oversight plan

In an effort to continue the commitments mentioned above, Vallourec established, both for itself and for all of the subsidiaries it controls, a vigilance plan in application of Law 2017-399 of 27 March 2017 on the duty of vigilance of parent companies and contracting companies. This law requires establishing a plan containing reasonable vigilance measures specific to identifying risks and preventing serious violations of human rights and fundamental freedoms, the health and safety of individuals and the environment, resulting from the activities of the Company and all of the subsidiaries it controls, as well as those of subcontractors or suppliers with which it has maintained an existing commercial relationship, when these activities are related to such relationship.

This process is consistent with the priorities that the Group has set for itself, the pertinence of which has been confirmed by the results of the materiality analysis presented above. In fact, four issues among the ten deemed to have absolute priority, both by our external stakeholders and by corporate management, form an integral part of the points covered by the vigilance plan. As concerns environmental issues, the materiality analysis classifies them as being very important. Vallourec's vigilance plan thus fits in perfectly with a continuous improvement process, in conformity with Vallourec's proactive approach in areas of corporate social responsibility.

A working group comprised of representatives from the Sustainable Development Department, the Legal Department, the Human Resources Department, the Purchasing Department and the Internal Control and Risk Management Department was created for the purpose of establishing the plan.

4.1.1 Identification and evaluation of risks

Generally, the Risk Management Department, with the operational and functional departments, identifies the main risks, to which the Group is exposed, analyzes them and creates a risk map. Risk mapping is done for each of the major entities, Regions, and for the Group as a whole. Each map incorporates the main risks, along with their impact, probability of occurrence, and current level of control. The mapping process was adapted to incorporate the requirements of the Sapin II Law of 9 December 2016.

Priorities are determined not only according to probability of occurrence and/or consequences of risks and control level, but also according to the control improvements made, including the benchmark practices in the subject area.

As concerns risks to human rights and fundamental freedoms, the health and safety of individuals as well as the environment, which result from the activities of the Company and from all of the subsidiaries it controls, as well as from the top subcontractors or suppliers, with which it maintains an established business relationship, Vallourec has particularly identified the following risks, which specifically result from the Group's activities:

1. the Group conducts a significant part of its business in developing countries, in particular because of its strategy of being located close to its customers in these countries. The risks of serious violations of human rights and fundamental freedoms, to the health and safety of individuals and the environment, associated with activities carried out in these countries, whether directly or through subcontracted companies, may result among other things from political, economic and social instability (nationalization and expropriation of assets, uncertainty as to applicable law and the application of laws, impact of sanctions, accidents, terrorism, etc.);
2. the importance of the industrial labor force to the Group's business makes it essential to manage employees' health and safety. Health and safety management is a priority for the Group and a fundamental value for Vallourec. The Group's health and safety policy was also strengthened at the end of 2016;
3. the very nature of the Group's industrial activity carries environmental risks. Due to their nature, the Group's activities are the source of noise pollution, require the use of hazardous chemical products and substances, generate waste that is classified as hazardous, may quantitatively or qualitatively impact local water resources, result in soil pollution, give rise to harmful air emissions, and have a negative impact on biodiversity.

Just like any other organization, the Group has been faced with the risk of non-compliance with its core values under the Code of Ethics, supplemented by the Anti-Corruption Code and the Group's internal rules and policies.

4.1.2 Management of identified risks

Management of identified risks simultaneously includes preventive or mitigating measures and a system for monitoring and evaluating the efficiency of the measures implemented.

Generally, Vallourec relies on a risk management policy deployed by the Risk Management Department, which also ensures it is consistent and all-encompassing. Risk management is controlled by committees that meet once a year, for each concerned entity, comprised of the Risk Management Director or their representative, the Director of the aforementioned entity, their main aides and the functional managers concerned by the specific risks, where applicable. Each committee meeting handles the following matters:

- validation of analysis, allocation and follow-up of action plans for each priority risk;
- validation of the key risk indicators, which ensures the relevance of new controls after closure of the action plan, and the ongoing application of such controls.

The Group's Risk Management Director organizes centralized risk management reporting, in cooperation with the Risk Managers from the main entities, to check on the progress of the action plans and ensure they are consistent with the priority guidelines at the Group level. Additional information appears in Section 5.2 "Risk management and internal control system" of this Universal Registration Document.

In order to progress and reduce the risks in question, the Group relies on the Vallourec Management System (VMS), whose fundamental objective is to improve the Group's performance in all of its operating processes, and which thus serves to develop risk prevention, control process variability and improve their efficiency. It uses numerous specific tools such as Lean Management and the "6 Sigma" methodology, and strives to strengthen project management methods. It also ensures that initiatives are consistent with the strategic plan and that they deliver continuous progress. It also ensures that the requirements for managing quality (ISO 9001, ISO/TS 16949, API and ASPE), health and safety (OHSAS 18001 and ISO 45001), the environment (ISO 14001) and energy (ISO 50001) are taken into account.

The specific risks to human rights and fundamental freedoms, the health and safety of individuals, and the environment, resulting from the Group's activities, as well as from its leading subcontractors or suppliers, with which it maintains an established business relationship, are managed thanks to the structure and measures described below.

Risk management in human rights and fundamental freedom issues

STRUCTURE

Risk management in human rights and fundamental freedom issues is the joint responsibility of the Human Resources Department, as concerns the Group's employees, and the Purchasing Department, as concerns the subcontractors or suppliers, with which it maintains an established business relationship (see the "Risk Management linked to the Supply Chain" paragraph below), in close cooperation with the Ethics and Compliance Officer.

MEASURES

As an international company, Vallourec has taken on significant corporate social responsibility commitments, in particular with regard to respect for human rights and universal fundamental principles that protect the dignity, respect and freedom of employees.

Therefore, Vallourec strongly condemns:

- all forms of forced or compulsory labor;
- child labor;
- any difference in treatment between individuals that is based on criteria other than their skills or aptitudes; and
- any act of physical or mental violence, or the threat of such acts.

Conversely, it notably promotes:

- a safe and healthy work environment that ensures physical and mental integrity; and
- the employees' freedom of association and collective bargaining.

In 2008, Vallourec officially undertook to comply with the fundamental principles enacted by the international conventions of the International Labor Organization, in the "Agreement on the principles of responsibility applicable in the Vallourec Group," which was approved by the European Committee, forming an integral part of the Code of Ethics. Vallourec has also been a signatory to the UN Global Compact since 2010.

By way of example, wherever the Group operates, it has made employer-employee dialog a priority. This is organized in each country, in accordance with local regulations. To date, at least 82% of the workforce are covered by industry- or company-wide collective agreements. The Group's actions in terms of employer-employee dialog are more extensively described in Section 4.2.2.3 "Social relations" in this Universal Registration Document.

Vallourec affirms its commitment to diversity and to combating discrimination in the workplace through the Code of Ethics.

Respect of men and women, their dignity, their diversity and the variety of their cultures is at the heart of the commitment of Vallourec's teams. Under the roll-out of the Code of Ethics, a program to educate all employees on the issue of discrimination was completed using examples from daily life.

In terms of gender equality, the Group's policy is defined around strengthening women's presence in operational business lines, in particular those of production and in increasing women's access to leadership roles.

- Female employees with high potential can receive mentorship from the Group's senior executives. On 8 March 2017, the Group also launched Women@Vallourec, a network of women and men dedicated to debating and discussing equality and the place of women within the Group, which aims to reveal true proposals for action. More precisely, Women@Vallourec's mission is to improve diversity, starting with gender diversity, and thus to assist the Group in its transformation by improving performance and innovation.
- On 8 March 2018, Vallourec signed in the Middle East the United Nations World Charter on "Women's Empowerment Principles" (WEP), thereby committing to make every effort to offer women and men the same possibilities to fully realize their potential. The principles of the Charter in particular concern education, training, and professional development of women, along with the commitment to equality at the highest levels of business.
- In early 2019, four priority actions were identified: to relaunch and develop mentorship, systematically suggest female candidates for positions open internally, adapt the work environment, and develop women's participation in decision-making processes. These actions are more extensively described in Section 4.2.2.6 "Diversity and equal opportunities" of this Universal Registration Document.
- Compensation surveys have shown no gender gap.
- Indicators are in place to ensure follow-up and accountability in the actions led by the Group.

In terms of equal opportunities, the Group strives to promote the continued employment of workers with disabilities. These actions are more extensively described in Section 4.2.2.6 "Diversity and equal opportunities" of this Universal Registration Document.

Vallourec sees to it that these rights and principles are respected within the Group and at its subcontractors by incorporating it into its regular evaluations. The actions taken with respect to subcontractors are more extensively described below.

The Group's responsibility does not stop at the doors of its offices and plants, but extends way beyond, through its influence in the community. As an engaged partner, concerned for respecting a balanced development model, Vallourec ascribes major importance to the communities that surround it and strives to establish relationships of mutual understanding and trust with them. The Group undertakes actions that support education, health care and local development. Very active in Brazil, the Group has multiplied its initiatives there, including transforming the Cine Theatro building in Belo Horizonte into a cultural center dedicated to artistic production.

Vallourec also strives to prevent specific risks in terms of compliance with competition and anti-corruption rules. The implementation of the Group's vigilance plan and actions in ethics and compliance matters are more extensively described in Section 4.2.1 "Business Ethics and Compliance" of this Universal Registration Document.

Risk management linked to the supply chain

STRUCTURE

Vallourec's Purchasing Department is centrally structured to have a general view of the suppliers and supply chain, by using standardized processes between the Regions and appropriate information systems. A particular process of overseeing supplier risks is deployed at each of the Regions and centralized purchasing departments to identify, analyze and rank these risks. Ongoing monitoring of the action plans to mitigate or eliminate these risks is conducted on a quarterly basis. Moreover, Vallourec's policy is to establish sustainable contracts as much as possible with its suppliers, which are not only limited to structuring the commercial transaction but also provide accountability over time for external stakeholders on performance and requirements that are linked to Vallourec's values.

MEASURES

Within the context of this responsible purchasing policy, Vallourec has established numerous tools and processes aimed at better controlling suppliers and directly considering social and environmental responsibility criteria, and sustainable development, ethics and safety issues. In application of this policy, Vallourec is leading formal and regular evaluation campaigns of its suppliers on social and environmental responsibility, along with progress action plans. All suppliers with significant activity (greater than €1 million per year) are subject to a request for formal evaluation on the criteria of social and environmental responsibility, namely the environment, ethics, respect of human rights and labor rights, and control of their own suppliers and subcontractors. The results of these evaluations are systematically taken into account in Vallourec's decisions and guidelines with regard to its suppliers and subcontractors.

In accordance with the new U.S. laws and European directives, Vallourec has also committed to prohibiting its suppliers' use of potential "Conflict Minerals" originating from certain African countries.

The implementation of the vigilance plan and the actions pertaining to relations with subcontractors and suppliers are described in Section 4.2.3 "Relations with stakeholders" of this Universal Registration Document.

Risk management in health and safety issues

STRUCTURE

The Health and Safety policy that was updated in 2016 entails a strengthened health section. Entities thus aim to further investigate the health risks specific to the processes, while defining the means designed to eliminate or attenuate them. There are numerous issues, in particular concerning our processes, which cover chemical risk, noise, air quality and ergonomics at workstations.

MEASURES

Safety is the Group's main priority, and it aims to become a benchmark and a model for success in this area.

In 2019, nearly one-third of the Vallourec sites were certified ISO 45001. The other sites are still certified OHSAS 18001[1]. All of these establishments represent 100% of the production in metric tons.

Each year Vallourec renews its "CAPTEN+ Safe" safety improvement program, which has particularly focused on the major risks that could lead to a fatal accident and, since 2016, specifically on subcontractors.

In order to prevent the occurrence or limit the impact of risks linked to the Group's activities in emerging countries, the Group implements systematic evaluation procedures for security and health risks, as well as emergency protection procedures, which are systematic for each of the high-risk countries where the Group frequently deploys its personnel. It also implements specific procedures for other countries, with the support of recognized external providers in all cases.

The Group respects all regulations, standards and certifications in the countries, in which it markets its products, which primarily aim to ensure the safety and protect the health of users by demonstrating the product's compliance with the regulatory requirements. They relate principally to the properties of fire resistance and slip resistance and to limits on toxic emissions.

The use of chemical products and substances is secure thanks to the roll out of the CHEMSAFE program, which identifies products and assesses risks in order to establish the appropriate means of prevention.

Hazardous waste is specifically managed: handling and storage are subject to strict safety rules to preserve the environment and health of the staff handling them.

The implementation of the Group's oversight plan and its actions in health and safety matters are more extensively described in Section 4.2.2.2 "Safety and health" of this Universal Registration Document.

Risk management in environmental issues

STRUCTURE

In accordance with Group rules and guidelines, the Director of each site is responsible for setting up an effective environmental management system that is tailored to the local context and the site's activity. The Director appoints an Environment Manager who heads up all actions in this area and functionally reports to the HSE Director of each region.

The Environment Department, reporting to the Sustainable Development Department, is tasked with preparing the Group's environmental policies, monitoring their applications, and coordinating actions. It is supported by the HSE Managers of the Regions and production sites, who are responsible for implementing these policies.

The objective of this organization consists of structuring the organizations by Region or country in order to better take into account the specific national regulations.

(1) OHSAS 18001: International guidelines relating to occupational health and safety, published in 2001 under the authority of the International Labour Organization.

MEASURES

Vallourec notably aims to minimize the impact of its activities on the environment. This commitment is clearly explained in the Sustainable Development Charter published by the Group in 2011, and in the Group's Environmental Policy, which was signed by the Chairman of the Management Board and published in 2014. In early 2018, the Group also enacted a carbon policy to cover all of the corresponding issues.

Risk assessments have led to the establishment of measures designed to reduce the likelihood of accidents and limit their consequences and environmental impact. These measures relate to the design of the facilities, strengthening of protective measures, organizations to be put in place and compensation for any environmental impact if it seems inevitable.

Vallourec seeks to limit the industrial and environmental risk inherent to its activities by setting up efficient organizational structures and quality, safety and environmental management systems, obtaining certification or assessing its management systems, performing stringent inspections and audits, training staff and heightening the awareness of all parties involved, as well as by implementing a policy of environmentally friendly investments that reduce industrial risks. Each investment project undergoes a mandatory, formal evaluation. A multidisciplinary committee meets monthly to examine the various characteristics, evaluating impacts and determining whether to approve them.

The Group endeavors to strictly comply with locally issued operating authorizations and, more generally, with the applicable environmental laws and regulations, according to the principles presented in its Sustainable Development Charter and the policies that have been approved by the Management Board. The Group also strives to take all precautions to allow it to prevent environmental incidents. First of all, the Group, which has low greenhouse gas emissions, ascribes specific importance to publishing a complete carbon footprint. In 2018, it published for the first time its medium-term objective for emissions. In 2019, Vallourec decided to join the Science-Based Targets initiative (SBTi) with the aim of reducing its direct and indirect carbon emissions by 2025 in order to contribute to limiting global warming to below 2°C. In 2020, Vallourec intends to receive validation of its move to reduce its carbon footprint from the SBTi.

Total provisions and guarantees for environmental risks are presented in Note 9 to the consolidated financial statements. This provision covers the cost of treating industrial land and cleaning up the mine once resources have been exhausted. The management of industrial and environmental risks is presented in general terms under Section 5.1.2, paragraph "Industrial and environmental risks".

The Group's commitments in environmental matters and the results of policies implemented are more extensively described in Section 4.2.4 "Environmental commitments" of this Universal Registration Document.

4.1.3 Whistleblowing and reporting systems

The Code of Ethics and Anti-Corruption Code of Conduct provide that the Group's employees may report behaviors that violate the values and principles of both of these Codes by contacting their line manager, their human resources manager, the Compliance Officer, or one of the local ethics contacts. Moreover, a dedicated email address is provided to employees on the Group intranet under "Ethics and Compliance". This allows behaviors that violate the Code of Ethics, the Anti-Corruption Code of Conduct or internal procedures to be directly reported to the Compliance Officer.

In North America, a telephone line has long been provided to employees who wish to provide information anonymously on non-compliance with ethics and compliance rules.

In addition to these traditional notification methods, the Vallourec Integrity Line whistleblowing system was rolled out within all the Group's entities in 2018. This system is accessible in eight languages to employees and external and occasional associates of the Group, but also to customers, suppliers, service providers and other external stakeholders through a secure website hosted by an independent company. The roll-out of this whistleblowing system was announced in a communication that was widely disseminated to the Group. A link to the dedicated site is available from Vallourec's website.

The scope of the whistleblowing system is broad, and includes behavior contrary to the Code of Ethics, the Anti-Corruption Code of Conduct, and internal rules and policies. It notably includes allegations of anti-competitive practices, corruption, fraud, conflicts of interest, discrimination and harassment at work, as well as irregularities that could affect Vallourec's activity or reputation that are linked to human rights and fundamental freedoms, the health and safety of people, or the environment. The system allows behavior to be reported anonymously.

An internal policy specifies the terms of use for the whistleblowing system and the rules that apply to data protection and processing.

The roll-out of the Vallourec Integrity Line since 2018 has led to an increase in the number of reports made. As in previous years, the reports primarily came from the United States and Brazil. 69% percent pertained to human resources issues, with the remaining 31% concerning fraud, conflicts of interest, property damage, and other issues such as the environment, security or data protection. None of these reports proved to be confirmed violations: 31% of cases led to overall measures, including dismissals (6%). None of these cases had a significant impact on the Group.

4.2. Consolidated statement of non-financial performance

This Section 4.2, supplemented by Sections 3.2 "Description of the Group's business model and activities", 3.6 "Transformation Plan", 3.8 "Outlook" and 5.1 "Risk Factors" of this Universal Registration Document, constitutes the consolidated statement of non-financial performance of the Vallourec Group.

In accordance with Article L.225-102-1 of the French Commercial Code, the Consolidated statement of non-financial performance describes how the Group takes into account the consequences of its corporate social responsibility activities, as concerns respect of human rights and combating corruption and tax evasion. It describes the main risks relating to the business and, where relevant and proportionate, the risks created by the Group's business relationships, products or services. It also describes the policies applied, including any due diligence procedures implemented to prevent, identify, and mitigate the occurrence of risks, and the results of these policies, including key performance indicators.

The results of the general risk mapping have been crossed with the results of the materiality analysis in order to determine the Group's main non-financial risk exposure. The material nature of the risk has been assessed based on the probability of occurrence, the significance of the impact and of the exposure. The list thus created was presented to the CSR Committee at its meeting of 25 January 2019, and was then approved by the Management Board when preparing its management report.

Non-financial information category	Definition of risk (or of opportunity)	Policy applied	Key performance indicators
Consequences of global reactions to climate change	• Business model risk • Image risk • Customer risk	• Sustainable Development Charter • Carbon policy • "Energy Transition Opportunities" (ETO)	• Carbon analysis • Deployment of the ETO plan
Adaptation to the consequences of climate change	• Risks of flooding, heat waves and prolonged drought, disturbance of water resources, hurricanes	• Update of the prospective study on the impacts of climate change on sites • Adaptation plan by site • Follow-up on insurance recommendations • Capex verification	• % of sites with an approved and internally controlled adaptation plan (KPI to be created)
Sustainable use of resources/circular economy	• Increase of regulatory constraints and of costs • Opportunity for economic (customer service) and image enhancement	• Sustainable Development Charter • Environmental Policy • Public commitment	• Raw materials footprint • % of steel used, made from scrap
Energy efficiency	• Energy costs	• Energy Policy • "Greenhouse" program for energy savings	• Energy consumption in kWh/metric ton processed • % of non-carbon/renewable energy and electricity • Amount of corresponding investments • % of production by ISO 50001 certified plants
Water management	• Shortage risk • Pollution risk	• Sustainable Development Charter • Environmental Policy	• Volumes and types of water intake and water discharged • Measurement of pollutant discharges • Internal reuse rate • Water Impact Index • HSE investments amount
Waste management	• Pollution risks • Health risks • Hazardous waste risks	• Sustainable Development Charter • Commitment to responsible performance • "By-product" approach • Plastic Policy being drafted	• Tonnage of waste put into landfill • % hazardous waste • HSE investments amount
Air quality	• Air pollution risks: steam, gas and particle emissions	• Sustainable Development Charter • Air Policy	• Measurement of air pollutant emissions • HSE investments amount
Respect of ethics (excluding corruption)	• Non-compliance with the Code of Ethics • Image risk	• Code of Ethics • Compliance program • E-learning • Responsible purchasing policy	• Number and type of internal/external alerts • Number and type of sanctions applied

Non-financial information category	Definition of risk (or of opportunity)	Policy applied	Key performance indicators
Diversity	• Gender equality	• Code of Ethics • Mentoring for women • Presence of women in succession plans • Short- and medium-term objectives	• Rate of women managers and executives • Rate of women senior executives • Wage disparity rate
Occupational health	• Health risks linked to the use of chemical products and substances • Health risks linked to noise pollution exposure • Occupational illnesses	• Health Policy • Evaluation of sanitation risks in certain countries • CMR classified product substitute plans • Whistleblowing and reporting systems • Action plan to prevent noise pollution • Workstation ergonomics	• CMR products replacement rate • HSE investments amount • Mapping of employees' exposure to noise • Noise measurement on site outskirts • Number of confirmed occupational illnesses
Occupational safety	• Accident risks	• Capten+Safe Plan • Particular focus on fatal accidents and subcontractors • Evaluation of security risks in certain countries • Whistleblowing and reporting systems	• LTIR, TRIR • OHSAS 18001 and ISO 45001 certification rates • HSE investments amount
Employees' skills and development	• Key personnel departure risk • Loss of skills and expertise risk	• People review • Succession plans • "Expert" program • Vallourec University • Training Policy • Agreement on the principles of responsibility of the ILO conventions	• Turnover rate and reasons for termination of employment • Social Barometer (response rate/ satisfaction rate) • Number of training hours
Employee relations	• Risk of deterioration in the social climate and employees' commitment	• Employer-employee dialog • Agreement on the principles of responsibility of the ILO conventions	• "Employee survey" • Percentage of the workforce covered by business line or company collective agreements
Quality of products and services/ customer relations	• Claim risk • Image risk • Opportunity to strengthen customer relations	• Commercial Excellence Program	• Number of claims • Severity of claims • Claims processing time
Corruption	• Public markets access risk • Conviction risk • Image risk	• Code of Ethics • Anti-Corruption Code of Conduct • Responsible purchasing policy • Internal procedures: supervisors/ gifts/sponsoring	• % of the quantity of purchases from suppliers involved in the formal CSR assessment process
Equal opportunity/ discrimination risk	• Non-compliance with the Code of Ethics • Inappropriate compensation • Image risk	• Code of Ethics • Compliance program • Agreement on the principles of responsibility of the ILO conventions • E-learning • Responsible purchasing policy • Whistleblowing and reporting systems	• Number and type of internal/ external alerts

The consolidated statement of non-financial performance also contains social, environmental and societal information, information on the fight against corruption and tax evasion, information on human rights initiatives mentioned in Article R.225-105-1 of the French Commercial Code, where relevant to the aforementioned main risks or policies, on a worldwide scope. Unless otherwise specified in the text, all information contained in this chapter refers to Vallourec, all of its subsidiaries as defined by Article L.233-1 of the French Commercial Code, and the companies Vallourec controls as defined by Article L.233-3 of the French Commercial Code.

A concordance table showing the information required under the aforementioned article and the information presented in this chapter appear in Appendix 3 hereto.

4.2.1 Business Ethics and Compliance

Risks relating to business ethics and corruption are presented in Section 4.1 "Vigilance Plan" and in Section 5.1.3 "Legal and tax risks" of this Universal Registration Document.

The organization of business ethics and compliance falls under the Group's Legal Department. The position of Compliance Officer is held by the Group's Legal Director, who helps implement the Code of Ethics and determines, with the Compliance Committee, which the Legal Director leads, the internal compliance policies. The Compliance Officer reports to the Chairman of the Management Board.

The Compliance Committee comprises representatives from functional departments (Legal, Purchasing, Human Resources, etc.) and operating divisions. It must hold meetings at least once per quarter in order to determine, at the initiative of the Compliance Officer, the ethics and compliance guidelines and ensure they are effectively rolled out.

The Compliance Officer relies on a network of 11 local ethics correspondents who are organized by geographic areas, as well as on the legal managers from the operating divisions or Regions. The local ethics correspondents are tasked with disseminating the values and principles of the Group's Code of Ethics in entities worldwide, and making sure that its internal procedures are properly applied. A meeting of the network of local ethical correspondents is organized and facilitated by the Group's Legal Department each month. These meetings cover topics such as internal procedures, the fight against corruption, regulatory updates and competition rules.

A business ethics and compliance newsletter is circulated monthly to the main senior executives of the Group, to Compliance committee members, to local ethics correspondents, and to the legal managers of Regions or divisions. The newsletter is also posted online on the Ethics and Compliance page of the Intranet and on Yammer, the social network of the Group.

In the addition to the Anti-Corruption Code of Conduct applicable to both employees and third parties, the Three Group procedures formalize the principles and guidelines that were already contained in the Global Legal Compliance Program, which has been rolled out globally since 2011: the policy relating to recourse to sales agents, gifts and invitations, philanthropy and sponsorship, local partners, lobbying and political life.

Non-compliance with anti-corruption laws and regulations, or with competition rules, exposes the Group's employees to disciplinary sanctions and even termination.

Since 2018, in addition to traditional reporting channels, a new professional whistleblowing system, the Vallourec Integrity Line, has been rolled out and applies to the Group's internal employees and to third parties.

Vallourec has registered in the new public digital directory of representatives of interest to public bodies of the *Haute Autorité pour la transparence de la vie publique* (High Authority for Transparency of Public Life) (HATVP) and an internal reporting system has been established to formalize an activity report, which is to be sent to the HATVP annually.

Lastly, in 2018 the Vallourec Group obtained an Ethic Intelligence Program anti-corruption certification for the design of its corruption detection and prevention program. This certification, which was renewed at the end of 2019, confirms that the program addresses the Group's fraud and corruption risks, and corresponds to the best practices and regulations applicable in the fight against corruption. The certification also allows it to promote and strengthen the Group's values in terms of integrity and ethics with outside commercial partners and stakeholders.

4.2.1.1 Code of Ethics and Anti-Corruption Code of Conduct

The Group's ethical standards are presented in a seminal document, the Code of Ethics.

The Code of Ethics is a set of core values that includes integrity and transparency, excellence and professionalism, performance and responsiveness, respect for others and mutual commitment.

It provides a framework for each employee's day-to-day activities through behavioral guidelines based on these values. The guidelines reflect how Vallourec seeks to manage its relationships with all of its partners and stakeholders, including its employees, customers, shareholders and suppliers, and constitute the Group's benchmark in implementing its sustainable development and corporate social responsibility plans.

In 2016, an amended version of the Code of Ethics was adopted and rolled out within the Group to reinforce Vallourec's commitments in the fight against corruption and respect for the rules of competition, while maintaining the values and principles of action with regard to its employees, partners, customers, suppliers and stakeholders. The amended version includes the guidelines already contained in the Global Legal Compliance Program and the procedures published in 2015.

Vallourec's Code of Ethics applies to all Group consolidated companies. Each employee is personally responsible for implementing its values and principles and for complying with the rules it sets out.

The Group's various reporting lines ensure that it is communicated to all Group employees. To that end, it has been translated into eight languages (French, English, Portuguese, German, Chinese, Spanish, Arabic, and Indonesian, the latter two languages were added in 2018). It has also been published on the Company's intranet and website to affirm the Group's values with regard to third parties.

The Code of Ethics is the seminal document with which a certain number of directives and recommendations are associated, which guides Group employees in applying the Code. In an effort to help implement the Code of Ethics with all employees, notably managers, the Compliance Officer has the following duties:

- assisting Group companies in communicating the Code of Ethics;
- coordinating actions to educate new employees on the Code of Ethics;
- helping to define the procedures for implementing the Code of Ethics;
- ascertaining any difficulties in interpreting or applying the Code of Ethics that are raised by staff; to that end, the Officer receives any information relating to breaches of the principles of responsibility; and
- preparing an annual report for the Chairman of the Management Board on the Code of Ethics' implementation.

In addition to the Code of Ethics and the existing internal procedures, and in conformity with the current regulations, Vallourec now has an Anti-Corruption Code of Conduct. This document constitutes the Vallourec Group's anti-corruption policy. It is intended for all employees, as well as Vallourec's industrial and commercial partners. The Anti-Corruption Code of Conduct recalls Vallourec's commitment in the fight against corruption. It contains definitions and practical examples of prohibited conduct that could constitute acts of corruption or influence peddling. In particular, it covers the way in which Vallourec manages its relations with commercial partners, corporate gifts and invitations, facilitating payments, conflicts of interest, representatives of interests, and the funding of political parties. Lastly, it recalls the various reporting methods available to employees and stakeholders who wish to report non-compliance with the Code of Ethics or the Code of Conduct.

The Anti-corruption Code of Conduct, available in eight languages (French, English, Portuguese, German, Chinese, Spanish, Arabic and Indonesian) is distributed to all the employees of the Group and to third parties. It is posted online on the Group's intranet site and on the Company's website.

4.2.1.2 Compliance program

In coherence with the principles set out in the Code of Ethics and the commitments of the Global Compact of the United Nations that the Group signed on to in 2010, Vallourec seeks to prevent specific risks relating to competition and anti-corruption, within the framework of a Global Compliance program rolled out in all of the Group's companies.

This program, developed and coordinated by the Group's Legal Department, aims to educate and train the Group's managers, mainly through internal training, on the applicable laws and regulations in these areas. It is designed to respond effectively to the risks managers may face in their activities through detailed, informative and practical recommendations that can be understood by all.

In 2019, training actions were completed worldwide. An e-learning program has also been rolled out since 2014, in an effort to educate all technical and supervisory staff, and managers of the Group, about the laws and regulations on competition, anti-corruption and environmental protection.

The principles enumerated under the Global Compliance Program were formalized in 2015 in the internal procedures relating to recourse to sales agents, gifts and invitations, philanthropy and sponsorship, local partners, lobbying and political life, and regularly reviewed procedures.

In an effort to strengthen the internal communication of the main procedures, in 2017 the Group launched the "Welcome Package." This is a module disseminated via the Learning Management System (LMS) of Vallourec University to all new employees, so that they are aware of the Company's values and workplace rules from the time of their arrival into the Group.

4.2.1.3 Tax policies applied – Combating tax evasion

The Group's tax, accounting and/or legal teams (calling on external experts and advisors where necessary) work at a central and local level to ensure:

- implementation of accounting principles, the transfer price policy and suitable procedures to ensure that tax is calculated correctly and paid timely in the countries where it is due;
- identification and request within the legal time frames of tax relief likely to benefit the Group;
- regular monitoring of the change in legal and regulatory requirements applicable to Group entities, and daily advice and aid to Group employees to ensure proper compliance with the applicable laws and regulations, particularly to combat tax evasion; and
- adequate personnel and/or external advisors to monitor tax audits so that they run smoothly and to enable them to be completed as quickly as possible.

This policy applies to all tax due at all levels of jurisdiction (local, regional, and national).

The Group's entities are regularly audited by the tax authorities to which they are subject.

As at 31 December 2019, no Group entity was involved in a dispute over tax evasion.

4.2.2 Social policy

The social indicator scope includes companies within the tax consolidation scope. Staff at sales offices are likewise included in this report.

4.2.2.1 Group workforce

Changes and distribution

BREAKDOWN OF WORKFORCE BY AGE, GENDER AND GEOGRAPHICAL AREA

As at 31 December 2019, ☑ 18,827 employees worked at more than 50 production sites or under service contracts with Vallourec (short-term or permanent contracts), compared to 19,164 employees in 2018. In 2019, Vallourec continued to implement its transformation plan, particularly in Europe involving France and Germany, with an adjustment of the workforce.

Distribution by geographical area

Country	Number of employees 2018	Number of employees 2019
Brazil	6,752	6,827
France	3,025	2,891
Germany	3,403	3,011
United States	2,019	2,011
China	1,730	1,595
Indonesia	744	813
United Kingdom	328	420
Mexico	336	386
Saudi Arabia	191	177
United Arab Emirates	77	87
Malaysia	334	377
Other regions	225	232

Workforce as at 31 December (permanent and short-term contracts)	2018	2019	Change 2018/2019	2018 Breakdown	2019 Breakdown
Europe	6,790	6,360	-6.3%	35%	34%
Brazil	6,752	6,827	1.1%	35%	36%
Asia	2,911	2,894	-0.6%	15%	15%
NAFTA (United States, Canada, Mexico)	2,386	2,423	1.6%	12%	13%
Middle East	269	265	-1.5%	1%	1%
Africa	56	58	3.6%	NS	NS
TOTAL	**19,164**	**18,827**	**-1.8%**	**100%**	**100%**

Breakdown by gender

As at 31 December 2019, the Group had 2,182 women (2,054 with permanent contracts), which represents 11.6% of the total permanent workforce. Marginally present in the category of production staff, women mainly hold administrative and commercial positions. They represent 30% of the Group's technical and supervisory staff (administrative personnel, technicians or field supervisors), and 22% of its managers. The proportion of women remained unchanged for the 2018-2019 period by area, for the Group as a whole.

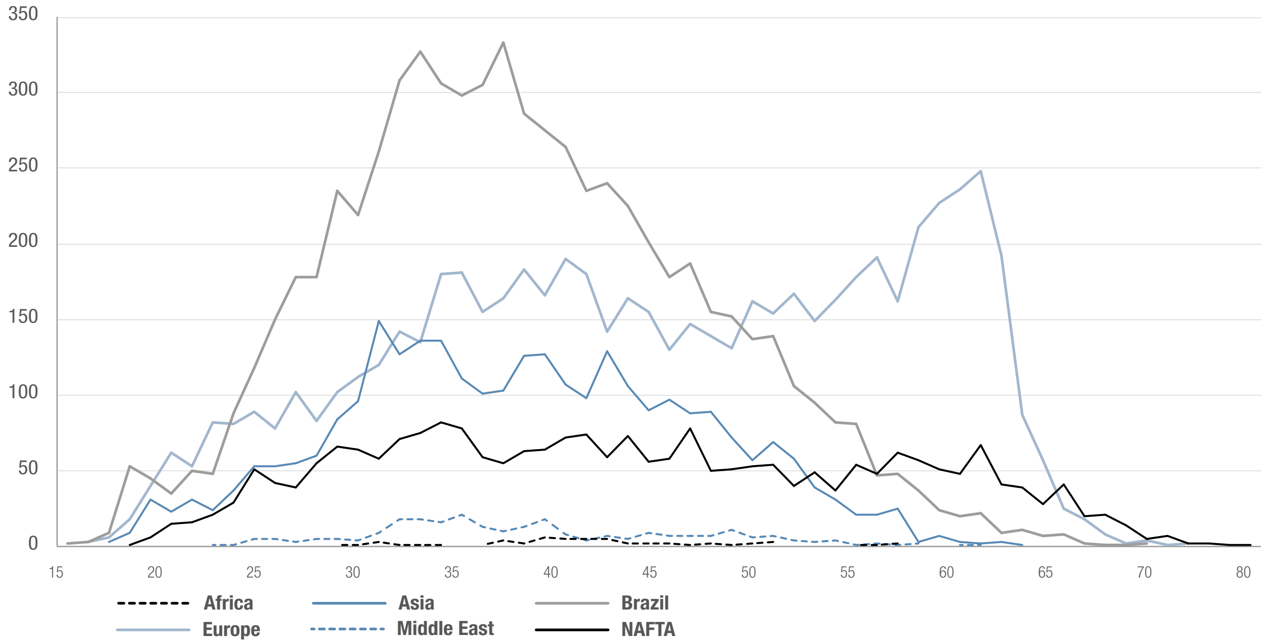
% of women (permanent)	Production staff		Technical and supervisory staff		Managers		Total	
	2018	2019	2018	2019	2018	2019	2018	2019
Europe	2%	2%	33%	31%	22%	22%	12%	12%
Brazil	5%	6%	29%	30%	25%	25%	10%	10%
Asia	12%	12%	28%	28%	16%	16%	16%	16%
NAFTA (United States, Canada, Mexico)	2%	1%	27%	27%	22%	22%	10%	10%
Middle East	-	-	15%	19%	17%	16%	8%	9%
Africa	8%	12%	13%	11%	-	-	11%	10%
WORLD	**4%**	**5%**	**30%**	**29%**	**22%**	**22%**	**11%**	**12%**

Breakdown by age

The age pyramids show significant disparities in terms of geographical areas.

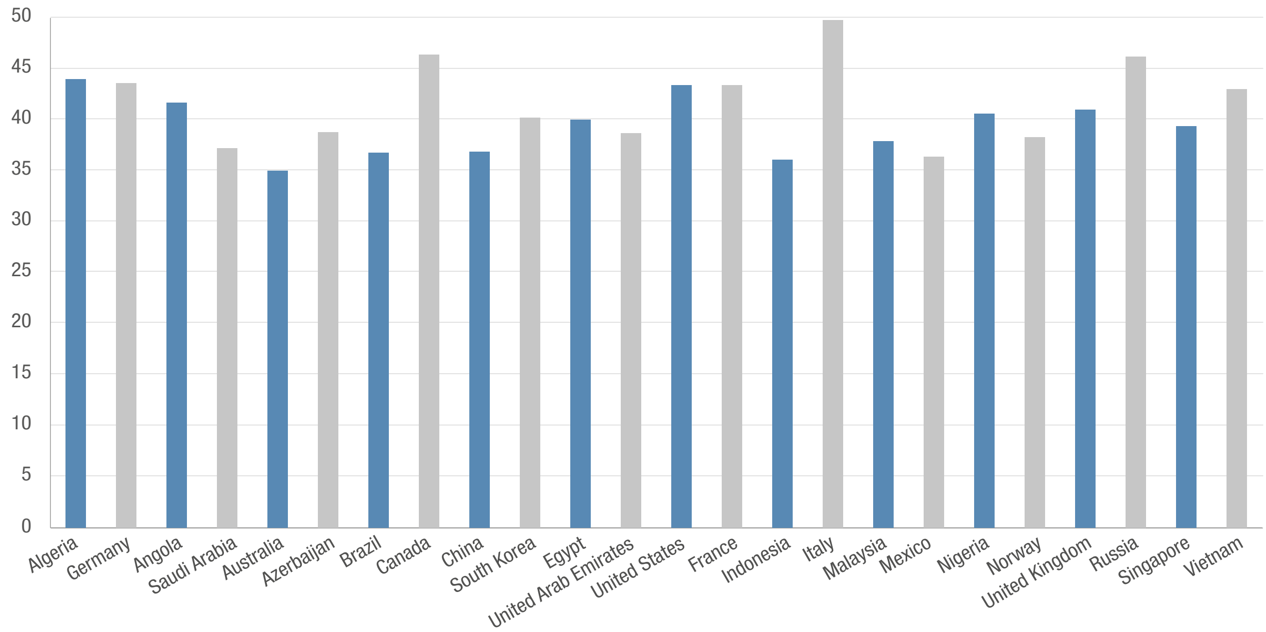
The Brazilian employee population is young, with a strong concentration in the 25 to 40-year-old segment. In the NAFTA region, the distribution of the population among the various age categories is well balanced. Asia has practically no employees older than 55. Conversely, Europe remains marked by a large number of employees over age 50 (approximately 37% of the European population). The staff breakdown by age range has not changed in comparison to the previous year.

Breakdown of the workforce by age ☑



These disparities are also reflected in the average age of employees in the main countries where the Group is established.

Average age by country



BREAKDOWN OF THE WORKFORCE BY PROFESSIONAL CATEGORY AND TYPE OF CONTRACT

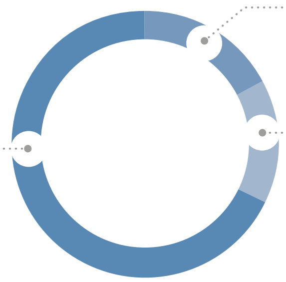
Breakdown by professional category

Production staff represents two thirds of the workforce.

Technical and supervisory staff includes administrative personnel, technicians and field supervisors, who account for 15% of the workforce. Managers represent 17% of the workforce.

Breakdown of workforce by category in 2019

In 2019, the proportion of executives and technical and supervisory staff remained unchanged from 2018.



Group's registered workforce by professional category	2018	2019
Managers	3,128	3,152
Technical and supervisory staff	2,924	2,795
Production staff	13,112	12,880
TOTAL	**19,164**	**18,827**

	Production staff		Technical and supervisory staff		Managers		Total	
Breakdown of registered workforce	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**
Europe	22%	20%	7%	7%	7%	7%	36%	35%
Brazil	27%	28%	3%	2%	5%	5%	35%	35%
Asia	11%	11%	3%	3%	1%	1%	15%	15%
NAFTA (United States, Canada, Mexico)	8%	8%	2%	2%	3%	3%	13%	13%
Middle East	1%	1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
Africa	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%	< 1%
WORLD	**68%**	**68%**	**16%**	**15%**	**16%**	**17%**	**100%**	**100%**

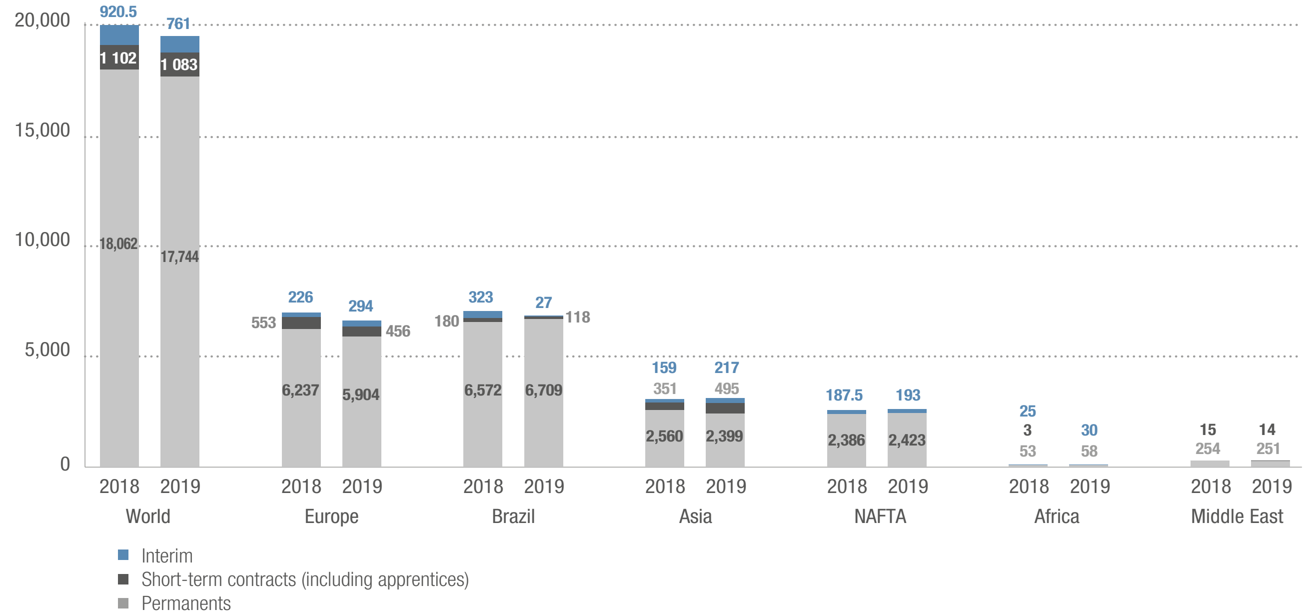
Nearly 50% of production staff are still located in Europe and Brazil, while 21% of managers and technical and supervisory staff are located in this same area.

In 2019, the production staff population still accounted for approximately 68% of the Group's total workforce, which is consistent in comparison to 2018.

Breakdown by type of contract

Due to the highly cyclical nature of its markets, Vallourec has to be able to adapt rapidly to changes in activity. As a matter of policy, it maintains a permanent workforce (via permanent contracts), which allows it to meet the needs of its ongoing operations, and temporary workers (under short-term and temporary contracts) to cope with surges in activity. For planning purposes, the permanent staff is managed on the basis of a model workforce involved in a standard activity for three to five years. Changes in peak or low point activity are handled via flexible local solutions (e.g., loans between plants, working-time adjustments in Europe, temporary staff and short-term contracts).

Breakdown between permanent, short-term (fixed-term contracts and apprentices) and temporary workforce



At the end of 2019, there were 17,744 permanent workers worldwide, compared to 18,062 at the end of 2018.

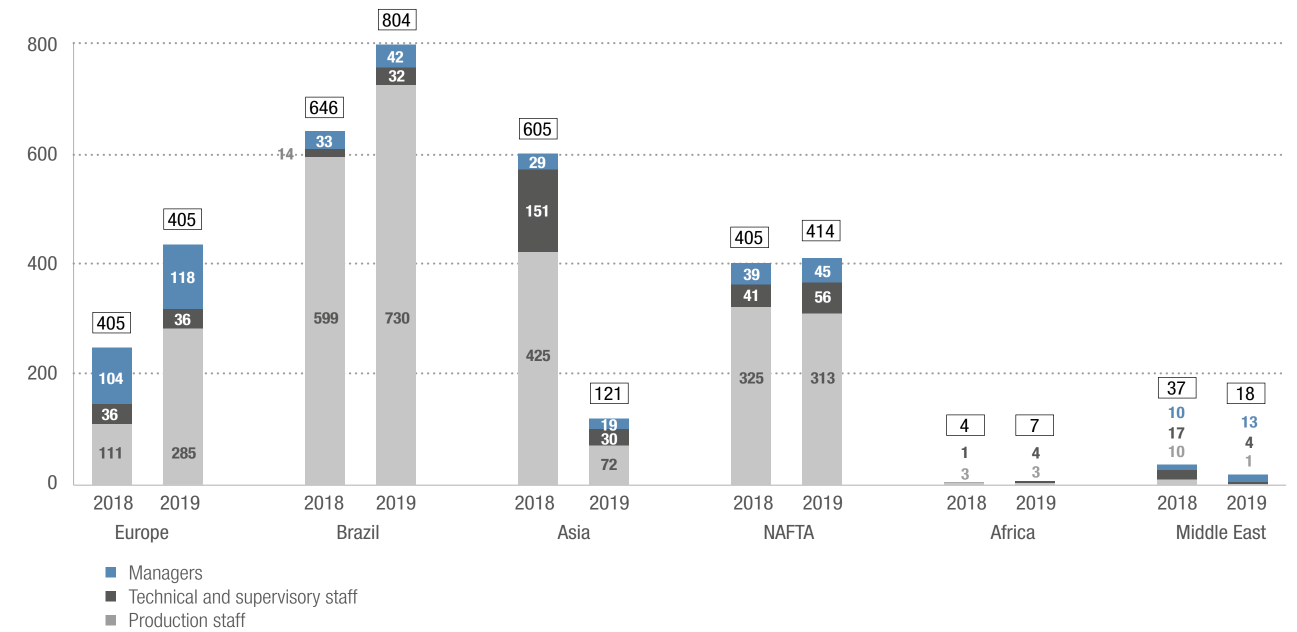
Entries and departures

NEW HIRES AND TRANSFERS

The total number of hires of permanent staff was lower in 2019 compared to 2018. However, a higher number of hires was recorded in Europe and Brazil, particularly in order to compensate for a high number of departures. The workforce decreased in Europe in 2019 while it increased in Brazil. The slowdown in China should be emphasized, as it resulted in a much lower rate of hiring across the Asian area, along with a high number of departures. As a result, the permanent workforce is decreasing in all areas except in Brazil and the NAFTA zone, where the number of staff is rising slightly.

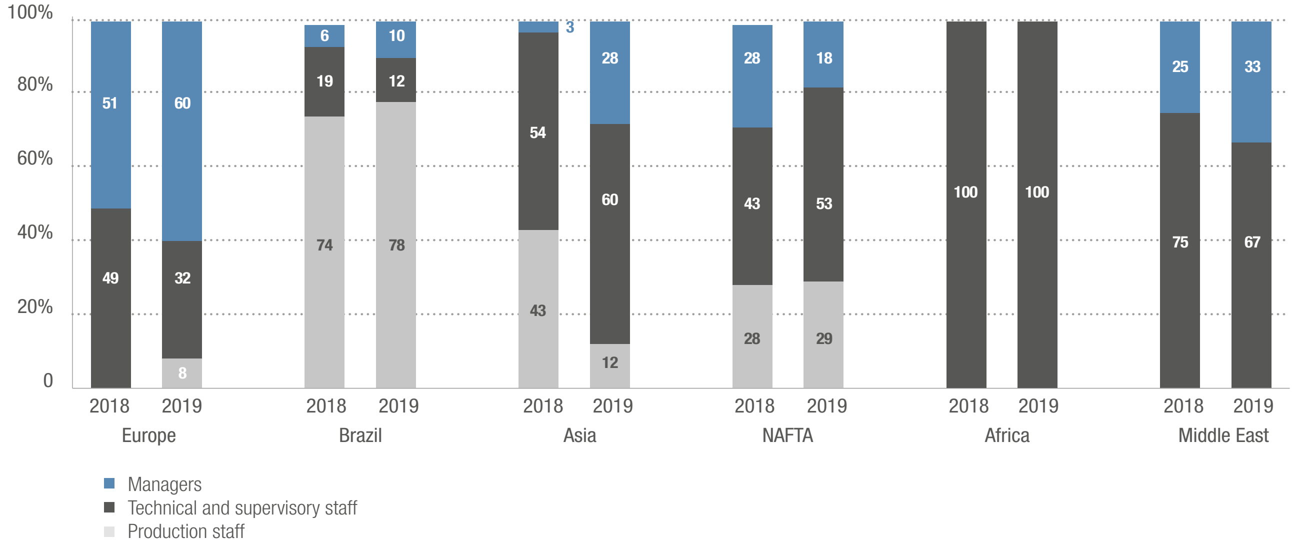
The breakdown of new hires by professional category and geographical area is as follows:

Breakdown of new hires by professional category



In 2019, we simultaneously recorded nearly 379 departures in the NAFTA area, 671 in Brazil, 301 in the Asia area, and 835 in the Europe area.

Breakdown of new hires of women by professional category



For all areas except Brazil, female employees were primarily hired in the professional categories of technical and supervisory staff, and managers. Female new hires in the production staff category remain significant in Brazil. The percentage of new hires in this production staff category rose from 74% in 2018 to 78% in 2019. The proportion of women in the Group remained unchanged at 12%. The Group's policy, as defined by the Management Board in 2016, focuses on two objectives, which are increasing the number of women in operations-related positions, and improving women's access to leadership roles.

DEPARTURES

In 2019, the Group's permanent workforce decreased by 1.8% and the Group's non-permanent staff also decreased by 1.7%.

Turnover rate by area

Turnover rate *(permanent workforce)*	**2018**	**2019**
Europe	10%	10%
Brazil	10%	11%
Asia	26%	8%
NAFTA (United States, Canada, Mexico)	17%	17%
Middle East	26%	8%
Africa	11%	9%

The turnover rate includes departures and arrivals for the year in question and is defined as follows:

(number of departures + number of arrivals for the year) × 2 × 100/(workforce as of 31 December of the preceding year).

This takes into account departures, arrivals and transfers within areas.

Reasons for termination of employment contract by area

	Retirement benefits		Resignation		Dismissal		Other reasons	
	2018	2019	2018	2019	2018	2019	2018	2019
Europe	23%	29%	16%	23%	12%	20%	49%	28%
Brazil	1%	0%	6%	5%	89%	88%	4%	7%
NAFTA	5%	5%	37%	46%	52%	45%	6%	4%
Asia	2%	14%	93%	61%	3%	15%	2%	10%

In Brazil, given the employment regulations, dismissal is the method by which contracts are typically terminated. In line with the restructuring plan, the use of dismissals continues to be significant in 2019, at a rate of 88%, with a ratio close to that of 2018.

In the NAFTA area, the number of dismissal accounted for 45% of departures, while the number of voluntary departures was 46%. In the Asian area, 61% were voluntary departures. In Europe, 29% of contract terminations were due to retirements and 23% due to voluntary departures.

Organization of working time

RATE OF WORK

The Group's policy is designed to provide flexibility and responsiveness in order to adapt to customer demand.

Working patterns enable the Group to adjust plant operations to production requirements. Most production sites have adopted a system of continuous shift work (24 hours a day), five or six days per week using three, four or five rotating teams.

In order to minimize the arduous nature of working patterns, research is being done in conjunction with occupational physicians and employees into the structuring of working patterns to coincide with physiological rhythms. This research is then followed by trials.

Innovative solutions have been implemented, which depend heavily on cultural factors and applicable national laws.

In order for the Group to meet the need to adapt to economic conditions, whenever possible, hourly cycles were reduced (2 × 8 from 3 × 8, or to 3 × 8 from 5 × 8, etc.).

WORK TIME

The following table shows the number of hours worked and the average number of overtime hours worked in the last two years. It is based, for each area, on the number of hours worked by the registered workforce.

	Average number of hours worked per employee		Including average number of overtime hours worked per employee during the year	
	2018	2019	2018	2019
Europe	1,435	1,452	52	53
Brazil	1,998	1,943	140	124
NAFTA	2,340	2,268	402	353
Asia	2,358	2,285	479	358
Middle East	2,104	2,174	187	446
Africa	1,955	1,875	300	303

Average number of hours worked per employee	2018	2019
China	2,479	2,430
United States	2,387	2,256
Indonesia	2,307	2,332
Mexico	2,108	2,378
Saudi Arabia	2,105	2,315
United Arab Emirates	2,103	1,864
Singapore	2,068	1,977
Nigeria	2,009	1,869
Brazil	1,998	1,943
Azerbaijan	1,935	1,899
Egypt	1,920	1,904
Malaysia	1,915	1,626
South Korea	1,760	1,920
United Kingdom	1,749	1,967
Canada	1,733	1,718
Angola	1,703	1,906
Australia	1,657	1,871
France	1,437	1,459
Germany	1,401	1,369
Norway	1,399	1,743
Russia	1,105	1,770
Netherlands	1,080	0
Algeria	-	1,904
Italy	-	320
Vietnam	-	1,976

Although overtime hours do not apply to managers, the average number of overtime hours has been calculated for the entire permanent workforce (registered workforce), including managers.

INDIVIDUAL WORKING ARRANGEMENTS AND PART-TIME WORK (FRANCE)

In France, nearly all technical and supervisory staff benefit from individual working arrangements, enabling them to set their arrival and departure times based on personal needs and the requirements of their Department.

In France, a company agreement signed by all social partners in 2019 paved the way for telecommuting to be implemented at Vallourec.

The aim of this approach is to develop the autonomy of teams, to empower and place greater trust in them, as well as to simplify operating methods, in order to enhance the quality of life at work and achieve a better work-life balance.

The expected benefits of telecommuting are already apparent and have been confirmed by the first feedback from employees and managers.

For example, over 500 employees are trying out telecommuting, both in our industrial and tertiary-sector sites.

Telecommuting is in keeping with the cultural changes that are part of the Group's transformation, particularly in terms of changes to our managerial practices as the emphasis is now on trust rather than control.

In terms of technology, the increasing use of digital collaborative tools has clearly made this process easier to roll out.

Telecommuting also represents an additional asset to attract staff.

ABSENTEEISM

The rate of absenteeism is calculated by comparing the aggregate of all paid leaves (including for illness, maternity, workplace accidents or commuting accidents) with the total number of hours actually worked. In every country, it is in the low average of the rates of comparable industries.

In 2019, the absenteeism rate at the Group level remained unchanged at 3.8%. While the rate of absenteeism decreased in Europe and Asia and remained stable in Brazil, it increased in the NAFTA area.

Rate of absenteeism	2018	2019
Europe	7.0%	6.7%
Brazil	3.0%	3.1%
NAFTA	2.3%	2.6%
Asia	1.7%	1.4%
Middle East	0.8%	0.8%
Africa	0.8%	2.0%
TOTAL	**3.9%**	**☑ 3.8%**

4.2.2.2 Health and safety

Health and safety risks are presented in Section 5.1.2. "Operational risks" of this Universal Registration Document.

Safety

➔ Commitment to responsible performance

- **Ensure the safety and protect the health of our employees**
- **Offer each employee good working conditions**

INDICATOR

The frequency rate of accidents with or without lost time (Total Lost Time Injury Rate or LTIR, and the Total Recordable Injury Rate or TRIR): number of accidents reported per million hours worked.

2019 OBJECTIVES

To achieve an LTIR of <1.0 and a TRIR of <2.5 (including the performance of subcontractors).

ACHIEVEMENT OF THE 2019 OBJECTIVE

The Group achieved an LTIR of 1.0 and a TRIR of 2.23

2020 OBJECTIVE

To continue our efforts to achieve an LTIR of well below 1 and a TRIR of less than 1.9 with a mid-term target of <1.

Safety is the Group's main priority and it aims to become a benchmark and a model for success in this area. At the end of 2019, 98% of Vallourec sites were OHSAS or already DIN EN ISO 45001 certified(1) and represented 100% of production in metric tons.

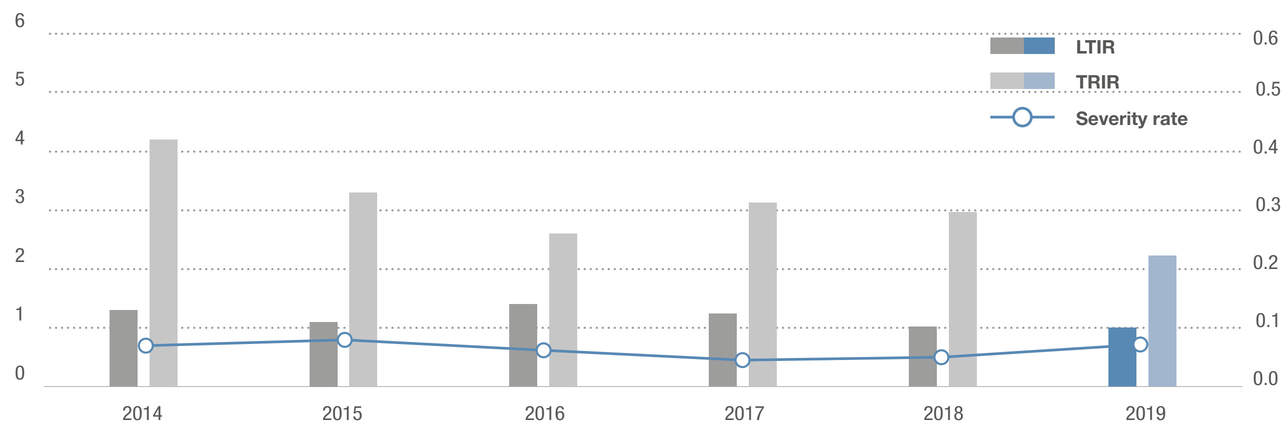
Vallourec has been committed to its "CAPTEN+ Safe" safety improvement program for several years. The program has been renewed each year with a particular focus on the major risks that could lead to a fatal accident and, starting in 2016, a specific focus on subcontractors.

Since 2016 the performance indicators have incorporated subcontractors, Vallourec staff, and temporary workers.

At the end of 2019 the LTIR(2) was ☑ 1.0 and the TRIR(2) was ☑ 2.23 After five years absence of any fatal accidents until end of 2019 the Group faced one fatal accident in February 2020.

In 2019, the Severity Rate (SR) of the Lost Time Injury Rate was 0.072.

Change in safety indicators



(1) *OHSAS 18001: International guidelines relating to occupational health and safety, published in 2001 under the authority of the International Labour Organization.*
(2) *Considering the Group's employees, temporary staff and subcontractors.*

Whenever an accident involving lost time or a potentially serious incident occurs, the Group Executive Committee is informed immediately.

The safety improvement program includes the following measures at all Group sites:

- safety management committees at all levels of the Company;
- ongoing risk assessment for safety concerns, as well as a program to reduce the highest risks;
- more targeted action to reduce risks that could lead to a fatal accident (maintaining loads, working at heights, lock out-tag out of equipment, confined spaces);
- safety inspections;
- continuous improvement teams (CITs) on safety issues;
- systematic communications at workstations concerning safety issues;
- strong involvement of the entire managerial line to report and address safety issues;
- strong employee involvement to stop and report any situation involving risk;
- eight golden rules, which are grouped into eight chapters/themes: "my attitude to safety", flow of machines and pedestrians, lifting, manual tools, working at height, confined spaces, energies and lockout-tagout procedures (LOTO) and health protection. An e-learning tool focusing on these eight golden rules, translated into the languages used in the Group, is available to all employees.

As from 2017, each reported accident is analysed for actual and potential severity, relying on an internal scale (level 1: minor accident, level 8: fatal or potentially fatal accident). Beyond merely calculating days lost, this approach provides depth to the analysis of causes and allows corrective actions to be taken at the Group and regional levels.

In 2019, accidents were primarily to the hands (37%), ankles (12%), arms (7%) and feet (6%).

For the total accidents and near-misses reported, the golden rules broken mainly relate to safety attitude (41%), lifting/crane handling (23%) and traffic with vehicles and pedestrians (13%).

Education and training about safety rules is mandatory for all new employees of the Group and includes frequent follow-up. The programs for temporary staff have been extended to subcontracting companies just as for the permanent workforce.

Each year a day is devoted to safety in all of the Group's sites. This is the time to raise awareness about safety issues in multiple ways among all employees, in particular through specific workshops (risks to hands, load handling, driving forklifts, working at heights, evacuation exercises, etc.) during which production is suspended. A great number of top managers make special trips to sites for this event. The site recording the best safety performance also receives a specific honour on that day.

Staying on course to control or eliminate dangerous operations that could lead to fatal accidents, strengthening the risk analysis methodology to better understand unusual situations, developing the leadership of the management line and employee interdependence are priorities for 2020.

In an effort to signal its commitment to safety issues, the Supervisory Board has included safety objectives for several years in the variable portion of the Management Board members' compensation, as well as in that of the main managers in charge of supervising staff at the sites, i.e., nearly 2,000 managers.

Health

HEALTH POLICY

The Group did not sign any collective agreements regarding occupational health and safety. However, the Health and Safety policy that was updated in 2016 contains a more robust health section. Entities thus aim to gain further knowledge about the health risks specific to their processes, and determine the means to eliminate or attenuate them locally.

At the end of 2018, the Executive Committee decided to ensure that all health risks were sufficiently taken into account and implement such considerations on a group level by setting up a Health Committee. There are indeed various issues that relate to the health of Vallourec's employees. As concerns our process, chemical risk (see below), noise, air quality and the ergonomics of workstations have been the subject of structured adaptation plans for several years. The issues also concern medical follow-up of employees, the risks of psychosocial risks to which they could be exposed, and the ability to offer them adapted health coverage. Lastly, the Group's health policy must also ensure that the products used for its customers' operations are safe.

PREVENTION OF CHEMICAL RISK

The safe use of chemical products and substances is of critical concern to Vallourec, which has had a dedicated plan in this regard for numerous years. The database containing their details is regularly updated to ensure rigorous monitoring of developments and thus prevent the risks of harmful effects. Three points should be emphasized:

a) in 2016, this basis was optimized to better assist the HSE teams in determining the danger of products, and thus establish adequate means of prevention. The application also evolved to take into account the new globally referenced classification system (GHS) as well as all of the new regulations resulting therefrom. The new functionalities were first rolled out at French sites. The roll out is continuing at all sites. In 2019, training was provided in Brazil to ensure the continuity of the approach across all Brazilian sites after the reorganizations.

This tool also evolved to integrate the evaluation of chemical risk at the workstation. The method was tested at a few pilot sites. This new functionality will be gradually extended to other sites in the Group and its roll out will be monitored in 2020. The objective is to evaluate each product at the primary workstation and eliminate the Excel tracking files;

b) all products or substances entering production sites are monitored and authorized by local HSE managers. Medical services are regularly called in to provide a full risk assessment. Legally required checks on the atmosphere in the work environment are conducted, and this information is included in risk assessments. In 2019, Vallourec developed an application to formalize these validations and connect them to the Group's database;

c) the impact of chemical risk is likewise studied from the initial stage of investment and R&D projects in an effort to take all prevention criteria that should be associated with them into account. Several R&D investment projects were thus validated at the Corporate level from a chemical risk perspective. The most at-risk projects are monitored and validated at each stage, through to industrialization on-site. This process is the result of close collaboration with process communities and purchasing teams. For example, the development of the next generation of grease-free coating for our connections (Cleanwell Dry 2) has allowed us to define and establish use of CMR products via closed-cup systems, and thereby guarantee zero contact to ensure maximum staff protection. These highly secure processes were then monitored by local HSE teams;

d) lastly, audits of high-risk chemical processes were conducted to guarantee good practices and protection levels. Some audits were also conducted at Vallourec's subcontractors for the same reasons. Oversight plans have been established and monitored by the local teams.

PRODUCT SUBSTITUTE PLANS

Changes in legislation and improved knowledge about the toxicity of substances increase the number of products that are identified as CMR each year. Plans to substitute critical products have been defined and, in conjunction with R&D and the suppliers, the HSE teams have devised test and qualification programs for substitute products. These programs can sometimes take a long time and, in some cases require the manufacturing processes to be adapted or adjusted.

At the end of 2019, 73.3%[1] of the 484 plant items identified as CMR[2] were replaced[3] (59.3% in 2018 within the ISO scope). Consideration of changes in the Group's industrial scope, as well as the rollout of the new GHS classification system, resulted in an additional list of products that had not yet been identified as CMR, and in new substitution actions being undertaken. In addition, the training of teams in Brazil and the rollout of on-site inventories at all sites in South America identified a large number of products that had not been taken into account. Initial substitution actions have already been carried out in order to change usages.

As mentioned above, there are still 18 industrial uses of distinct CMR products that have however remained identified as non-substitutable due to technical problems or a lack of substitute on the market; 14 other uses are linked to compartmentalized laboratory testing techniques. Their uses are therefore monitored by the HSE teams and the Environment Department.

The specific action plans rolled out at the Group level continue to develop, and concern:

a) refractory ceramic fibers: Vallourec has written and circulated a single set of instructions for all countries. The materials containing this type of fiber present in furnaces are progressively dropped off during maintenance operations when an alternative solution is available;

b) lead dope: tests and qualifications allowed us to list the substitution greases to use on the threading that is not subjected to high temperature according to the type of connections and environments of use. Leaded grease nevertheless is still not substitutable under certain extreme conditions. It is currently only used when operating conditions do not allow for any other options. In 2019, the sites used 261 metric tons of grease, including 11% leaded grease. It should be noted that the use of leaded grease is limited to running operations and it is no longer used as protection for threads during storage as other non-CMR greases have been validated for this purpose;

c) nickel phosphates: in 2017, the competent process community, known as VAM, rolled out a test program with the three concerned suppliers to validate three Ni-free solutions. This collaborative work with these three suppliers has enabled worldwide supply coverage, and has also allowed the process parameters to be optimized to ensure gains on energy consumption, processing time and waste production. The three solutions were approved and presented by this process community at the plants at a specific meeting. In 2018, the Group gave the "Vallourec Environment Award" to this same community, for its work on substituting nickel salts in phosphating processes. The substitution programs began to be rolled out site by site, with the support of the Community, and this process will continue in 2019.

Other programs are conducted jointly with R&D, the plants and the suppliers in an effort to reduce CMR use. The use of borax, for example, is a common subject at several sites, which was taken up by another process community. After numerous tests, certain products have been qualified in the laboratory and must be validated on industrial processes in 2020 before being rolled out at the sites.

4.2.2.3 Employee relations

Employer-employee dialog

Wherever the Group is established, it has made employer-employee dialog a priority. This is organized in each country, in accordance with local regulations. To date, at least 82% of the workforce are covered by industry- or company-wide collective agreements.

- Within the Group, an employee representative appointed by the Group Committee has chaired the Supervisory Board since the end of 2017.
- In Europe, the dialog occurs at several levels:
  - a European Committee, comprised of 30 French, German and British representatives, meets at least once a year, alternating between France and Germany. It meets with Management, which provides information about changes in the Group's activities, results and strategy;
  - a European Committee office is also in session five times a year, and regularly meets with Management to discuss the Group's future, along with other European issues. In 2018, several special meetings allowed office members to really understand the economic and industrial issues impacting the Group's competitiveness, along with the action plans linked to the Group's transformation, in particular the adaptations to be made in the Europe/Africa region;
  - additionally, European employee shareholders are represented by a Supervisory Board for employee shareholding funds. They meet with Management twice a year. An employee representative is chosen from among them, who then serves on Vallourec's Supervisory Board.

(1) Note that the products identified as non-substitutable are considered as substituted and included in the percentage calculated.

(2) Chemicals or preparations may have various adverse effects on human health. These are classified into "CMR" categories. Within the meaning of Article R.231-51 of the French Labor Code, substances or preparations are considered CMR agents when they are carcinogenic (C), mutagenic (M) and/or toxic for reproduction (R).

(3) Some sites reported their inventory. New substances have also been officially classified as CMR.

- In France:

  The Group Committee has 23 representatives chosen by the trade unions from among those serving on social and economic committees. It meets twice a year in the presence of the Management Board and receives general information about the Group (examination of financial statements, activity, investments, strategic guidelines, etc.). It is assisted by a certified public accountant. In each company, social and economic committees, health, safety and working conditions boards and proximity boards are involved in the management of the company or entity. Additionally, the social and economic committees manage social activities (participation in the financing of health contracts, organization of trips, Christmas gifts, sporting activities, etc.). The union organizations that obtained more than 10% of the votes in social and economic committee or elected consultative committee elections are the managerial contacts for negotiations. Professional elections took place throughout 2019 in all companies and entities of the Vallourec Group in France, thus allowing members of company and entity social and economic committees to be elected for the next four years.

  In January 2019, an agreement on social dialog was concluded with representative trade union organizations at Group level. This is part of a tradition of corporate relations at Vallourec and clarifies the principles that allow it to maintain a high-quality employer-employee dialog about the economic, industrial, and social issues Vallourec must face.

  In addition, an agreement concerning the introduction of teleworking was concluded on 26 February 2019 with the representative trade union organizations at Group level. This agreement is enshrined within the Group's desire to develop the autonomy and empowerment of teams and to provide employees with a better quality of life at work. It has allowed more than 500 employees to opt for teleworking during 2019.

  In addition, the France Human Resources Department and the trade union organizations concluded an agreement on 12 November 2019 on career support and the strengthening of flexibility. The aim of this agreement is to promote professional development, develop skills and employee employability and strengthen the flexibility of organizations (setting up multi-skilling and creating a specialist unit). An initial roll-out phase helped to spot more than a third of multi-skilled production staff in France.

  Lastly, the wage negotiations that took place at the end of the year resulted in agreements being signed in all companies.

- In Germany:

  In 2019, the Vallourec Deutschland Recovery Plan continued, including in particular the setting up of the Mass Mill organization, in order to merge the support functions of Rath Mill and Mülheim Mill, and the expansion of the CTS (Central Technical Services) organization.

  The wage agreement was renegotiated to postpone and suspend salary increases for all employees.

  Lastly, a drastic reduction in staffing, particularly in the non-permanent employee and workforce sectors, has been implemented.

- In the United Kingdom:

  Employees are represented through two trade unions (Community Union and Unite Union) which represent production, administrative and technical workforce. The 2019 negotiations concerned the wage policy, holidays and bonus schemes which resulted in an amendment to these schemes and rules surrounding them.

- In North America:

  In Mexico, the union mainly represents production staff and is represented by a collective bargaining agreement. The union, for which dues and membership are mandatory, can propose candidates for promotions among these employees, a list of whom is drawn up in accordance with the agreements. Negotiations concern salaries and benefits in kind.

  In the United States, as required by law, employees can choose to be represented by a union and a collective bargaining agreement; so far, employees have consistently voted against union representation. The last formal union election was held in 2014 in Vallourec Star sites, in Youngstown (Ohio, USA).

  In 2019 Vallourec continued to encourage employee engagement through the continued communication plan that was launched in 2016. The plan includes Town Hall style meetings, which are open dialog with the workforce, intended to discuss any item that workers bring up with a short business update. The meetings are opened to all employees, which allows them to gather to know more on the state of business and major projects or change initiatives with a short time allowance for Q&A from the workforce. Round-table discussions with the President/Plant Management and HR Manager and with a small panel of the randomly selected workforce allow a discussion on their likes and dislikes and other items the participants would like to discuss.

  The region continues to benefit from "The Big Opportunity" program that was launched in 2018. After having successfully generated enthusiasm and commitment, the program is now focusing its efforts on sustainability and has been renamed "Winning as One" (WaO). The program has once again made it possible for more than 1,000 members of the team to voluntarily commit, in an innovative manner, to supporting our customers, streamlining our processes and improving our activities. By combining our employees' enthusiasm with available opportunities, we have strengthened our commitment to Vallourec's values of transparency, performance and responsiveness, respect for people and joint commitment.

  All these efforts are only a small number of activities that has led our workforce to believe Vallourec is a great place to work. The Group is proud that its North America region was awarded "The Great Place to Work" certification again in November 2019.

- In South America:

  In Brazil, employees are represented by trade unions, which are formed by employees not only from Vallourec, but also from other companies that integrate their territorial base.

  There are legal criteria that establish the obligation of a union representation, according to the territorial location of the Company and its preponderant activity. Thus, for each unit in Brazil there is a different union representing the employees.

  These unions are responsible for bargaining salary and benefits increases as well as the work conditions. [The negotiations conducted in 2019 for all employees resulted in a salary increase equivalent to the inflation rate of the last 12 months in all plants (except for Mining, where the increase was slightly up by 0.84% on the inflation rate, i.e., total payroll increase: 4%).

Moreover, the employees are also represented by the Conselho Representativo dos Empregados (Employee Representative Council – CRE) that is a legal obligation for all plants that have 2,000 or more employees, since November 2017. This Council provides employee's representation internally and facilitates discussions on specific daily matters such as catering, transportation, restrooms, etc. The CRE cannot be involved in matters that are negotiated by the Trade Union. It plays a complementary role.

- In China:

  Trade Union or Employee representatives exist in some entities, and the employer has regular communications with those representatives. In any way, Vallourec encourages employees to have representatives. In the entities without Trade Union or employee representatives, employer-employee dialog occurs through direct contact between the production staff and management via internal communication meetings. Should employees request it, the setup of a trade union will have to be planned.

Group internal communications

Internal communication has a major role in Vallourec's operations. It allows employees to be connected worldwide and to create a true sense of belonging to the Group. The goal of internal communications is to engage Vallourec's employees and have them adopt a common vision, plan and values and to support change. Vallourec maintains dialog with its employees and provides information through various channels:

- the Group has recently started a series of quarterly webcasts called "On Air" with the management team, to share all key communications with the entirety of the Group's 18,000 employees;
- in 2019, the Group launched a new intranet called My Vallourec, which is used by approximately 8,000 employees in around twenty countries. My Vallourec was designed to combine the Group's various intranet sites into a single platform, giving employees simplified access to local and corporate information. It offers an environment based on Office 365, which is more ergonomic, consistent, modern, and above all more open. The information provided on My Vallourec allows you learn more about the strategy, objectives, results and success of teams worldwide. A bi-monthly e-newsletter also presents site news;
- My Vallourec is supplemented by the business social networking site Yammer, which allows employees to have discussions, share knowledge and best practices via dedicated communities, and by Teams, a hub designed to promote teamwork;
- specific communication on certain projects that educates employees about key issues in the Group – safety, digital, major HR projects, ethics and values, the environment – or involves them in important matters (Innovation Challenge, major projects impacting Group life, etc.); and
- at annual conventions or local meetings, the Group's executive management team visits employees to share information and gather feedback.

The Group's internal communications are also based on local resources in the countries and subsidiaries, which relay messages, provide feedback from the field and raise topics of interest within their own channels (magazines, intranets, etc.).

4.2.2.4 Compensation and benefits

Payroll

In 2019, Group payroll, excluding temporary workers, totaled €956 million:

- €738 million in salaries;
- €32 million in employee profit sharing;
- €2 million in expenses associated with share subscription or share purchase options and performance shares;
- €184 million in social security costs.

Breakdown of payroll costs by country:

Breakdown of total payroll costs	2018	2019
Germany	22%	21%
Brazil	21%	22%
China	3%	3%
United States	23%	23%
France	23%	23%
Mexico	1%	1%
United Kingdom	3%	3%
Other	4%	4%
TOTAL	**100%**	**100%**

Employee profit-sharing and bonuses

Profit sharing plans are designed to associate employees with the Company's performance. In 2019, this amounted to €32 million.

In France, a Company savings plan (PEE) and retirement savings plan (PERCO) allow employees to invest the money they receive from profit-sharing in order to build up savings with a favorable tax status and to benefit from employer contributions.

Employee shareholding

The Group did not continue the Value employee shareholding plan in 2019.

Shares held by employees represented 3.30% of Vallourec's share capital as at 31 December 2019, compared to 3.70% as at 31 December 2018.

Other benefits

In almost all countries, except in African and Middle East countries, employees benefit from a healthcare coverage system for themselves and their families. During business travel, a medical service guarantees they will be cared for under the best conditions.

Multiple activities of a social, sporting or cultural nature are organized within the subsidiaries. They take on different forms according to the structures: company orchestras or choirs, organization of tourist trips, sporting competitions or parties and the funding of vacation camps for children. The goal of these activities is to bring people together outside of a strictly professional framework, to support and strengthen connections among employees.

4.2.2.5 Employee development

The aim of the Talent Management process is to ensure that Vallourec has the right employees to ensure its success today and also to anticipate the future of the Group.

At Vallourec a standardized system is used for the assessment and development of employees. This Talent Management system assesses which skills need to be developed for each employee in their current position, and also prepares for their future development.

This includes defining and organizing annual interviews, reviewing Talents and succession plans.

For each employee the process implies the establishment of an individual development plan (on-the-job training, coaching, mentoring and classroom or distance training).

In practice and in practical terms, Vallourec's Talent Management system therefore pursues two objectives:

- to ensure the necessary skills or expertise for the development of the Group;
- to optimize levers of employee engagement.

This twofold objective is key to the competitiveness of the Group.

Vallourec therefore assists its employees throughout their careers, revealing and cultivating their talents thanks to several programs and initiatives that are rolled out within the Group.

STAFF ASSESSMENTS

Annual interviews

The talent management information system, known as Talent 360, used throughout the Group, is one of the tools used to evaluate skills, manage objectives and assess the potential of the population of managers. Implementation of this tool, supported by the strong involvement of all managers, enabled performance reviews to be standardized and systematically structured on an annual basis.

The annual interview was totally overhauled in 2018 in an effort to further incorporate feedback from peers or employees when evaluating overall performance. This tool is also accessible to technical and supervisory staff in certain countries, in particular France.

In 2019, the reference framework for managerial skills and leadership was revised. In addition, a new performance measurement scale was proposed.

In countries where the tool is in place, the rate of completion of annual performance interviews among managers in 2019 was 97%.

Talent review

The talent review, run by the Human Resources Department in collaboration with the sites and Regions, is an indispensable process for ensuring that the Group has the talent needed to implement its strategy. It also allows employee potential to be identified and developed, helping staff to evolve within the organization over the short, medium and long terms.

In 2019, these talent reviews focused specifically on the female population in order to integrate the provisions of the Women@Vallourec program.

Succession plans

Vallourec has generalized succession plans to ensure that replacements for key positions are being prepared.

Internal survey on employee satisfaction ("Social Barometer")

Vallourec conducts a survey at regular intervals (one session every nine months) with all of its employees worldwide to find out their perception, expectations and concerns. The survey is used to measure the level of satisfaction, motivation and commitment of employees.

It ensures that employees' responses will be kept completely confidential.

The last survey conducted in June 2019 obtained a satisfactory and increased rate of participation (56.1% response rate) and yielded a high satisfaction score of 7.45/10, which was significantly higher compared to the social barometer conducted in November 2018 (7.1/10).

The development of new skills, the high level of autonomy left to employees and the working atmosphere appeared to be the main motivating levers.

Following the survey, action plans were begun or extended to respond to employees' expectations concerning the standards of excellence defined at the Group level.

DEVELOPMENT OF SKILLS

Adaptation of Group's reference framework for skills

In view of the transformation of the Group and business lines, in 2019 a decision was taken to gradually redesign the reference frameworks for business skills.

In 2019, new skills reference frameworks were proposed for the business lines of Project Management, Process Communities, and VPA (Vallourec Performance Analysis).

In addition, the reference framework for management and leadership skills was redesigned to incorporate elements of Cultural Change, the cornerstone of the Transformation program.

Expert Program

The Expert Program encourages and values individual career paths in these areas, and allows Vallourec to develop its competitiveness to satisfy increasingly demanding markets. To date, this program allows more than 300 experts to be recognized through the Group.

Training

In an evolving and competitive market, Vallourec has a growing need for trained and motivated staff who are able to adapt to the changing businesses and markets. The Group strives to reconcile its need for change with the individual aspirations of its employees, allowing them to grow in their careers, while developing their skills.

In addition to training programs that are centrally decided upon by the Group Training Department, each entity prepares its training plan each year, in accordance with the Group's strategy and educational guidelines. Specific training programs are thus established to locally address the regulatory or market requirements.

Vallourec University

Vallourec University is the corporate training entity of Vallourec. Its remit is to create a common culture of learning, develop the leadership and business skills of all employees and support the strategy and transformation of the Group by developing "training paths" for each function.

Vallourec University offers training programs for Group employees worldwide. These training programs may be given locally through Vallourec University in the main countries, centrally as part of international programs, or via e-learning through a dedicated training platform, the Learning Management System (LMS).

To achieve these objectives, Vallourec University has developed four principles: experiment, share, learn and apply, as the basis of all its training. Participants have the opportunity to discuss their experiences and gain new knowledge by alternating theoretical and practical modules and applying and adapting the methods they have learned to their specific needs. Training is systematically related to the strategic objectives of the Group, Regions and its teams.

More than ever, the Group must develop skills to accelerate its transformation and respond to the challenges of the strategic plan driven by the Group's vision. Elements related to Cultural Change are being integrated into management and leadership training.

Vallourec University offers customized training and seeks to develop skills across the Group to fit with the Group's strategy. Its learning center is based on four key pillars:

- leadership, which prepares for the management of specific challenges encountered in management and leadership roles;
- on-demand training, which is focused on topics that are important to Vallourec, such as project management, communications, language skills, digital skills or even finance for non-specialists;
- functional training, aimed at improving practical and technical skills for each business line;
- training for operational excellence, which provides expertise on processes and technologies in the context of the Group's priorities and guidelines, in particular in order to contribute to the Company's performance and to the development of a unified corporate culture.

Programs at Vallourec University operate in partnership with the Vallourec business experts as well as with carefully selected service providers.

Vallourec University's activities are structured around two areas: the Learning Center and the External Stakeholders. The Learning Center is the main area and covers all training initiatives. Its modules are implemented at national and international levels, and are aimed at the continuous development and improvement of employee skills to meet the specific requirements of each level of responsibility and in the various geographical areas. They systematically incorporate the priorities of the Group.

Activities geared towards External Stakeholders aim to improve the brand's image among customers and suppliers by offering them courses such as Tubular Essentials. Such measures also help to attract new talent and enhance Vallourec's employer brand.

Vallourec University adopted a Learning Management System (LMS), a training management tool that offers employees more direct access to training. Intended to improve training management and access, the LMS has been gradually rolled out in the Group since May 2012. The tool offers monitoring of training, enables employees to see what training is available in the Group, allows them to enroll in courses directly and review training histories for themselves and the employees reporting to them.

This tool allows Vallourec University to offer customized or standard training, which can be deployed quickly at the Group's various sites for all employees connected to the LMS. These offers are part of a blended learning strategy, in which live training is prepared for or reinforced by e-learning sessions, leading to better understanding of the lessons and reducing time spent in the classroom.

Digital transformation is at the heart of Vallourec's vision and growth objectives. The digital lever is now more than ever essential, both to support performance and as well as to underpin the way teams work together. Digital transformation requires cultural change and changes in practices.

Digital Learning enriches the range of training opportunities available within the Group.

LMS, the platform of Vallourec University and open to all employees with a computer, enhances its offer. With over 1,700 different types of content available online, free of charge and at any time, it allows everyone to follow an individualized and adapted development path.

In 2019, over 270,151 hours were spent on professional training for employees. This data collected via the unique LMS training management system includes, for classroom and digital training, data delivered at a Group level and data from the main location countries: Germany, Brazil, the United States, France, the Middle East and progressively Asia, represent an 11% decrease in volume compared to 2018.

Employees who trained at least two hours in the classroom, or who completed at least one e-learning training session

	Production staff		Technical and supervisory staff		Managers		Total	
	2018	2019	2018	2019	2018	2019	2018	2019
GROUP TOTAL*	**69%**	**59%**	**68%**	**89%**	**92%**	**100%**	**73%**	**72%**

* *% of employees who trained at least two hours in the classroom, or who completed at least one e-learning training session per socio-professional category.*

In 2019, each Group employee completed an average of 14 hours of training, compared to 15 hours in 2018. Shorter-format distance training, which has been developing for several years, allows for rapid access to a larger number of employees. Distance training represents 9% of total training hours, an increase compared to 7% in 2018.

Type of training provided

	Total number of training hours in 2019	%	Total number of training hours in 2018	%	Change
Leadership	38,519	14%	30,387	10%	27%
Training by position	9,613	4%	13,030	4%	-26%
Languages	4,179	2%	3,480	1%	20%
Operational excellence	196,766	73%	226,759	75%	-13%
including HSE	*13,759*	*5%*	*77,399*	*25%*	*-82%*
On-demand training	21,075	8%	29,932	10%	-30%
TOTAL	**270,151**	**100%**	**303,588**	**100%**	**-11%**

Training related to operational excellence, which is at the core of Vallourec's industrial strategy, still predominates. Furthermore, training related to the business lines (training by position) has decreased in volume, which is explained by the preparation of two major training programs for the sales and purchasing departments, which will be rolled out in 2020. More generally, in-person training sessions have remained stable, and e-learning given in much shorter formats has been favored for mandatory modules.

2019 marked a more mature phase in distance learning, in which new learning practices were adopted. Programs on quality, safety, compliance and cash flow management were rolled out in e-learning, and numerous modules on operational excellence were given. A new language learning platform has been rolled out. The number of training hours provided remotely was 24,871 hours in 2019 (hours recorded by the Learning Management System), i.e., 9% of the total training hours.

A face-to-face course on Project Management was also designed and launched in 2019.

Apprenticeship and work-study vocational training

To ensure the transfer and enhancement of know-how in the context of Europe's demographic imbalance, and to attract more young talent with a training program geared to the needs of its activities, the Group operates a dynamic apprenticeship program:

- in Germany with an average of 146 apprentices in 2019;
- in France where an average of 105 work/study trainees took their training course in 2019;
- in Brazil with an average of 161 apprentices in 2019;
- in the United Kingdom with an average of 20 apprentices in 2019.

4.2.2.6 Diversity and equal opportunities

Under the roll-out of the Code of Ethics (see above, Section 4.2.1 "Business Ethics and Compliance"), a program to educate all employees on the issue of discrimination was completed using examples from daily life.

In France, training for managers includes a specific module on this topic.

Diversity

The Group considers that diversity drives performance, and thus constitutes an opportunity for further development. The Group's actions aimed at promoting diversity and combating discrimination are described below.

GENDER EQUALITY

Women represent 23% of Group managers and executives overall, with a higher percentage in the lower leadership positions (31%) and a much lower one at the senior management level (6%).

Since the start of 2019, a steering committee has been set up to relaunch the Women@Vallourec program. Its members meet regularly to identify the most relevant actions in order to encourage the engagement of women and develop their self-confidence, and to progress this initiative rapidly by adopting a far more operational approach.

A vision has been defined: "At Vallourec, we are convinced that diversity is key to improving innovation, performance and the quality of service to customers".

The Women@Vallourec program is structured around three main priorities:

- attaining the same percentage of women and men at all hierarchical levels;
- providing the conditions for women to succeed;
- guaranteeing equal pay for men and women (the same pay for the same job).

This three-year plan, endorsed by the Executive Committee, is broken down into five major actions:

- develop the talent pool of Vallourec;
- ensure that women are represented on management and steering committees;
- boost the mentoring of women (50 high-potential women mentored as of the end of 2019);
- set up flexible working conditions (by country);
- guarantee equal pay, starting with the development of an appropriate comparison tool.

In addition, numerous regional initiatives aimed mainly at structuring a path for the promotion of women in the region at all sites were relaunched.

CULTURAL DIVERSITY

As an international group, Vallourec enjoys a great cultural diversity. To ensure the conditions for a harmonious and rewarding collaboration, managers who are brought to work with multicultural teams benefit from an adapted training program.

Furthermore, an average of 110 employees of diverse origins have the benefit of working internationally, for a variable duration of one to three years, and in some 20 different countries.

Equal opportunities

DISABILITIES

In Germany and in France, priority is given to keeping employees with disabilities in service by adapting positions or work hours.

In Brazil, in partnership with the government, Vallourec Tubos do Brasil conducts a rehabilitation program to allow employees with disabilities to continue their professional activities.

4.2.3 Relations with stakeholders

4.2.3.1 Relations with employees

➔ Commitment to responsible performance

> Train and motivate our employees through skills development, recognition of expertise, talent promotion and career development

INDICATOR	2019 RESULTS
Result of the Social Barometer internal survey (employee satisfaction rate). This survey is conducted every six months.	Based on **the 74.5% satisfaction rate** that was expressed during the survey conducted in June 2019, action plans were initiated and extended both centrally and locally to meet the stated expectations.

The social policy is presented in full in Section 4.2.2 "Social policy" of this Universal Registration Document.

4.2.3.2 Relations with customers

Customer profile

The Group has an extensive customer portfolio.

- As concerns the Oil & Gas markets, its customers are:
  - national oil companies such as ADNOC, Saudi Aramco, Petrobras, international companies like ExxonMobil and Total, and independents;
  - engineering and construction oil service companies such as TechnipFMC, Subsea7 or Petrofac;
  - American distributors such as Pipeco, Premier Pipe, Champions, Pyramid Tubular and MRC Global;
  - service companies such as Schlumberger, Halliburton, Baker Hugues and Weatherford.
- On the Industry market:
  - manufacturers of industrial equipment and distributors such as ThyssenKrupp, Hoberg & Driesch, Salzgitter and Klöckner, as well as end-users like Schaeffler, Horsch, and Liebherr.

In 2019, the five largest customers accounted for 26% of the Group's consolidated revenue.

It should be noted that a growing number of customers are asking the Group about its level of commitment to CSR in the form of a structured questionnaire.

The Commercial Excellence program and customer satisfaction

As part of its "Commercial Excellence" program, the Group tries to continuously strengthen its proximity to its customers.

One of the cornerstones of this program is the management of Vallourec's strategic customers: the Key Accounts. The dedicated Key Account Managers are specifically trained and certified to create a special relationship at all levels of the customer's organization. They detect their needs and contribute to differentiated sales. The community of Key Account Managers meets quarterly to exchange views and share best practices.

Another initiative of the Commercial Excellence program is the preparation of "Value Propositions". For its different offers and on its various markets, Vallourec demonstrates the value created throughout the value chain of its customers' activities through "Value Propositions".

Sales Force Management is also a lever of this program, which allows commercial functions to be professionalized at all managerial levels of the Group, through adapted training programs.

Customer satisfaction is at the heart of Vallourec's concerns. Regular surveys are taken at our customers by the Product Lines or by the Regional sales offices in order to develop detailed knowledge of the customers' experience. During these surveys, the satisfaction rate of the customers is measured according to several criteria (response time to a request for quotation, quality of technical support, quality of products and services, offer range, and lead times). When a gap between expectations and the Group realization is detected, actions are taken to improve satisfaction or, where applicable, to remedy dissatisfaction.

This approach is inseparable from the Group's efforts to raise the level of quality of its products as well as that of the associated services. Claims are systematically and fully processed.

4.2.3.3 Relations with subcontractors and suppliers

In order to prevent, identify, and mitigate the risks created by business relationships in corporate social responsibility issues (including the risk of corruption) described in Section 4.1 "Oversight plan" and in Section 5.1 "Risks factors" of this Universal Registration Document, the Group has developed and is implementing a responsible purchasing policy.

➔ Commitment to responsible performance

> Establish a network of reliable and responsible suppliers

INDICATOR 2020	2019 RESULTS
% of the quantity of purchases from suppliers involved in the formal CSR appraisal process.	At 31 December 2019, **more than 1,380 suppliers** were involved in Vallourec's CSR evaluation process. The number of suppliers, with expenditure in 2019, having undergone a CSR report rose by 38%, increasing from 426 to 590, with a continued focus on emerging countries and recent regions for Vallourec (such as Asia and the Middle East and certain categories of suppliers in Brazil). The quantity of 2019 purchases from these 590 suppliers is greater than 50% of Vallourec's total expenditure. As at 31 December 2019, 66% of suppliers with revenue of over €1 million and deemed to be "critical", i.e. directly impacting Vallourec's output or its production process, conducted a formal CSR assessment. This increase was achieved through the actions of buyers, with the support of management and the Group's CSR Committee. **2020 OBJECTIVE** Ensure that 60% of Vallourec's purchasing is covered by suppliers having undergone a formal CSR evaluation, by making sure that **suppliers** considered as **"critical"** are included as a priority, i.e. suppliers that have a direct impact on Vallourec's output or its production process. Suppliers having undergone a CSR evaluation more than three years ago or suppliers having obtained a low score will be specifically monitored.

In 2019, the Group's purchases totaled €2,826 million, i.e. an 8% increase compared to 2018. They break down geographically as follows: 36% in Europe, 26% in North America, 25% in South America and 13% in the rest of the world.

National purchases

Vallourec ascribes specific importance to the local, economic and social impact of its activities on the neighboring and national populations.

National purchases, which totaled an estimated amount of nearly €2.536 billion in 2019, represented approximately 90% of purchases and directly contributed to supporting the national economy.

Subcontracting purchases for operations and maintenance represented an amount in the order of €188 million. These concerned either industrial finishing or control services, or services needed for proper operation. Subcontracting purchases were for the most part local, given the quality and responsiveness requirements that providers must satisfy. Services correspond to a significant number of highly qualified jobs that helped strengthen the local industrial fabric, although it is not easy to evaluate their number. A significant part of local subcontractors was taken into account in the CSR evaluation of Vallourec's suppliers.

Responsible purchasing policy

Vallourec's Purchasing function is organized for optimal supplier management, consistent and centralized governance, and shared deployment of tools and processes to all Group entities. This structure, which supports the line management teams and clarifies processes, is based on an analysis by type of purchase to facilitate the implementation of synergies.

Within this framework, a Supplier Quality and Performance Department established several tools and processes in recent years which aim to best monitor suppliers, their selection and their performance: creating purchasing strategies by category, a formal contracting process, management of supplier quality, measurement of supplier performance, and supplier risk analysis. All of these new processes directly emphasize criteria such as Corporate Social Responsibility (CSR), sustainable development, ethical conduct, anti-corruption and safety.

In 2019, pursuant to this policy, Vallourec:

- conducted several hundred audits or supplier risk analyses at all of its sites. This consistent effort will continue in 2020 with increased precision, in particular with respect to the streamlining of audits. To do so, Vallourec will use improved audit guidelines, still very significantly integrating the criteria on sustainable development, ethics and safety;
- continued the formal and systematic evaluation of suppliers based on CSR criteria, still with the assistance of the same specialized firm. As at 31 December 2019, 590 suppliers representing more than 50% of Vallourec's expenditure, conducted a complete assessment, along with progress action plans. The assessment showed that 53% of the suppliers evaluated already publish a formal report on their energy consumption and greenhouse gas emissions, 48% publish a report on their health, safety and environment (HSE) indicators, and 30% are ISO 14001 certified;
- continued and perfected a specific innovative process to anticipate supplier risks. A score card on the subject matter is continually updated and reviewed quarterly by the Group's Purchasing Department Committee. In 2019, this monitoring allowed the risks identified for the Group's global suppliers to be treated or eliminated. Furthermore, several e-learning training modules are available to train buyers and their internal customers in all aspects of supplier risks;
- used the full power of its unique and central Purchasing information system, which facilitates integrated management of purchases and suppliers, with visibility at all levels, from local to global. This system contains in particular a specific data sheet for each supplier in which sustainable development and safety criteria feature strongly. It also allows supplier development and improvement action plans to be managed.

Vallourec's requirements of sustainable development, ethics and safety are always one of the main messages delivered to the Group's largest suppliers.

In accordance with U.S. laws and European directives, Vallourec has also committed to monitoring potential "Conflict Minerals" coming out of certain African countries that could be used by its suppliers. The Group's policy consists (i) of making sure, in accordance with the Group's Code of Ethics, the Sustainable Development Charter and the environmental policy, as well as the Anti-Corruption Code of Conduct, that none of these minerals is used directly or indirectly and (ii) where certain cases are detected, that solutions are found to replace them. This oversight campaign was more targeted and its response rate increased from 29% to 36%. These suppliers were all subject to this survey's analytical matrix. The summary of responses to the questionnaires sent out and analyzed using special software did not show that Group products contained any conflict minerals from the African countries in question. The survey will be further strengthened in 2020 and a specialized company will verify all of the suppliers' responses.

Anti-corruption actions

All suppliers are aware of and have access to the Group's Code of Ethics and Anti-Corruption Code of Conduct, particularly through Vallourec's website. Furthermore, by accepting the general purchasing conditions, the suppliers formally promise to manage their activities in conformity with the values and principles of the Code of Ethics. Vallourec's systematic evaluation of suppliers based on CSR criteria, initiated in 2013 (see above), showed that 48% of Vallourec suppliers already evaluated (compared to 44% in 2018) have also formally put in place an Anti-Corruption Code of Conduct, and 39% are putting in place an active whistleblower system.

Moreover, as concerns relations with local stakeholders and suppliers, in 2019, there were no comments or complaints related to respect for the values set out in the Group's Code of Ethics.

Vallourec's Anti-Corruption Code of Conduct reminds its employees, including the purchasers, of the conduct to maintain when interacting with suppliers, the rules to be respected in terms of corporate gifts and invitations, and the rules concerning conflicts of interest. All members of the Purchasing Department have undergone training on the Anti-Corruption Code of Conduct and associated risks; this code has also been sent to all Vallourec's suppliers. Vallourec Integrity Line, a whistleblowing system that can be accessed in eight languages through a secure Internet platform is available to employees and stakeholders, including service providers and suppliers.

4.2.3.4 Support of the local socioeconomic fabric

Socioeconomic impact of the Group's activity

In an effort to better determine the global impact of its activity, in 2017 the Group finalized a study, based on 2016 data, with a specialized provider to assess the Company's socioeconomic footprint, meaning to measure our contributions to the regional economies through the amount of our supplier orders, the expenses of our employees, and the taxes and duties paid. The Local Footprint® model used, with 20% precision, is based on national accounting methods. The main results concerned direct jobs (full-time equivalent) in the Company, the indirect jobs created in its supply chain based on the analysis of the purchasing volume, and those ultimately created in the regional economies. The study also highlighted the total GDP created in the main countries where the Group is present.

Data was collected in the main countries where Vallourec has operations, namely Germany, France, the United States, Brazil, China, Mexico, the United Kingdom, Indonesia, Saudi Arabia and Mexico. This study thus allowed us to consider approximately 90% of the Group's economic scope. For the 2016 scope, the payroll was €949 million and purchases were €2,207 million. The study examined these purchases according to 13 categories, because the effects obtained differed from one to the next. In short, the Group, which employed 18,000 people, thus supported more than 160,000 other jobs globally, i.e., a job creation factor of 9, which is in the high range, precisely given the quality of those jobs. The GDP created worldwide reached €6 billion for added value of nearly €860 million, i.e., a multiplying factor of nearly 6. For example, the Group made the most purchases in Brazil and Germany and it was in these two countries that the Group generated the most jobs, i.e., 63,000 and 21,000 respectively.

Vallourec can thus claim to create significant value benefiting its stakeholders. It can also be considered that the Group's socioeconomic impact in 2019 was, as in 2017 and 2018, greater than what is noted above, since 2016, which was used as the reference, was a year of low activity and poor results, although the industrial footprint has since changed. Indeed, the key asset, namely the added value, has increased by almost 50% since 2016. It will thus be desirable to conduct the study in question in the upcoming years.

Local community support policy

Vallourec has initiated numerous relationships with local stakeholders in its activities, such as professional organizations and local authorities, residents' associations and groups with a social or environmental objective related to its sites' activity. Although no overall systematic evaluation of the quality of relations between our sites and the local communities has yet been performed, relationships are considered to be good and no conflicts have arisen. Social actions to benefit local stakeholders are mainly conducted in countries such as Brazil and Indonesia where the expectations of the local residents are strongest and where social systems are less developed than in Western countries. With the exception of these two countries, the Group receives few requests for support, even from China.

In accordance with issued recommendations, the local level has until now had the autonomy to determine the actions to be taken, with the approval of management, and focusing on the following guidelines, which are included in simple recommendations at the Group level:

It should be mentioned that the five-year strategic plan to promote sustainable development provided for establishing a more formal framework for social actions. With the aim of furthering discussion on the subject, an exhaustive list of actions taken at all sites was made in 2015 and 2016. After internal consultation and based on the recommendations of a specialized consultant, in 2017 the Group prepared a new action policy to support local communities, which was approved by the Executive Committee, which began to be rolled out in 2018. This new policy includes three cornerstones established by the Group: education (and, in particular, the subjects of science, digital and essential knowledge), support for initiatives to preserve the environment, and encouragement of employee's volunteer involvement. Therefore, volunteer employees may take time off to get specifically involved in an initiative supported by the entity or even lead such initiatives. The mission of each site must be to construct a medium-term project associated with a budget, to be validated by the managerial chain, and must encourage volunteers to get involved. Their practices must converge toward the cornerstones set by the Group in a certain number of years and make sure that its practices respect the specific prohibitions identified. Lastly, governance of these actions will be formalized at the level of each site, or even at the level of site groups that operate close to one another.

At the Group level, a specialized committee will evaluate the actions conducted and to be completed once a year and will disseminate a specific guide on best practices.

Actions taken in favor of local communities

In 2019, resources devoted to financing various partnerships were approximately €3.2 million, a significant increase compared to 2018 (€2.45 million), given that exchange rates were generally stable. This increase reflects the recovery of the Company's results.

The survey on employee engagement was conducted in conformity with the new principles outlined above. It is very significant to note that over 1,600 employees volunteered for some of the initiatives, primarily in the United States and Brazil, increasing the rate of employee engagement from 4% to 8.6% of the workforce. It should also be specified that some employees took part in several initiatives.

The analysis of all initiatives showed a number of actions that are worth highlighting:

a) In Brazil, due to historic, cultural and regulatory reasons, and because the Barreiro site is located in the middle of a very urbanized district in Belo Horizonte, relations with local stakeholders, particularly low-income populations, have for several years followed a structured process in close collaboration with local authorities. These actions benefited from tax incentives. The very numerous actions include economic development, cultural, sporting and health programs. In 2018, Brazil was the country where the involvement of local stakeholders was by far the strongest, and actions were carried out at all active sites taking local characteristics into account. For example, discussions with the local residents of the Brumadinho mine (Mineração) area were conducted, thus allowing any environmental concerns to be clarified and the implications for the local economy to be explained.

We can list among the 29 reported actions whose influence is quite remarkable:

- the outstanding effort over the past several years to restore a historic movie theater in the city center has allowed the Belo Horizonte metropolis to become a major cultural center; the Cine Theatro Brasil Vallourec has become incredibly successful and has welcomed nearly 240,000 visitors in 2018 for arts activities including exhibitions, and dance, music and theater shows. As in 2017, support for the operation of this establishment is the most important action that was carried out in Brazil;
- the financial support given to several hospitals, particularly to develop assistance to patients with cancer and the treatment of hearing loss;
- the specific "Comunidade viva" school support program: this program, implemented since 2005, has demonstrated its effectiveness, since during the 2011-2015 period, nearly 6,000 young people directly benefited from the programs, and more than 10,000 benefited indirectly, in particular the families of employees. The practical results are longer schooling and an increased rate of integration into the workplace, accompanied by a very considerable increase in family income;
- "Education volunteers", who provide educational support directly to nearly 700 young children, in particular for basic knowledge;
- numerous ongoing social and educational projects and support for encouraging young people to do sport.

b) In the United States, around 110 actions of very diverse amounts have been listed. These actions are primarily geared toward supporting local initiatives focused on education, health and disadvantaged people.

c) In Europe, given the level of development of social infrastructures, corporate initiatives are for limited amounts and tend, in general, to support university, cultural and sports initiatives, to finance social and charitable causes, restore cultural centers, and support the local economic fabric.

In the Montbard basin in France, the Group has participated in the actions of the "Metal Valley Rural Excellence Division" program, which focuses on education for professionals.

In the Düsseldorf region of Germany, Vallourec supports cultural and sports associations.

d) In Indonesia, the subsidiary P.T. Citra Tubindo TBK has been committed for many years to educational, medical, social and athletic support programs for the population, which in particular benefit children. P.T. Citra Tubindo TBK has also developed and financed a program known as "Valerie", which is designed to develop the pedagogical competence of schools that provide professional training, from which the underprivileged children of the Nongsa district most often benefit.

e) In Africa, in Nigeria, the Group participated in an urban lighting project using solar panels.

4.2.3.5 Relations with shareholders and investors

The Group's priority is to maintain lasting, trustworthy relations with all its shareholders, whether individual or institutional, French or foreign. It strives to give them access to exact, precise and accurate information, particularly with regard to its activities, results, outlook and strategic developments. Accordingly, and with ongoing concern for clarity and transparency, numerous dedicated communications media are available, and regular meetings are arranged throughout the year. For example, the Group annually presents its actions on a certain number of jointly identified topics to Bpifrance Participations.

In 2019, the Group participated in 202 meetings and telephone conferences with institutional investors and financial analysts. Each year, it also meets with SRI (Socially Responsible Investment) funds and analysts. This approach contributes to the Group's improvement in the area of sustainable development.

The Group maintains an ongoing dialog with its individual shareholders through various communications media and channels. Accordingly, Vallourec's Shareholders' Club notably allows them to participate in information meetings to deepen their knowledge and understanding of the Group's activities. In addition, in 2019, the Group published two editions of its Letter to Shareholders and participated in the Shareholders' Exhibition to meet its individual shareholders.

The entire scheme used by the Group for shareholders and investors is presented in Sections 2.6.2 "Relations with institutional investors and financial analysts" and 2.6.3 "Relations with individual shareholders" of this Universal Registration Document.

4.2.4 Environmental commitment

The main environmental risks are described in Section 5.1.2 "Operational risks" of this Universal Registration Document.

This chapter contains a description of the Group's commitment and its policy from an environmental perspective. It then presents four key issues, i.e. environmental footprint and the use of resources for production purposes, including water and energy, the impact of and waste from the Group's activities, the problem of climate change, and biodiversity.

The environmental data included in the environmental reporting for 2019 concerns all of the subsidiaries controlled by the Group, noting that those of Vallourec Tianda (Anhui) Co., Ltd (formerly Tianda Oil Pipe) (China), acquired in late 2016, have been taken into account since 2018.

At the level of each production site, the majority of the ratios are established using metric tons processed (steel or tubes), in other words the sum of production from the various units, which are considered independent production workshops. This concept better accounts for the level of activity of the production units than metric tons shipped for two reasons. On the one hand, because it is more representative of the flows and stages of production, and on the other, because it is less affected by changes in inventory. At a Group level, ratios are expressed mainly in metric tons of tubes shipped (sold) in order to avoid multiple counts.

As in 2018 assessment, the Group chose to consider Vallourec's activity to consist of several business lines that all contribute to achieving the objective of manufacturing seamless steel tubes, and providing the associated services. This "sector-specific" approach is found in the "CDP Climate" questionnaire structure to which Vallourec responded in 2019, and in the "Science-Based Targets" approach Vallourec has decided to adopt.

Accordingly, the Group's "Metal Processing" business line requires mastery of the following four activities:

- "Mine": extraction of iron ore from the Vallourec Mineração mine to supply the Brazilian steel mills (the Pau Branco mine is located in the State of Minas Gerais. It has a total area of 1,373 hectares, of which 32% is industrial area, 20% is an environmental protection region, and 48% is unused space);
- "Forest": operation of a eucalyptus forest in Brazil (Florestal) and manufacturing of charcoal to supply Brazilian blast furnaces and the Jeceaba pelletization unit;
- "Iron and steel":
  - manufacture of iron ore "pellets" to supply the Jeceaba steel mill. Vallourec operates a pelletization unit there to improve the yield of the blast furnaces. This facility, which operates at nominal capacity, also supplies other Brazilian steel manufacturers,
  - production of steel in the United States and Brazil to supply steel billets to the rolling mills;
- "Tubes": manufacture of seamless steel tubes and their accessories (connections, etc.) in rolling mills, heat treatment units, finishing units, and the associated services provided to customers.

On a like-for-like basis, namely by taking into consideration the shutdown of the Barreiro (Brazil) steel mill and the specific features of the two finishing workshops at the Vallourec Star Youngstown site, the Group's production, expressed in metric tons processed, fell by 5,523 kilotons (steel and tubes) in 2018 to 5,295 kilotons in 2019, i.e. 4.1%. During the same time, the tube sales volume went from 2,364 kilotons in 2018 to 2,291 kilotons in 2019, which represents a 3.1% decrease.

4.2.4.1 General environmental policy

Vallourec's manufacturing policy is to minimize the impact of its activities on the environment. This commitment is clearly explained in the Sustainable Development Charter published by the Group in 2011, and in the Group's Environmental Policy, which was signed by the Chairman of the Management Board and published in 2014. Vallourec strengthened its commitment to the climate by cosigning in mid-2019, along with 98 other French businesses, a new version of the "French Business Climate Pledge", to contribute to a low-carbon economy. It also published its carbon policy in early 2018 (see below).

In 2013, Vallourec created a multi-year environmental roadmap for the sites of each of its industrial divisions. These roadmaps constitute a strategic Environmental plan and identify targeted environmental projects (energy, water, waste, chemical hazards and noise) whose purpose is to minimize the Group's environmental footprint. They focus on defining objectives, determining the necessary resources (including capital expenditures to be made), promoting progress and cost savings, and setting priorities. They are monitored regularly and updated each year.

Environmental management

In accordance with Group rules and guidelines, the Director of each site is responsible for setting up an effective environmental management system that is tailored to the local context and the site's activity. The Director appoints an Environment Manager who heads up all actions in this area and functionally reports to the HSE Director of each region. The "Corporate" Environment procedures are regularly updated and may be accessed at all plants on a dedicated portal.

The Environment Department, reporting to the Sustainable Development Department, coordinates all environmental initiatives. It is supported by the Environment Managers of the regions and production sites, who are responsible for implementing Vallourec's policies through:

- uniform management of environmental performance, risks, projects, communications and sharing among all Group entities;
- incentives for entities to improve their environmental performance; and
- development of environmental competencies.

These structures exist in all of the countries. The objective of this department consists of structuring the organizations by region or country in order to better take into account the specific national regulations. Under the Transformation Plan, the global workforce now totals approximately 45 full-time equivalent people for the Group as a whole.

Exchanges among the countries are continuing to develop, fostering significant progress thanks to the benchmarking of performances and solutions, particularly during regional environmental conferences.

The Environment Department is also responsible for coordinating and monitoring these actions to share best internal practices, and in particular for gathering and consolidating all of the Group's environmental data. The results are consolidated and communicated monthly to the sites, the management line, and to the Executive Committee members, in the form of a report that is specific to each Region and entity.

Since 2016, the Group has been using a new IT application to manage safety and environmental data. This application simplifies the collection and verification of data and offers new features to the sites that help them with their own local reporting.

In view of facilitating communications between environmental managers and promoting the sharing of best practices, the Environment Department has rolled out a specific application based on the Yammer social networking service.

I – Audits and certifications

Internal environmental audits are regularly organized in each country to assess compliance with regulations. Specifically, the Performance & Risk audit evaluates performance and risk levels for each environmental concern as well as the energy and environmental management systems (EEMS) in place. The results are used to identify priorities and corresponding action plans. These audits are part of the process of preparing for certification audits, which are now comprehensive, in other words, simultaneously concerning environmental, energy, quality and safety procedures at the regional level. At the end of 2019, 96% of all of the Group's sites were ISO 14001 certified, which represents more than 99% of production.

In this context, support is provided to conform to the new ISO 14001-2015 standards as concerns mapping aspects of the stakeholders and analysis of product life cycle.

Each year since 2011, the Group has identified a site deserving of the "Environment Award". In 2019, this trophy was awarded to the Jeceaba pelletization unit (Brazil) for its partial replacement of natural gas (fossil energy) with charcoal dust (biomass) in the rotary furnace burners.

II – Legal compliance

Regular audits are performed by outside specialists to assess compliance of the production sites' activities with statutory and regulatory requirements, on top of the periodic checks carried out by the environmental authorities.

In 2019, the Group recorded three formal notices across all of its sites from these authorities:

- in France, at Valinox Nucléaire in Montbard, due to a failure to monitor certain outlets and the absence of an annual check of the mobile fire extinguishers at the site;
- in Brazil, for Vallourec Florestal (forest), due to the use of water intake points that had not yet been authorized;
- in Great Britain, at Vallourec Oil & Gas UK, due to excessive zinc discharges from the phosphating workshop.

The sites concerned are working in collaboration with the authorities in question to lift these injunctions as soon as possible.

Through the regular and systematic review of regulatory developments, actions implemented in the context of continuous improvement, new investments or organizational changes can be developed or updated. In France, an environmental regulatory watch has been set up for several years on a dedicated intranet portal, accessible by all production sites. This portal facilitates access to useful information. Equally, the Group shares its procedures, which are also updated periodically.

III – Training and education

Employee training and education on the environment, sustainable development and energy efficiency are carried out in the plants through poster campaigns, periodic publications, briefings and compliance programs, among other measures. The Global Compliance Program, developed and coordinated by the Group's Legal Department, has an educational component on compliance with environmental regulations (see above Section 4.2.1 "Business Ethics and Compliance").

In 2019, the total number of training hours in the field of health, safety and the environment listed in the LMS system (including classroom training at the Group level and those in the main location countries: Germany, Brazil, United States, France, Middle East and China) totaled 13,759 hours, compared to 77,399 in 2018. They represented 5% of the total training time.

IV – Investments

The Group systematically incorporates sustainable development concerns in designing its projects. In particular, a health, safety and environment (HSE) analysis is conducted upstream to assess the potential impacts and anticipate environmental risks.

A procedure on eco-design rules has been in place since 2015 as part of the overhaul of major project governance and updated in 2018. In 2019, it was extended to R&D projects. It is intended to verify the best practices and techniques available for design that meets HSE challenges in the following main areas:

- regulatory compliance and impacts on administrative authorizations;
- water management through recycling and recovery of rainwater using storage basins, and better quality through more efficient wastewater treatment plants, along with a reduction in the volumes of water discharged;
- waste management through improvements in collection, sorting and recycling;
- reduction of atmospheric emissions via continuous improvement of capture systems, as well as carbon emissions. To that end, since early 2017 it has been requested for the most important projects to apply a single global price to carbon emissions of €40/metric ton in order to evaluate the sensitivity of these projects' profitability to the existence of carbon pricing systems, which are likely to develop it at the world level within the framework of the latest COP recommendations. This allows the final decision to be influenced, above all if the project is structured and falls within the medium/long-term activities development policy;
- the optimization of energy consumption through the establishment of best practices, smart metering tools, in a structured process of ongoing improvement;
- potential impacts on biodiversity and consideration of the consequences of climate change;
- reduction of noise inside and outside the plants by emphasis on cutting noise emissions at source;
- safe use of chemical products with the goal of restricting the use of the most hazardous products;
- preventing the risks of occupational illnesses and improving the ergonomics at workstations.

In the context of R&D projects, special attention is paid to the supply chain and to the use of the future products.

In addition to confirming that the general principles above have been applied, some projects are clearly aimed at improving work conditions or reducing environmental impact. They concern:

- improvement in working conditions (ergonomics, noise reduction, lighting and heating)…;
- ensuring environmental compliance of work equipment (filtering, fume extraction, water and gas networks, fire protection systems and product storage)…;
- reduction in energy consumption (furnaces and heat treatment, lighting, insulation, etc.);
- improved water management (recovery and recycling, purification plants, etc.);
- forest management operated by Vallourec Florestal (reforestation, carbonization furnaces, etc.);
- decreased use of hazardous chemical substances (partitioning, extraction, substitution, etc.);
- limiting atmospheric emissions;
- layout and safety of plants in terms of roofing, roads and parking.

In 2019, HSE investments reached €36.3 million, i.e., approximately 22% of the Group's total investments. These investments were thus considerably greater than those in 2018.

By way of example, we note the following main accomplishments:

- at VSB Jeceaba (Brazil), ongoing improvements for the partial substitution of natural gas with charcoal for the pelletization unit furnace;

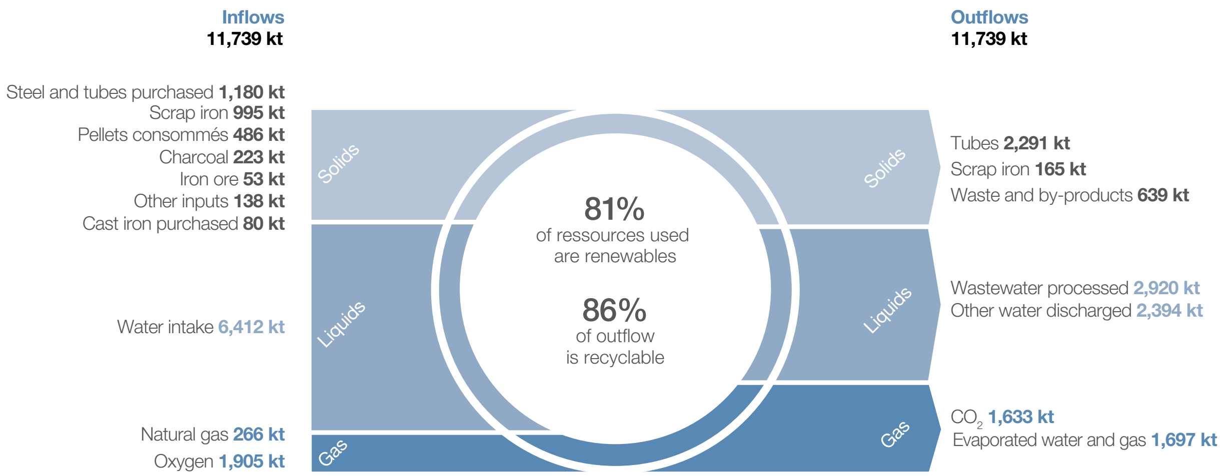
- in Muskogee (United States – Oklahoma): improving the performance of the tempering furnace by changing the gas burners, setting up a new fully-automatic regulation system and changing the design of the product-heating area;

- in Youngstown (United States): replacement of the heat exchanger in the bar reheating furnace of the MPM rolling mill, change of lighting in the rolling workshop and installation of a new air compressor.

4.2.4.2 Environmental footprint

I – Raw materials footprint

Since 2013, the Group has conducted an analysis of all mass flows necessary for tube production at all its industrial sites. The activities of Vallourec Mineração Ltda (iron mine), of Jeceaba pelletization unit and of Vallourec Florestal (forest) are thus recorded in proportion to the iron ore and carbon productions used for Vallourec's internal steel production in Brazil and appear as inputs.



In 2019, the 2,291 kilotons of tubes in production shipped required the consumption of 11.7 million metric tons of different kinds of inputs, down 9% compared to 2018. In relative terms, this represented a decrease from 5.4 metric tons of inputs per ton of tubes shipped in 2018 to 5.1 metric tons in 2019.

As in 2018, water intake represented approximately 54.6% of the total resources. This observation demonstrates the importance of managing the water resource correctly. By 2025, Vallourec has set itself the goal of reducing its water intake by 10% compared to 2017, particularly through the use of rainwater, and the recycling and reuse of wastewater.

It should also be emphasized in this regard that:

- 81% of the resources consumed are renewable (scrap and steel made from scrap, charcoal, water and oxygen), demonstrating the limited nature of the Group's net environmental footprint. This figure was 80% in 2018. The drop observed compared to the figure reported in 2017 (85%) can be explained by taking into consideration Chinese steel purchases for the Tianda plant, primarily manufactured by the cast iron sector, using blast furnaces with a high consumption of iron ore and fossil coals. In 2019, the extraction of non-renewable resources represented only 94% of the production shipped (this figure was 107% in 2018);
- 86% of production-linked outputs (tubes, scrap metal, waste, water) could be considered recyclable. This rate was 84% in 2018.

Record of the raw materials footprint

	2015	2016	2017	2018	2019
Input/output *(kt)*	8,951	8,988	10,786	12,843	11,739
Production shipped *(kt)*	**1,411**	**1,281**	**2,256**	**2,364**	**2,291**
% renewable resources	83	86	85	80	81
% ratio of shipments/input	16	14	21	18	20

II – Life cycle analyses

In 2013, the Group also performed a life cycle analysis of two typical products in the Oil & Gas activity (tubing and casing) in cooperation with an important end customer. The ten key impacts evaluated (including carbon, energy, water, resource depletion, toxicity, eutrophication) demonstrated the weak relative impact of the Group's products. The goal is to continue these analyses on other products, in cooperation with other customers, when they so request. To this end, with the aid of an outside consultancy firm, since 2017 the Group has developed a specific IT tool designed to perform these types of analyses for products that are already available on the market or that are being created through R&D programs. This software program has also been successfully used by several production sites to refine the life cycle analyses of their main production as part of their 2015 ISO 14001 certifications. Since 2019, this "eco-design" approach has been systematically used to evaluate R&D projects.

In 2020, Vallourec plans to carry out more extensive life-cycle analyses of some of its product lines and publish the results in the form of an "Environmental Product Declaration", in accordance with the ISO 14025 standard.

III – Environmental Impact Index

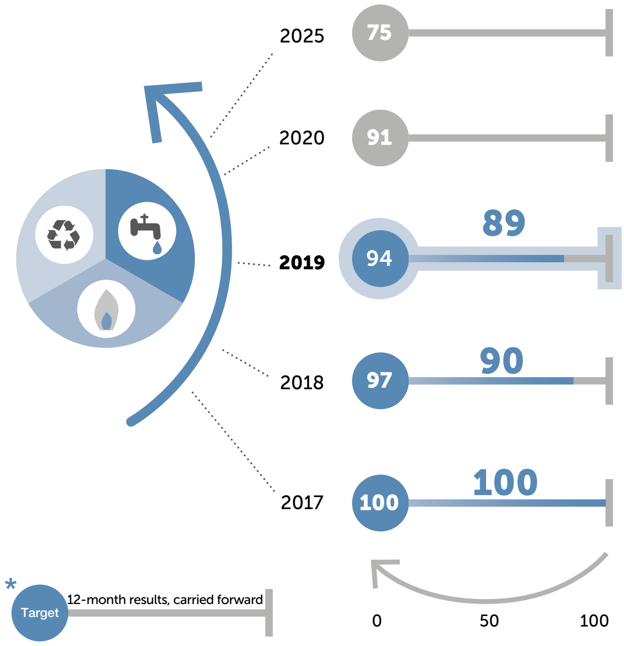
In 2019, the Environment Department introduced a composite indicator, the Environmental Impact Index, to monitor the Group's performance and the progress achieved in the following three areas:

- gas and electricity consumption and the corresponding CO_2 emissions;
- water intake;
- waste recovery.

This index was set at 100 in 2017, which was selected as a baseline. Vallourec has set itself the goal of reducing this index to below 75 by the end of 2025, by reducing its specific consumption of gas and electricity, purchasing less carbon electricity, reducing its water intake and improving its waste recycling.

For 2019, the Environmental Impact Index came out at 88.5%, reflecting the effectiveness of the actions already undertaken.

Environmental Impact Index (%)*



4.2.4.3 Use of resources

I – Consumption of raw materials

The steel used by Vallourec to manufacture tubes is prepared in part by the Group's steel mills, and in part by outside purchases of steel ingots and bars.

Internally, two processes are used: the blast furnace process in Jeceaba (Brazil) and the electric process in Jeceaba and in Youngstown, United States. Thanks to these internal processes, the Group is on the one hand promoting the use of charcoal produced from its Brazilian eucalyptus forest and, on the other, recycling scrap.

To increase the efficiency of these processes, the steel mills are trying to precisely document their internal manufacturing rules and their requirements so as to obtain different steel grades while maximizing the furnaces' energy efficiency.

Internal production and steel purchases in 2019

	Inputs from blast furnaces			
Plant *(tons)*	**Iron ore**	**Pellets and scrap**	**Charcoal**	**Cast iron produced**
VSB Barreiro	-	-	-	-
VSB Jeceaba	53,014	486,252	223,123	328,222
TOTAL	**53,014**	**486,252**	**223,123**	**328,222**

	Inputs from electric steel mills			
Plant *(tons)*	**Cast iron purchased**	**Scrap iron**	**of which % of internal recycling**	**Scrap and cast iron used**
VSB Jeceaba	55,930	429,846	24	813,998
Youngstown	24,386	564,906	11	589,292
TOTAL	**80,316**	**994,752**	**17**	**1,403,290**

As a reminder, the blast furnace and steel mill in Barreiro, Brazil, finally shut down on 15 July 2018. Steel production has now been transferred to the Jeceaba site, which has restarted its own blast furnace.

In 2019, the total internal recycling rate for scrap was 17%, compared with 20% in 2018.

In 2019, the electric process (Youngstown and Jeceaba steel mills) accounted for 71% of Vallourec's internal steel production compared to 73% in 2018. This figure has remained stable as the restarting of the Jeceaba blast furnace counterbalanced the shutdown of the Barreiro furnace. This illustrates that Vallourec's electric furnaces contribute significantly to reducing the usage of natural raw materials as a result of scrap recycling.

If we consider all of the steel (both that purchased and produced), the portion from the electrical process is only 43%, because the HKM steel mill in Europe and the majority of Vallourec's Chinese suppliers use the "blast furnace" process.

II – Water intake

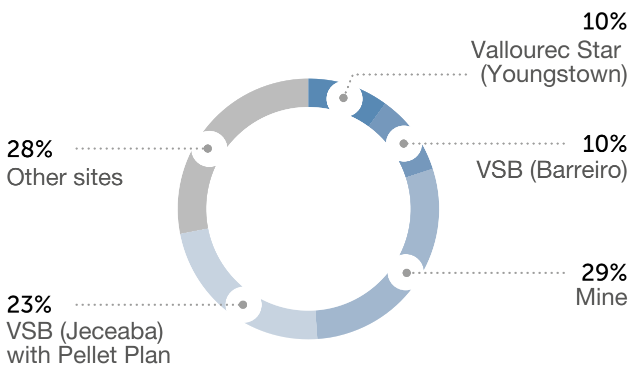
The Group considers water management to be one of its major challenges due to its importance to the well-being of populations, the risks of competing usages, shortage, and because water quantitatively represents the main resource needed for the Group's production processes.

In 2019, this commitment was shown by Vallourec's decision to respond for the first time to the "Water questionnaire" of the CDP.

Water was mainly used for:

- operation of the Florestal eucalyptus forest (Brazil);
- extraction of iron ore from the Vallourec Mineração iron mine and manufacturing pellets in Jeceaba;
- cooling hot machinery (steel manufacturing and rolling tubes);
- cooling tubes after heat treatment;
- solidifying liquid steel (continuous cast);
- surface treatments, hydraulic operations, non-destructive tube tests and cooling of other tools in the manufacturing process;
- emptying of dissolved or undissolved process substances;
- sanitary uses of personnel employed at the sites.

In 2019, all of the water used for the Group's entire scope totals nearly 9.9 million m^3 compared to 10.6 in 2018. Of this amount, 29% concerns the mine, for which the recorded water comes from pumping in groundwater extraction wells, and this water is mainly immediately released back into the natural environment.



A) THE MINE

The Vallourec Mineração “Pau Branco” iron mine is located on the territory of the cities of Nova Lima and Brumadinho, in the State of Minas Gerais (Brazil). It has a total area of 1,373 hectares, of which 32% is industrial area, 20% is an environmental protection region, and 48% is unused space.

At this stage, it is interesting to note that the developments in mine processes have led water usage to be significantly reduced, as follows:

Water intake needed from the “Vallourec Mineração” Mine processes (2015-2019)

Year	2015	2016	2017	2018	2019
Iron ore production *(metric tons)*	4,226,598	4,002,306	4,394,245	4,693,317	6,269,028
Total water intake *(m^3)*	3,147,696	3,304,122	2,967,715	3,097,651	2,862,980
m^3/metric tons of iron ore	0.81	0.83	0.68	0.66	0.46

In 2019, the mine increased its production by 33.6% compared to the previous year, while its water intake decreased by 7.6%. This resulted in a sharp decrease in the ratio per metric ton.

A new iron ore treatment process has been used since 2015. This process consists of filtering the mine water/waste mixture (called “tailings”) resulting from the process, instead of spreading it (as was done previously) into a 3 million m^3 hydraulic disposal site, retained by a dam. This allowed the humidity rate of the mixture to be reduced from 70% to 15%, and to establish a “dry” storage on the mine site, which eliminates any risk to the stability of the dam, which is now out of service, while the water collected is reused. This process is an industry reference, and in 2017 the Vallourec mine received the Group’s annual “Environment” trophy.


Dry disposal area


Installation of press filters

B) TUBE AND STEEL MANUFACTURING

Water use in the steel mills, rolling mills, and finishing units of Vallourec may be summarized as follows:

Water intake *(%)*		**Water discharged** *(%)*	
Tap water	42	Discharge to external treatment plant	15
River water	32	Discharge to internal treatment plant	31
Groundwater	13	Evaporation	17
Rainwater	13	Other water outlets (leaks, waste)	37
Water harvested (cellars, etc.)	0		
TOTAL INTAKE	**100**	**TOTAL OUTLET**	**100**

In 2019, we continued our discussions with the plants to improve our understanding of the range of water uses and help us gain a better understanding of how to reduce consumption. Thus, the portion of “other waters discharged”, which is required to complete the “water assessment” of the Group, dropped from 38% in 2018 to 37% in 2019. Our goal for 2020 is to reduce this portion to less than 30%.

It should be noted that the water reuse rate in the circuits of the integrated plants (steel mill and tube mill) total approximately 98%, which allows for limiting the intake of water, which is still the primary resource used in our processes.

C) NUMERICAL ASSESSMENT OF WATER USED

In recent years, water intake has decreased, primarily thanks to the establishment of tools that allow the rate of reuse to increase and rainwater to be collected. Water intake from our steel mills, rolling mills and finishing plants dropped from 6.9 million cubic meters in 2018 to 6.4 million cubic meters in 2019 (i.e.-7%), due to decreased production at our US units in the second half of the year and the full effect of the shutdown of the Barreiro steel plant in Brazil.

Specific water intake (rainwater included) in cubic meters per metric ton processed has continued to improve, going from 1.37 in 2017 to 1.25 in 2018 and, finally, 1.21 in 2019, making the success of the savings actions carried out by the plants a reality. Rainwater collection and reuse developed strongly at certain major industrial sites, which allows surface water and groundwater intake to be reduced. In 2019, Vallourec recovered and used more than 830,000 m^3 of rainwater compared to 600,000 m^3 in 2018.

Numerous actions can be cited, such as water needs monitoring and measurement actions (reduction, or even stoppage of pumps during production shutdowns, recovery or rainwater, recycling and reuse of wastewater).

In 2018, Vallourec Tube France in Saint-Saulve, which is undergoing restructuring, redesigned its pretreatment facilities for the industrial water pumped into the Escaut. These improvements allowed intake to be reduced from 77% in absolute value (i.e., approximately 315,000 m^3 saved) and in specific value, from 7.9 to 4.6 m^3 per metric ton processed. In 2019, the intake rate decreased to 3.7 m^3/metric ton.

Finally, in 2019, rainwater accounted for 61% of the volume of water intake at our French sites, mainly at Aulnoye-Aymeries and 23% of the volumes of our German sites (Rath). These good practices are now being implemented in Brazil: recovery basins have been built at our Jeceaba and Barreiro sites and for the needs of our eucalyptus forest (Florestal site). Nearly 67,000 m^3 of rainwater was collected in 2019.

Water intake – 2002-2019*

Year	**Total water intake** *(m^3)*	**Water intake per metric ton processed** *(m^3/metric ton)*
2002	11,526,990	2.71
2007	9,554,272	1.78
2012	7,868,009	1.60
2013	8,857,826	1.60
2014	7,831,288	1.40
2015	5,630,516	1.99
2016	5,672,035	1.85
2017	6,179,371	1.36 (1.23 without rainwater recovery)
2018	6,889,346	1.25 (1.14 without rainwater recovery)
2019	☑ 6,412,443	1.21 (1.05 without rainwater recovery)

* *For steel mills, tube mills, finishing lines, and related services.*

D) NEW METHODOLOGY

The Group now considers that except for the mine and for the reasons mentioned above, it is desirable to integrate all of the production units into its reports, i.e., to also take the forest and pelletization unit into account.

On this basis, in 2019, water intake for the entire Vallourec scope, with the exception of the mine, came out at 6.9 million m³ compared to 7.5 million in 2018. The corresponding ratios (without and with rainwater) were respectively 1.16 m³/metric ton (1.25 in 2018) and 1.32 m³/metric ton (1.36 in 2018), a significant drop to very satisfactory levels.

III – Analysis of "water footprint"

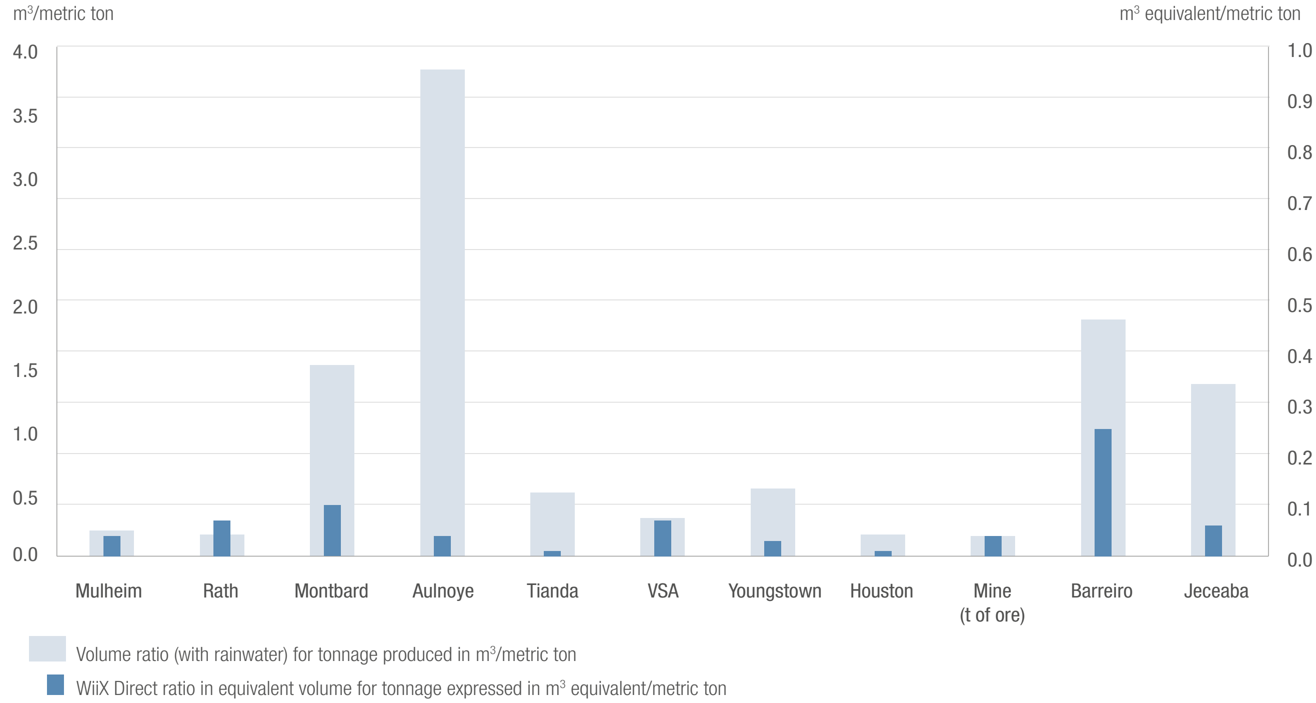
Water management is not limited to measuring intake in natural environments or municipal networks, or to monitoring the quantity and quality of waste. The materiality analysis mentioned above showed that the stakeholders devoted increased attention to water management. That is why the Group is tracking and analyzing its "water footprint" thanks to an indicator known as the "Water Impact Index". This indicator takes into account the volumes abstracted and discharged, the quality of the abstracted and discharged water, and stress factors (water scarcity and the hydrological context). Expressed in equivalent m³ as related to the site's production, it synthetically measures the impact of each site with regard to the available water resources in the basin to which it belongs.

Launched in 2011, this study was repeated in 2015 and again in 2018 (based on 2017 data) for the 11 most important sites, considering the new industrial scope of Vallourec: in Germany (Mulheim, Rath), in France (Montbard, Aulnoye-Aymeries), in China (Tianda), in Saudi Arabia (VSA), in the United States (Youngstown, Houston) and in Brazil (Pau Branco iron mine, Barreiro and Jeceaba). In order to take into account the latest developments in the conditions of catchment areas, a more precise stress factor was used in the study: the AWARE indicator, which was developed in 2016 as part of the WULCA (Water Use in Life Cycle Analysis) university project.

Several sites from the study use recovered rainwater (Rath, Aulnoye-Aymeries and Montbard). Jeceaba pumps river water and is beginning to collect rainwater. Youngstown gets its supply through the municipality from two dams that store rainwater. The Saudi Arabia site is supplied by desalinated ocean water. Each site thus adapts to its immediate environment to reduce its own footprint.

The WIIX measures the impact of water intake and returns in the basin concerned. It appears from the analysis that only the Barreiro site merits particular follow-up.

The summary graph below calls for the following comments:



- Mülheim and Rath have strong production, and therefore a low water usage ratio. Water is in large part returned to the natural environment, through purification plants, which results in a low WIIX.
- The two Montbard plants produce special low-tonnage tubes. One of them uses 100% rainwater, and the other 25%. The WIIX thus remains low despite it being a very fragile basin.
- The Aulnoye-Aymeries site contains several very different workshops and primarily uses rainwater collected on its site. The use of this large volume with regard to metric tons produced thus has little impact, despite it being a very fragile basin.
- Tianda is similar to Mülheim: its tap water consumption is a bit high, but the WIIX remains low since it is a region with many rivers and lakes.
- Vallourec Saudi Arabia uses desalinated seawater. Its impact is thus low despite being in a desert region.
- Youngstown is an integrated site that has an electric steel mill and two rolling mills. Its water consumption is thus higher, although the Ohio region has numerous dams and rivers that provide good quality water. The WIIX is thus very low.

- Houston has several finishing workshops. The water consumption is controlled and the WIIX low.
- The Pau Branco mine, in Brazil, pumps very large quantities of water to be able to access the iron ore but, in 2019, 78% of this water is returned to the natural environment (watering and river).
- Barreiro is undergoing a full restructuring after the shutdown its blast furnace mid-2018. Its water intake should be able to continue to drop. This site is in a growing urban area. The tap water used is thus in competition with the needs of the population.
- Jeceaba is resuming the Barreiro steel production with a blast furnace and electric steel mill, as well as a rolling mill. Water is abstracted from a river and in large part returned.

The general conclusion is that the impact from water intake in the Group's sites is very reasonable, the result of the management efforts taken. Indeed, the average WIIX is around 0.07 m^3 equivalent per metric ton with a maximum of 0.25 for the Barreiro site. These figures are comparable to the WIIX of major integrated European steel sites, which are between 0.20 and more than 0.30. The Vallourec Group can thus also avail itself of very responsible water resource management.

4.2.4.4 Energy

I – Energy consumption

➔ Commitment to responsible performance

> Improve the energy efficiency of our equipment and reduce carbon emissions from our manufacturing processes

INDICATORS

Energy consumption (Natural Gas + Electricity) in kWh/metric ton processed.

Corresponding CO_2e emissions in metric ton/metric ton processed.

2019 OBJECTIVES

Energy consumption: <916 kWh/metric ton processed.

CO_2e emissions: <185 metric ton/metric ton processed.

2019 ASSESSMENT

In 2019, energy consumption was ☑ 3,280 GWh for natural gas, or 619 kWh per metric ton, and ☑ 1,717 GWh for electricity, i.e., 324 kWh per metric ton. In total, absolute energy consumption (on a like-for-like basis, i.e. with the shutdown of the Barreiro steel mill and the new segmentation of the Youngstown site) fell by 8.1% compared to 2018, while specific consumption only rose by 1.6% (928 to 943 kWh/metric ton).

This result demonstrates that our plants have adapted well to the reduction in loads by reducing fixed gas and electricity consumption.

In 2019, the corresponding carbon emissions were 846,181 metric tons, i.e. 160 kg per metric processed; specific emissions were 190 kg per metric ton in 2018. This net progress was due to the decarbonization of electricity supplied to the Youngstown site as a result of the gradual shutdown of the supplier's coal plant.

2020 OBJECTIVES

Energy consumption: <920 kWh/metric ton processed.

CO_2e emissions: <153 metric ton/metric ton processed.

GOALS FOR 2025

Vallourec is committed to reducing its specific energy consumption by 10% and the corresponding CO_2e emissions by at least 25% (2017 baseline).

Since 2018, we have integrated electricity, natural gas and fuel (oil, gas oil, propane) from the following sites into Vallourec's energy assessment:

- the Tianda Chuzhou plant (China);
- the pellet manufacturing unit supplying the Jeceaba steel mill (Brazil);
- the Vallourec Mineração iron mine (Brazil).

In 2019, energy consumption (gas and electricity) represented an expense of €220 million (€221 million in 2018 foreign currency), compared to €235 million in 2018, i.e. a 6.4% decrease.

The Group also uses biomass as a source of energy for its pelletization unit and blast furnaces in Brazil. It owns 230,000 hectares of eucalyptus plantations and forests, for the production of charcoal, which is used to process the iron ore into pig iron in the Blast furnace.

The table below shows the energy sources used by the Group:

Energy source	Unit	Renewable Energy	Non-renewable Energy	Total
Electricity purchased	GWh	872	845	1,717
Natural gas		0	3,280	3,280
Fuel[(a)]		0	288	288
Charcoal		1,968	0	1,968
TOTAL	**GWh**	**2,839**	**4,413**	**7,252**
Energy consumed	%	39%	61%	100%

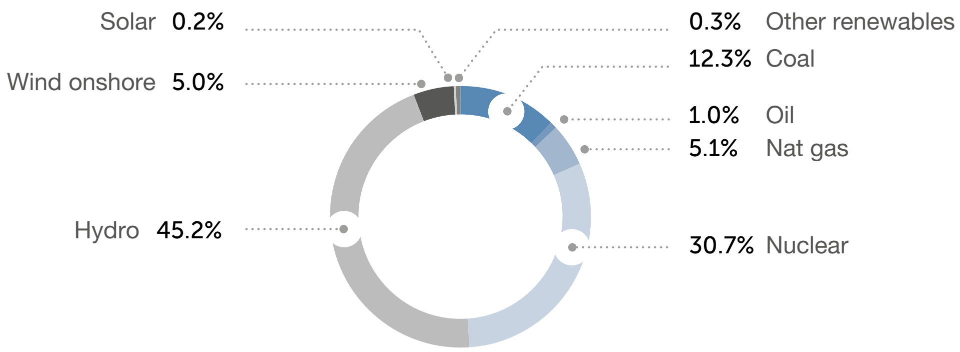
(a) Including since 2015, the fuel needed to produce electricity at certain sites, such as PT Citra Tubindo.

In 2019, renewables accounted for nearly 39% of the energy consumed on a Group scale. This figure was 38% in 2018.

As concerns electricity, since 2017, the Group has also been basing itself on information from its providers, "market-based" data, and on "location-based" national energy mix data. This allowed the Group to better measure the impact of its choice of energy supply sources and to better manage them to reduce the Vallourec Group's carbon footprint.

The average "energy mix" is summarized by the graph below:

In 2019, the share of renewable electricity represented 50.8% of the total compared to 49% in 2018. The carbon footprint of electricity (kg per kWh) fell sharply in Germany, Texas and Singapore. The electricity purchased by Vallourec comes primarily from hydraulic dams in Brazil and nuclear power plants (France, Ohio).



The share of non-carbon electricity (renewable and nuclear) increased sharply, from 68% in 2018 to 81% in 2019, thanks to the gradual shutdown of our supplier's coal plant in Ohio and switch to a nuclear power plant.

II – Energy savings program

In an effort to significantly reduce energy consumption, starting in 2009, the Group established an energy-savings program, the GreenHouse project, which aimed to reduce total gas and power consumption by 20% by 2020, for an equivalent scope, product mix and level of activity, using 2008 as the reference year. With this project, Vallourec is also acting to promote a "low-carbon" economy, contributing to reducing greenhouse gas emissions. This commitment was further affirmed in January 2018 with the publication of the Group's Carbon Policy, which was signed by the Chairman of the Management Board.

This program is rigorous in its approach and is supported by Vallourec Management System tools and methodologies. It is one of the levers of the Group's Energy and Carbon Policy and centers around the following main elements:

- sharing of best practices, led by Practice Communities, which include energy and industrial process experts in all energy-related areas (thermal, electrical, compressed air and steam production processes) and the organization of numerous Continuing Improvement Groups acting exclusively in the energy sector to improve the Group's performance. Seven objectives on the different aspects of energy efficiency have been drafted and issued as a working document for the continuous improvement groups;
- numerous "quick wins" as a specific result of the actions in question;
- the introduction of thermal balances and energy audits:
  - thermal balances to date, covering over 80% of the Group's furnaces. The furnace performance analysis helps to identify areas for improvement and to propose investments to increase energy efficiency, such as the installation of regenerative burners, steam heat recovery systems and better insulation,
  - energy audits at the Group's major sites identify the equipment or workshops that use the most energy, and prioritize future actions;
- a self-assessment system for sites controlled by the project leaders.

The Group's industrial footprint was significantly modified in 2017 and has since stabilized. The Group has therefore decided to measure its energy performance in relation to this reference year. New objectives, to be attained by 2025, were also set using this same baseline, as part of the SBT Initiative. They relate to the specific consumption of gas and electricity in relation to the metric tons processed (steel and tubes) on a like-for-like basis as well as the related CO_2e emissions:

Year	2017	2018	2019
Natural gas *(kWh/metric ton)*	635	619	619
Electricity *(kWh/metric ton)*	320	309	324
CO_2e *(kg/metric ton)*	202	190	160

Thus, based on the 2017 performance, the Group is aiming to reduce its specific gas and electricity consumption by at least 10% by 2025, and the corresponding CO_2 emissions by at least 25%.

Several remarkable actions leading to energy savings were carried out or continued in 2019:

- in Jeceaba: optimization of charcoal dust supplied to the furnace burners of the pelletization unit;
- in Muskogee (United States) replacement of gas burners and improvement of the heating program for the tempering furnace;
- in Youngstown (United States): replacement of the heat exchanger in the bar reheating furnace of the MPM rolling mill, change of lighting in the rolling workshop and installation of a new air compressor.

III – Energy management system

To take this to the next level and incorporate sustainable energy management into industrial processes, the Group developed the Vallourec Energy Management System based on the methodology of the GreenHouse project and international energy efficiency standard ISO 50001.

As mentioned in its Energy policy, Vallourec is committed to having its primary production facilities ISO 50001-certified. The certification has been obtained for the Barreiro and Jeceaba (Brazil), Vallourec Oil & Gas UK (United Kingdom), Vallourec Tubes France (Saint-Saulve and Aulnoye-Aymeries sites), Vallourec Deutschland (Germany), Valinox Nucléaire (France) and Vallourec China (VCHA) sites. The production at these sites thus represents 40% of the total production. In 2019, the integrated Vallourec Star Youngstown site launched its own energy management system and aims to have certified according to the ISO 50001 frame of reference in 2021.

The success of the certification and the sustainability of results depend on:

- energy efficiency training: several hundreds of operators were trained in dedicated energy efficiency sessions in France, Brazil and Scotland, with experts from each site and the assistance of specialized organizations. The training is given in various technical disciplines, such as compressed air, thermal combustion, industrial cooling, lighting, mechanization and renewable energy;
- real-time metering systems, known as "Advanced Metering Management," at the largest sites in Brazil, France, Germany, Scotland and the United States.

IV – Expansion of energy performance research

Vallourec Florestal, which manages the Brazilian forest, is also seeking to improve energy performance. Its teams developed a more efficient carbonization process that improves the mass transformation rate of wood into charcoal from 29% to nearly 35%. The procedure is applied to investments in new furnaces. This has led to (i) a decreased need for wood and cultivated areas for production of cast iron, (ii) a very considerable reduction in methane emissions as compared with a cubic meter of charcoal, as well as (iii) a reduction in the heat dispersed into the atmosphere.

The Carboval pilot unit and its highly innovative method produce high-quality charcoal at a 40% yield, and with no methane emissions. In 2019, its production accounted for around 1% of the total supplied by Florestal.

4.2.4.5 Impacts and emissions

I – Water

Over these past few years, the quality of plant waste has improved.

Process water can be discharged into municipal networks (most sites) or into the natural environment after being treated at internal purification plants. The Group aims to reduce the quantity of discharged wastewater by increasing internal reuse. The sites monitor their polluting discharges and the Group reports annually on its total discharges into the natural environment, expressed in metric tons. The 2019 assessment provided the following figures:

Year	2017	2018	2019
SPM (suspended particulate matter) *(metric tons)*	15.7	17.1	37.5
COD (chemical oxygen demand) *(metric tons)*	63.6	77.2	125.0
BOD (biochemical oxygen demand) *(metric tons)*	9.7	18.0	30.6
TH (total hydrocarbons) *(metric tons)*	0.40	0.35	0.15
Heavy metals* *(metric tons)*	0.75	0.46	0.46

* *As, Cd, Cr, Cu, Hg, Mn, Mo, Ni, Pb, Zn.*

Compared to 2018, this shows a significant increase (+72%) in the emission of suspended particulate matter, COD and BOD attributable to the Jeceaba site in Brazil. Hydrocarbons discharges dropped by 57% while heavy metals remained stable. However, these discharges remain within the regulatory limits at the sites concerned.

II – Air

To preserve the quality of the air surrounding its plants, the Group systematically measures the levels of atmospheric emissions and implements appropriate solutions to limit each type of emission. The emissions produced by plants are gas compounds and particles.

A) GAS COMPOUNDS

- Nitrogen oxide (NO_x) and sulfur dioxide (SO_2) emissions come from furnaces for steel billets and from the heat treatment of tubes. To limit these emissions, all furnaces are fed by natural gas, which is low in emissions, and every year some of the older burners are replaced by more efficient or "low-NO_x" burners that meet the highest technical specifications for this type of emission.
- Emissions of volatile organic compounds (VOCs) come from our facilities for tube lubrication, lacquering and painting, and for degreasing and cleaning tubes and machinery parts. They also come from oily vapors from rolling or cold-forming facilities and machine tools. Actions are put in place every year to reduce VOC emissions at the source, by coordinating with product suppliers and the process community and, if that is not possible, channeling and treating emissions. As concerns vapors from surface treatments, facilities are equipped with a retention and treatment system in compliance with applicable regulations.

B) PARTICLES

- The main potential sources of particulate emissions are steel mill furnaces and hot-rolling. Every year, retention systems are improved to continuously reduce the corresponding emissions.
- The conditions for replacing refractories in electric arc furnaces and ladle furnaces were also modified to avoid the generation of dust. In Youngstown, since the installation of the dust extractors, the working environment has considerably improved. Particle retention is very efficient and abstractions show that the heavy metal content released (chrome, lead, nickel, etc.) is well below the authorized limits.
- Tube mills and finishing plants also produce dust from facilities for hot rolling, grinding and polishing tubes. Processes for sealing, aspiration and filtering are incorporated into the machinery to collect dust at source. Where necessary, these systems can be supplemented by extraction devices and filters on the roof to capture diffused emissions.
- Trucks, cars and other handling equipment circulating outside the buildings are also a source of dust emissions. To ensure that personnel and neighbors are not inconvenienced by dust clouds, the road surfaces are coated with concrete or macadam. They may also be watered during a dry period to limit re-entrainment.

C) ANNUAL ASSESSMENT OF EMISSIONS

Atmospheric emissions *(metric tons per year)*	2014	2015	2016	2017	2018	2019
VOCs	551	429	319	260	535	481
NO_x*	729	511	492	633	719	691
SO_2*	6.5	4.6	4.4	5.9	6.4	4.4
Particles	N/A	N/A	N/A	N/A	487	571

* *In 2019, the data calculated using gas consumption represented 82% of the data published.*

In 2019, combustion-gas emissions (NOx and SO2) fell by 4.1% due to a reduction in the consumption of gas at some of our plants. The Group's particulate emissions increased by 17% primarily due to higher emissions from our Brazilian pelletization unit, while remaining compliant with the regulations. Nominal VOC emissions, i.e. before uptake and filtration, dropped by 10% between 2018 and 2019.

To improve the quality of its monitoring of atmospheric emissions of gas and particulate matter, the Tianda Chuzhou (China) rolling mill fitted gas analyzers onto the chimneys of its furnaces. This action provided continuous measurements in 2019.

III – Soil

A) FRENCH FACILITIES

Because of sites being old, all soil studies have been completed at the Group's initiative without being required by the authorities. The results of these investigations prompted some facilities to introduce piezometric sensor-based monitoring of underground water, after obtaining permission from the relevant authorities. The list of monitored sites is included in an official database known as BASOL.

The Cosne-sur-Loire site, which stopped its activities in 2017, continued its treatment of soil and groundwater pollution after the transfer of the machinery to the Villechaud site. In 2017, eight new piezometric tubes for monitoring groundwater were put into service, in addition to the seven already in existence, and the site was completely cleaned. In 2018, with the continued stoppage of activity and in agreement with the DREAL, a rehabilitation project was prepared. At least 77 samples were taken to investigate the soil.

In 2019, as part of the rehabilitation project, studies were conducted to determine potential technical solutions for managing the main traces of historical pollution. Specialized companies have allowed us gain an understanding of the size of the budget required to rehabilitate the site. Given the amounts involved, the Vallourec Group intends to consider a multi-year plan to deal with pollution at the site.

In 2018, investigations and diagnostics were carried out in Déville-lès-Rouen and Saint-Saulve as part of site reindustrialization projects.

In Aulnoye-Aymeries, underground investigations were conducted on an old disposal site for miscellaneous materials. The site remains under close monitoring. In the long term, it is expected that it will be confined and monitored following another prefectural order.

In Montbard, underground investigations were conducted on an old disposal site, following a 2002 prefectural order.

B) OTHER ENTITIES

After analyses, and with permission from the local authorities, groundwater monitoring systems were set up at two facilities in Germany. As far as the Group is aware, there is no contamination at the other sites.

In Brazil, the only potential risks relate to the Barreiro plant in areas of the site previously used to store waste. A depot formerly used to store slag (a metallurgical by-product of the cast iron process) and a former sludge depot were made compliant. They underwent landscaping and the quality of the groundwater is being periodically monitored by a piezometric system. A program to make a former solid industrial waste storage site (wood, plastic, scrap, etc.) compliant with legislation, which began in 2004, is now being completed: the polluted soil has been removed and the land rehabilitated, allowing it to be considered for reuse for industrial or logistical activities.

In the United States, the industrial land is leased. Soil analyses were conducted at the majority of the sites prior to Vallourec's starting operations, in order to establish a baseline. Many of those sites are located in areas that have been industrial for many years. To the Company's knowledge, there is no record of any significant incident resulting from Vallourec's tube and steel production activities that has led to soil pollution.

IV – Waste and by-products

➔ Commitment to responsible performance

> Respect our environment by recovering our waste

INDICATOR

Percentage of waste recovered.

2019 OBJECTIVE

Waste recovery rate: 96%

ACHIEVEMENT IN 2019

The recovered waste rate reached ☑ 95.8%, sharply up from 2018 (95.5%). In 2019, 28,178 metric tons of waste could not be recovered.

GOAL FOR 2025

Vallourec is targeting 98%, particularly by reducing landfill, i.e. a reduction in the order of 15,000 metric tons of unrecovered waste.

2020 OBJECTIVE

Given this ambition, the 2020 objective has been set at 96% (i.e. a decrease of 1.6 kilotons in unrecovered waste).

As is the case with all industrial activities, the Group generates significant quantities of various types of waste. In 2019, 669,000 kilotons of waste were produced, which includes the mine and the pelletization unit (731 kilotons in 2018), and including 3.9% of hazardous waste (3.3% in 2018).

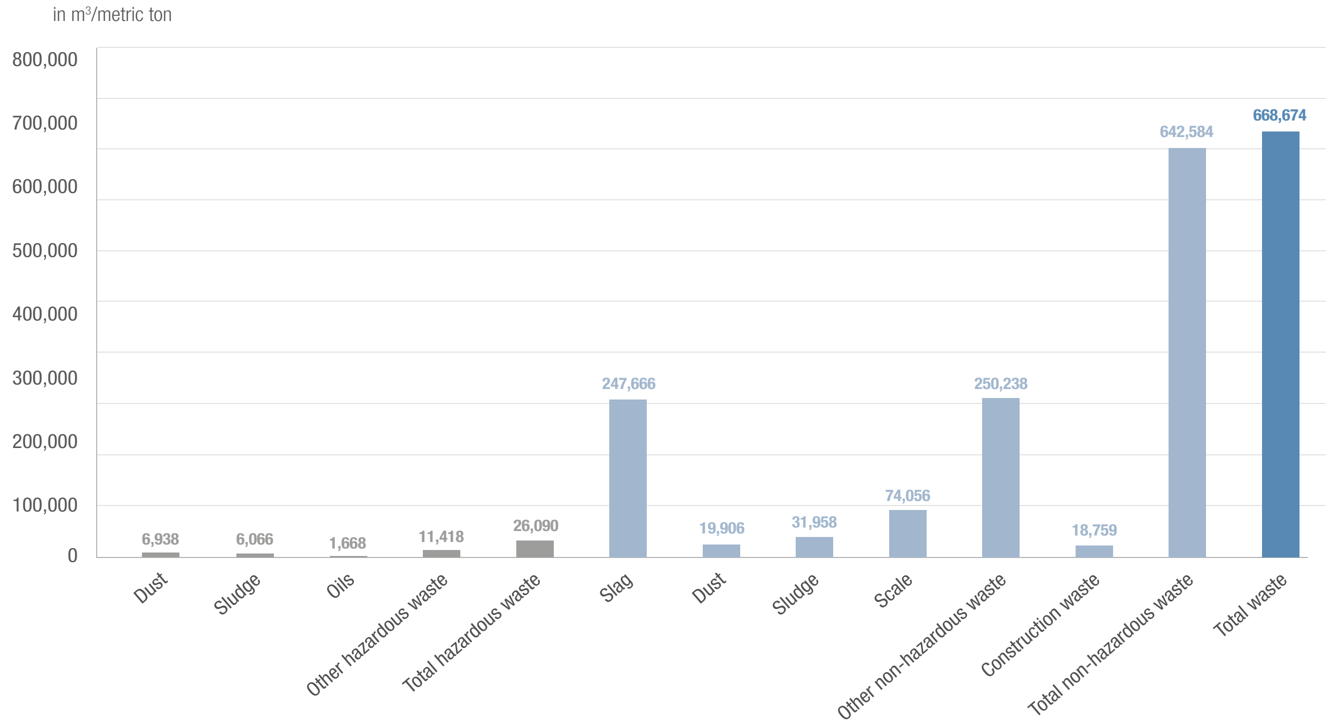
The key indicators for their management are as follows:

	2014	2015	2016	2017	2018	2019
Waste *(in thousands of metric tons)*	669	467	459	697 (566)[(a)]	731	669
Waste/production processed *(%)*	12	17	15	13	13	13
% hazardous waste	6.1	6.1	6.0	3.5 (4.3)[(a)]	3.3	3.9
% recovery	93.5	94.8	94.4	94.0	95.5	95.8

(a) The data in parentheses corresponds to the waste balance, excluding mine and pelletization plant.

The shutdown of the Barreiro blast furnace and the start-up of the Jeceaba furnace did not impact the Group's recovery rate. The Mineração iron mine and the Jeceaba pelletization unit also generate a lot of recovered waste. In 2019, some sites fine-tuned their waste sorting process to increase the recovery rate. In this way, Valinox Montbard increased its energy recovery rate and the Houston basin also increased the amount of waste it recovers. At Jeceaba, the blast furnace and pelletization site use secondary raw materials from the tube mill such as dust, metal waste, iron ore fines, etc.

A breakdown of the waste produced appears below:



To mark its commitment to the environmental issues represented by waste management, starting in 2013, the Supervisory Board, at the recommendation of the Appointments, Compensation and Governance Committee, introduced a waste recovery target into the variable portion of Management Board members' compensation.

In this same spirit, the Group joined the AFEP initiative to promote the circular economy, which became public in February 2017 and was updated in 2019.

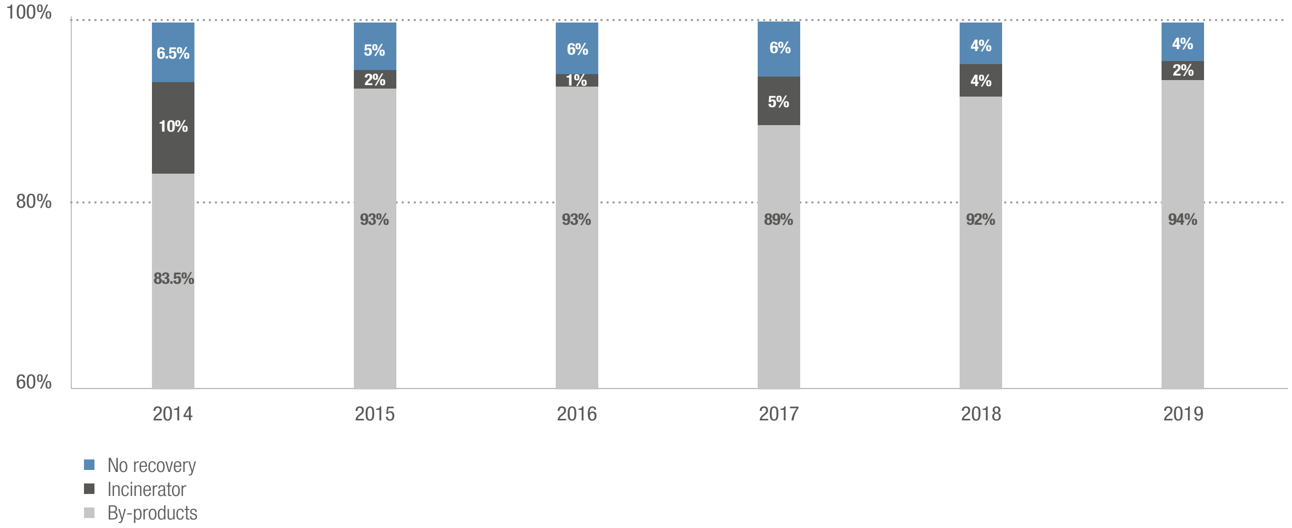
A) THE "BY-PRODUCTS" PROGRAM

Waste management is a major economic and environmental concern for the Group, which considers that most of such waste should now be treated as value-added by-products and generate operating revenue. This is the objective of the "By-products" project.

Waste is now considered a resource to be exploited rather than an unavoidable consequence of production. Depending on its origin and type, it is managed and treated differently in accordance with local regulations, with maximum emphasis on recycling of materials or energy recovery.

In a spirit of continuous improvement, all waste categories are monitored monthly by each site with the aim of reducing volumes. The percentage of recycled waste in the form of material (by-products) was 93.7%, that of waste incinerated to produce energy 2.1%, and that of landfill waste 4.2%. The recycling of materials was up again in 2019, due in large part to the recycling of metal waste but also due to the roll out of a more finely tuned waste-sorting process at certain sites, thereby reducing the quantities sent to landfill or for incineration.

Waste by end-use



Based on the 3Rs principle, namely "Reduce, reuse, recycle", the main levers of progress under the "By-products" project are as follows:

- Reduce: Various actions are carried out at the sites to reduce waste volumes, and above all the share of hazardous waste connected with the decrease in chemical risk.

  For example, an R&D study is underway to reduce the use of plastics in the manufacture of protectors by using biobased plastics and thus limiting our impact. Our Rio site has set up a working group to improve the sorting and reduce the share of hazardous waste. In the United States, the pH of liquid waste containing phosphate is neutralized to reduce the level of toxicity and allow the use of evaporator/concentrator systems.

- Reuse: Some waste may be re-introduced or reused in our processes or externally, either as a result of a specific treatment or after undergoing cleaning or filtration.

  Our VTS site in Brazil has set up a management system to recover protectors from customers. These used protectors are inspected, cleaned, and reconditioned for reuse. Many sites are also equipped with devices for filtering waste oils for internal reuse. In Indonesia, the site reuses 50% of its cutting fluids after applying filtration, which has allowed it to reuse 17 metric tons of product and thus make savings on raw materials and also the cost of waste treatment.

  Vallourec Soluções Tubulares do Brasil uses blast furnace sludge as a source of soil enrichment for eucalyptus forests and as a raw material for the ceramics industry.

- Recycle: Recycling is the most important method of recovering value from our various types of waste. The recovery of materials makes up the vast majority of our recycling. However, for some types of waste, recovering energy remains the best solution available.

  It should be noted that all sites recycle metallic waste from machining as a result of the manufacturing processes (turnings, chips, etc.) and then send this waste to channels external to the Group.

  In Mexico, the unit that manufactures protectors has organized a recovery circuit for non-compliant and unused protectors that reintroduces them into manufacturing process after a grinding operation.

  Several sites have set up working groups to optimize flows of sludge from the processes (rolling and surface treatment), metallic residues, scale and dust.

  In Brazil, the Purchasing Department has worked on identifying the best channels for recycling slag sold to the cement industry. Some mining waste is used as raw materials to manufacture interlocking paving stones, which are then used as road surfaces on the site.

Additionally, the local teams opened new waste management channels and generated additional revenue by implementing initiatives such as:

- the renegotiation of certain contracts;
- in Youngstown (United States), "bad" scale, which was previously sent to the landfill, now continues to be mixed with "good" scale. The resulting combination is sold to companies in the cement sector. This new business opportunity has allowed the amount landfilled to be reduced, and has decreased treatment costs. Vallourec Star Youngstown also changed its sludge dehydration practices. The addition of sawdust allowed it to reduce the amounts of sludge that are sent for treatment;
- in Brazil, numerous trial programs launched since 2017 to reuse certain waste internally through the steel mill, mine or pellet plant (sludge, dust) have been implemented to allow the use of the waste as a secondary raw material.

B) TREATMENT OF HAZARDOUS WASTE

Posing a risk to health and the environment, hazardous waste (classified as such due to the hazardous substances it contains) is subject to special treatment. The percentage relating to all waste, i.e. 3.9% in 2019, was roughly the same as in 2018 (3.3%).

Hazardous waste requires specific management: handling and storage are subject to strict safety rules to preserve the environment and health of the staff handling them. Furthermore, this waste is generally not very recoverable as is, and processing costs are significant. For this reason, Vallourec is trying to either reduce the portion of hazardous substances at source or apply a pre-treatment to reduce the toxicity.

For example, the water treatment station at the Youngstown site was able to improve the separation of mill scale particles and oil, which is responsible for its hazardous classification. Non-oily mill scale, which is not classified as hazardous, may thus be recovered for its material. The establishment of small waste oil treatment units allowed for a corresponding decrease in the generation of this waste, which is reused internally after treatment.

In Youngstown too, a change in operation for neutralizing the used phosphate and stripping baths allowed these baths to be sent to the evapo-concentrator and thus to reduce the amount of hazardous waste sent for treatment, thereby reducing costs. This solution has since been rolled out at other sites, which in some cases has also made it possible to reuse part of the water in the industrial process.

V – Noise pollution

Among actions to continue preventing noise pollution, in January 2012 the Sustainable Development Committee defined a noise action plan. This approach is part of the discussion conducted by the Group in accordance with the Sustainable Development strategic five-year plan to increase attention paid to employee health. The Health and Safety policy published in 2016 clearly mentions this.

The Group's activities inevitably generate noise.

The noise arises from various sources: steel mill furnaces, the cutting and storage of steel bars, the impact between bars and tubes, and the steel-rolling process. Several types of action are in place to limit noise, reduce it as far as possible or eliminate it entirely. The most effective actions are those that allow noise to be reduced at its source. For example, some plants replace pneumatic movement commands by hydraulic movement commands or incorporate rubber between tubes to avoid a much noisier direct impact. Similarly, the tubes are cleaned with Venturi-type nozzles instead of standard nozzles.

The Vallourec Group wants to best protect its employees and local residents from the noise emitted by the machines (steel mills, rolling mills, cutting) from moving products (impact between bars or tubes) and by transporters (trains, trucks).

To determine noise levels, the sources of noise are measured and analyzed. Depending on local constraints, these measurements are taken internally, at the edge of the site, or at neighboring properties, if the plant is situated close to a residential area. At certain sites, very elaborate systems have been installed. They allow noise to be measured at very precise locations and to determine its source. Simulation software is often used to assess the reduction of noise levels that various insulating systems might provide.

To that end, the following actions have been recommended since 2012:

- establishing noise maps on the most critical and representative sites of sound levels in different workshops and staff exposure based on their number and the length of time spent working in the areas concerned;
- analyzing and improving the behaviors of employees and providers in the workshops;
- implementing best practices for new investments and refittings;
- reducing nuisances at the property limits and thus for local residents by relying on regular measurement campaigns;
- favoring group protection over individual protection measures;
- reducing noise at the source.

Indicators are in place to ensure that these recommendations are respected by the plants.

The prevention and limitation of noise pollution in workshops and in the environment are criteria used for evaluating investment projects subject to validation, and this from the early stages of their eco-design.

In terms of the achievements in 2019, the introduction of noise-control screens and insulating doors at the Tianda Chuzhou site (China) is worth mentioning:

Sound level measurements before and after the completion of work are most often requested.

4.2.4.6 Climate change

I – Our commitments

The Group published its Carbon policy in January 2018. Vallourec is committed to:

- continuing to better understand all of its emissions;
- reducing its direct and indirect greenhouse-gas emissions;
- positioning the Group in the dynamic of commitments of the Paris climate agreement;
- integrating a €40 carbon price into its decision-making processes;
- pursuing the development of environmentally-friendly products;
- making sure its industrial assets will resist the future impacts of climate change.

Further to the commitments made in 2015 as part of the preparation for COP 21 and to the adhesion to the "Business Proposals In View Of A 2015 International Climate Change Agreement at COP 21 in Paris" initiative launched by 80 international companies, in mid-2019 Vallourec, with 98 other French companies, signed a new version of the French Business Climate Pledge in order to contribute jointly to a new low-carbon economy thanks to a significant effort to finance R&D projects and *ad hoc* investments.

It is also worth mentioning that, since 2013, Vallourec has been improving its public "Climate" report under the Carbon Disclosure Project (CDP) each year. Its evaluation in terms of transparency and performance has improved steadily, from D in 2012 to C in 2015, then A- in 2016, thanks to the initiatives mentioned above and the accuracy of the information provided. In 2019, Vallourec's commitment to a low-carbon economy allowed us to obtain the highest score, namely an A rating.

Accordingly, in 2018 Vallourec examined, with the assistance of specialists, whether its emissions pathway could fit within the "Science Based Targets" approach by 2025, which aims to assess the compatibility of companies' efforts with the provisions of the 2015 Paris Agreement. Based on the findings of the analysis, the Group's Management decided to join the Science-Based Targets Initiative (SBTi) in late 2018. In 2020, it plans to request the validation of its goals for 2025 based on the year 2017.

II- Assessment of GHG emissions

(see detailed table in Appendix 4)

Reducing greenhouse gases and, first and foremost, being aware of its emission level, is a goal for Vallourec.

A) SEQUESTRATION OF CO_2 BY OUR BRAZILIAN FOREST

It should be noted that in 2015 a detailed analysis of the carbon cycle for the forest operated in Brazil was completed with the help of university and institutional experts.

The study, which went on for several years, aimed to provide evidence that the Company had managed this forest responsibly from a carbon emissions standpoint, that it had a sound methodological basis that would allow it to estimate the emissions with sufficient precision, and, correspondingly, to set a medium-term emissions objective.

The 230,000 hectare forest area operated by Vallourec Soluções Tubulares do Brasil (VSB) within its Florestal subsidiary consists of a so-called native forest, which represents approximately one third of the surface area. It is kept as is, while the other portion is cultivated. Every year, about one seventh of the cultivated forest is cut down for the production of charcoal, and that area is then immediately replanted. As they grow, trees absorb CO_2. The trunks of harvested trees are transformed into charcoal, with a high carbon content, in furnaces designed for that purpose. The charcoal then enters the cast iron manufacturing process needed to manufacture steel in addition to iron ore. This process, which leads to the combustion of charcoal, results in CO_2 emissions. Until now, the generally accepted assumption of the profession in Brazil was that this CO_2 was gradually reabsorbed by the forest during its growth through photosynthesis.

The study in question provided specifics, over a long period, about the quantity of carbon put into play from the two-fold perspective of measuring stock and measuring the flows of carbon and greenhouse gas, taking into account initial deforestation operations. It was conducted by VSB's Sustainable Development Department, with the assistance of the University of Lavras, Professor Caetano of the University of Viçoza, and with the participation of Professor Sampaio as an expert consultant from the SR office of the GeoConsult consultancy firm, all under the methodological control of the National Forests Office, in France.

The study considered the scientific research and data that have been available for the past 30 years, and in particular used the public aerial surveys, which allowed the scope and nature of the native or exploited forest to be reconstituted over this period.

Particular care was taken, firstly in calculating the emissions at each stage in the processes of exploiting the forest and carbonization, using the scientifically recognized methods, and secondly, with regard to analyzing the phenomena of carbon sequestration in the atmospheric and underground biomass. The study lastly concerned the role of soil from the viewpoint of carbon retention, thanks in particular to on-site measurement initiatives on various kinds of soil, and around stumps and roots of trees at various stages of growth.

In essence it shows that, in the 1983-2013 period, i.e., in 30 years, the forest sequestered 29.6 million metric tons of CO_2 equivalent, after taking into account the particular power of methane as a greenhouse gas emitted during carbonization. It also shows that, after considering the CO_2 emissions during the cast iron manufacturing process in the blast furnaces, the net sequestration over this period is 7.4 million metric tons per year, or on average 250 thousand metric tons per year; even though, until now, due to the conservative assumptions adopted, the estimated annual analysis was an emissions level of approximately 300 thousand metric tons.

Based on this information, it was thus possible to redefine a method for calculating the carbon analysis of the forest/blast furnace system that was used to establish the Group's annual carbon analysis since 2015 on more precise bases.

Given the methodological changes, in 2020, Vallourec plans to update the method used to calculate carbon sequestration by its Brazilian forest, with the help of its Vallourec Soluções Tubulares do Brasil teams and a specialized firm.

B) CALCULATION OF EMISSIONS

Emissions were calculated using the GHG protocol methodology, which distinguishes between direct, fossil and biogenic emissions (scope 1), indirect emissions from electricity consumption (scope 2), and indirect emissions from other sources of emissions based on the Group's full scope (scope 3). For the 2019 assessment, Vallourec extended the range of scope 3 by calculating the emissions associated with the use and end-of-life of our products. This item was taken into account retroactively in the assessments relating to 2017 and 2018.

In order to ensure consistency in the presentation of the assessment of the Group's carbon footprint, Vallourec also incorporated the impact of the Tianda site (China) into the 2017 data and made some corrections to the 2017 and 2018 assessment figures. This produced a few slight differences compared with the data published last year. Finally, Vallourec decided to fix the start date of recording our emissions as 2017, given that this was the year used as the baseline for calculating the reduction of the carbon footprint of Vallourec by 2025.

In short, the full simplified carbon analysis is as follows (the detailed analysis is commented on in Appendix 4):

Simplified carbon footprint (CO_2e and CH_4 equivalent)

Type of emissions	2015	2016	2017[a]	2018[a]	2019[a]
Non-biogenic direct emissions (scope 1) *(CO_2e in thousands of metric tons)*	580	551	763	927	890
Specific emissions *(in kg per metric ton processed)*	205	180	169	168	168
Specific emissions *(in kg per metric ton shipped)*	411	430	338	392	389
Biogenic direct emissions (scope 1) *(CO_2b and CH_4b in thousands of metric tons)*	2,322	2,121	2,348	2,626	2,106
Specific emissions *(in kg per metric ton processed)*	821	691	519	475	398
Specific emissions *(in kg per metric ton shipped)*	1,646	1,655	1,041	1,111	919
Total biogenic sequestration (scope 1) *(CO_2b in thousands of metric tons)*	(3,276)	(3,141.2)	(3,078.6)	(3,132.2)	(2,843.9)
Specific emissions *(in kg per metric ton processed)*	(1,159)	(1,024)	(680)	(567)	(537)
Specific emissions *(in kg per metric ton shipped)*	(2,322)	(2,451)	(1,365)	(1,325)	(1,241)
TOTAL DIRECT EMISSIONS (SCOPE 1) *(CO_2e in thousands of metric tons)*	**(374)**	**(469)**	**33**	**421**	**☑ 152**
Specific emissions *(in kg per metric ton processed)*	(132)	(153)	7	76	29
Specific emissions *(in kg per metric ton shipped)*	(265)	(366)	15	178	66
INDIRECT EMISSIONS (SCOPE 2) *(CO_2e in thousands of metric tons)*	**423**	**518**	**510**	**436**	**☑ 240**
Specific emissions *(in kg per metric ton processed)*	150	169	113	79	45
Specific emissions *(in kg per metric ton shipped)*	300	404	226	185	105
UPSTREAM INDIRECT EMISSIONS (SCOPE 3)[b] *(CO_2e in thousands of metric tons)*	**1,783**	**1,811**	**3,199**	**3,453**	**3,216**
Specific emissions *(in kg per metric ton processed)*	631	590	707	625	607
Specific emissions *(in kg per metric ton shipped)*	1,264	1,413	1,418	1,461	1,404
DOWNSTREAM INDIRECT EMISSIONS (SCOPE 3)[b] *(CO_2e in thousands of metric tons)*			**8,480**	**6,444**	**5,345**
Specific emissions *(in kg per metric ton processed)*			1,874	1,167	1,009
Specific emissions *(in kg per metric ton shipped)*			3,759	2,726	2,333
TOTAL EMISSIONS *(in thousands of metric tons)*	**1,832**	**1,861**	**12,222**	**10,755**	**8,953**
Specific emissions *(in kg per metric ton processed)*	648	606	2,701	1,947	1,691
Specific emissions *(in kg per metric ton shipped)*	1,299	1,452	5,417	4,550	3,908

(a) Including the emissions from Vallourec Mineração (the mine), the Jeceaba pelletization unit and the Tianda site.

(b) The items appearing under this entry are those for which the Company has an action or direct influence, and for which data is available. To date, emissions pertaining to client processes are neither known nor taken into account. For the purpose of improving the knowledge of scope 3 due to its significance, in 2019, the Group defined, with the assistance of a specialized consultant, the methodology to be used to determine the carbon emissions of downstream items connected to the use and end-of-life of the products used by its customers. These emissions was calculated for 2019, but also retroactively for 2017 and 2018.

With regard to the sequestration of CO_2 by our Brazilian forest, the calculation for the 2019 assessment once again showed a very high level of sequestration, i.e. more than 2.84 million metric tons (3.13 in 2018) of CO_2. This is the result of the forest management process by our subsidiary Vallourec Florestal. This is why Vallourec considered that the sequestered carbon should be included in the calculation of scope 1 biogenic emissions as a "negative" emission.

Scope 1

As concerns the so-called non-biogenic scope 1, the first observation is that direct ordinary emissions (non-biogenic) fell from 927 kilotons of CO_2e to 890 kt in 2019, i.e. by 37 kt. This difference is broken down as follows:

- -73.9 kt CO_2 for the "natural gas" item: 33.9 kt were saved in the rolling mills and finishing sites as a result of our ongoing improvement programs and 40 kt in the steel mills (a 12-kt increase with the shutdown of the Barreiro site, 25 kt in the Jeceaba pellet unit through the use of charcoal as a partial substitution for natural gas and 3 kt in Youngstown);
- +19.2 kt CO_2 for the "fuel consumption" item, explained primarily by the increase in production of the Brazilian mine, resulting in an increase of 110% in its fuel consumption;
- +17.5 kt of CO_2 for the "blast furnace and steel mills" item: this rise is mainly due to an increased consumption of carbon-bearing raw materials (+14 kt), the rest of the increase (+3.5 kt) is attributable to the Jeceaba site (steel mill and "pellet plant").

As concerns the so-called biogenic scope 1, emissions decreased by 160 kilotons of CO_2e compared to 2018. This is explained by:

- -98 kt CO_2: reduction in charcoal production by Vallourec Florestal. This resulted in a reduction of CO_2 and methane (CH_4) due to the transformation of eucalyptus wood into charcoal;
- +288 kt CO_2: the amount of CO_2 captured and sequestered by the forest decreased proportionally;
- -350 kt CO_2: the amount of charcoal burned in our Brazilian blast furnaces decreased by 30% compared to 2018, due to the shutdown of the Barreiro furnace, while the pellet unit used 50% more charcoal than in 2018.

We must also keep in mind that:

- the Youngstown (United States) electric steel plant used the "scrap" method to manufacture its steel. The process, which consists of melting scrap and recycled steel in its electric furnace, emits low levels of CO_2. This industrial feature, which limits the use of fossil carbon in comparison to the cast iron process and its blast furnaces, is one of the reasons why Vallourec's direct emissions have remained moderate;
- in Jeceaba, Brazil, the blast furnace uses charcoal as the main source of carbon. The cast iron it produces supplies a continuous arc furnace that it also able to operate with scrap and recycled steel;
- taking the sequestration of the eucalyptus forest into account means that the direct biogenic emissions (CO_2 and CH_4) of the Vallourec group, which are connected to wood carbonization and the burning of charcoal, are negative: -738 kilotons of CO_2e in 2019.

Scope 2

As concerns scope 2, indirect emissions resulting from electrical energy consumption purchased have dropped by 196 kilotons of CO_2e compared to 2018. This considerable drop is due to:

- -157 kilotons attributable to a drop in the carbon content of our electricity: the average factor decreased from 234 kg per MWh in 2018 to 141 kg in 2019. Our electricity producer in Ohio, where the Youngstown plants are located, is shutting down its coal plant and switching to nuclear energy (the emission factor was reduced by 65%). Progress was also recorded in Germany (-12% compared to the 2018 factor), Texas (-20%), Singapore (-44%);
- -39 kilotons attributable to a reduction in the electricity consumption of Vallourec in absolute terms (-6%).

As since 2017, this assessment has been established based on emission factors (kg CO_2 equivalent/kWh consumed) of Vallourec's local electricity suppliers whenever information was available from them, in particular in France, Germany, Brazil and in the United States (Ohio and Texas).

Upstream scope 3

In 2019, upstream indirect emissions (scope 3) represented 3,216 kilotons of CO_2e compared to 3,453 kilotons in 2018 (the figure published last year was reduced by 391 kilotons following the detection of an error concerning the impact of the pig iron produced internally), i.e. a drop of 237 kilotons (-7%). This decrease is due to:

- -277 kilotons: our external steel purchases decreased by 15% between 2018 and 2019;
- -30 kilotons: due to the reduction in our electricity purchases;
- -29 kilotons: due to a reduction in our waste production primarily but also by improving the recovery process;
- -7 kilotons for the business travel item, due to enhanced monitoring by our agency, and the calculation of carbon emissions for each trip;
- +12 kilotons for the asset depreciation item;
- +93 kilotons for the freight transport item due to more comprehensive information received from the logistics departments in our four regions (North and South America, Europe/Africa, Middle East and Asia).

Downstream scope 3

For the purpose of improving the knowledge of scope 3 due to its significance, in 2019, the Group defined, with the assistance of a specialized consultant, the methodology to be used to determine the carbon emissions of downstream items connected to the use and end-of-life of the products used by its customers.

We are publishing this approximate calculation for the first time in 2019, but also retroactively for 2017 and 2018.

In 2019, these emissions amounted to:

- use of our products by our customers: 5,270 kilotons, i.e. 61% of all of our indirect emissions. This item is the most impactful, followed by steel purchases. Such emissions fell by 37% compared to 2017, primarily due to Vallourec's gradual move away from the conventional power plants (turnover was halved);
- end-of-life of our products: 75.6 kilotons, i.e. less than 1% of all our scope 3. These emissions are very slightly up (+1.5%) compared to those of 2017.

Summary

The carbon footprint of Vallourec in 2019 is gsummarized per metric ton of tubes sold:

Emissions item	Metric tons (kg CO_2e/metric ton)	Intensity (kg CO_2e/metric ton)
Direct fossil fuel emissions (scope 1)	890,019	389
Biogenic direct emissions	2,105,641	919
Sequestration by our forest	(2,843,931)	(1,241)
TOTAL DIRECT EMISSIONS (SCOPE 1)	**151,728**	**66**
Electricity purchases (scope 2)	240,410	105
TOTAL EMISSIONS (SCOPES 1 + 2)	**392,138**	**171**
Upstream indirect emissions	3,215,915	1,404
Downstream indirect emissions	5,240,262	2,287
TOTAL INDIRECT EMISSIONS (SCOPE 3)	**8,456,177**	**3,691**

Thanks to carbon sequestration by the Brazilian forest, the direct carbon footprint of tubes sold by Vallourec is only 67 kg per metric ton (171 kg including electricity).

In relation to the turnover of Vallourec in 2019 (€4,173 million), the carbon intensity (scopes 1 and 2) was 0.094 kg of CO_2e per euro, compared to 0.22 in 2018 and 0.09 in 2017. This result is very low in terms of industrial standards.

Vallourec continues to be considered a low-emissions entity.

C) 2025 EMISSIONS PROJECTIONS

The Group's new industrial footprint has been effective since 2017. Under these conditions, the 2025 activity forecast allows us to evaluate what our emissions will be for that time horizon.

Vallourec intends to reduce its carbon footprint by that date, which is compatible with limiting global warming to well below the 2°C threshold. In 2020, we intend to forward our emission objectives for scopes 1, 2 and 3 to the SBTi (Science-Based Targets Initiative) in order to validation for our reduction plans. In particular, several areas of progress are being considered: improving the energy efficiency of our processes, reducing biogenic methane emissions during charcoal carbonization, using low-carbon electricity, and reducing the carbon footprint of the steel we buy.

Vallourec's costed commitments will be communicated publicly in 2020.

D) EMISSIONS REGULATION SYSTEMS

Since 2013, both French and German tube mills have fallen within the scope of Directive No. 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing the European Community Emissions Trading Scheme for the third period. It is appropriate to note that the considerable reduction in Vallourec's activity and industrial footprint in France and Germany had the result of reducing the amount of free allocations compared to which the Group could benefit from to date.

In 2019, the quotas allocated to the sites concerned (five in Germany and four in France) stood at:

- 158,115 metric tons for Germany, compared with 187,906 in 2018, i.e. a drop of 15%, explained by a reduction in activities at the Rath and Reisholz sites;
- 41,439 metric tons for France, compared with 42,290 in 2018, i.e. a drop of 2%.

In 2019, Vallourec still benefited from a surplus of direct allocation of around 35,092 metric tons of CO_2, but this figure continues to fall compared to previous years.

In 2019, in order to best prepare for start of the fourth period (2021-2030) of the EU Emissions Trading Scheme for the allocation and trading of greenhouse gas emission quotas, all of the sites concerned sent the regulatory files required to benefit from free allocations for the years 2021 to 2025 within the deadline.

The impact of the mechanism on the Group's activity is not limited to consideration of its own emissions. European electricity suppliers are obligated to fully cover their CO_2 emissions with emission rights, although it is not easy to measure the corresponding impact on the price of electricity supplied. Furthermore, steel suppliers and, in particular HKM, which uses the cast iron coke-ore process, are working to reduce their emissions in order to limit purchases of emission quotas in the coming years.

The full impact of the provisions of the ETS system provisions on the operating costs of the Vallourec Group remained very moderate in 2019.

The impact on the Group of Phase 4 of ETS is being evaluated, given its own seamless steel tubes production, as well as the activity of its European steel suppliers, including HKM.

III – Adaptation to the impact of climate change

In 2014, the Group conducted a study of the risks related to the consequences of climate change, distinguishing among eight regions with distinct climate characteristics, namely Hauts-de-France, Burgundy, Rhine-Westphalia, Minas Gerais, Ohio, Texas, Batam Island in Indonesia, and the Shanghai region. The conclusions of this study were presented.

The study was updated in 2019, given the Group's new industrial footprint (especially in terms of the integration of the Chinese Tianda site in Chuzhou), the risk trends, recent climate events, and the greater precision of the simulation methods.

- The climate scenario selected is "RCP 8.5" (Business-As-Usual or Worst-case Scenario): this scenario predicts a doubling of CO_2 concentrations in the atmosphere by 2050, with a 1.5 to 2.2°C rise in temperature.
- For the analysis of physical risks, this scenario makes it possible to anticipate the most extreme effects and set up a 'no regrets' adaptation strategy.

The main conclusions are presented in terms of possible Impacts (I) and Probability of occurrence (P):

	1. Mühlheim Germany		2. Rath Pilger Germany		3. Montbard France		4. Aulnoye France		5. Chuzhou Chine		6. Montbard (nuclear) France		7. Houston (Hardy road) United States	
	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability
Increase of average temperature	3	3	3	3	1	3	1	3	3	3	1	3	3	3
Heat waves	2	3	2	3	3	3	2	3	3	3	3	3	4	3
Drought	1	1	2	1	3	1	3	1	1	1	2	1	1	1
Depletion of water resources	1	1	2	1	1	1	3	3	1	1	1	1	3	3
Heavy rain and flooding	3	1	4	1	3	1	3	1	3	1	3	1	3	1
Cyclones	3	1	3	1	1	1	1	1	2	1	1	1	4	3
Snowfall	Decrease	3	Decrease	3	N/A	N/A	N/A	N/A	Decrease	3	Decrease	3	Decrease	3
Drop in levels of water ways	4	2	4	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1	2	3	4	5	1	2	3	N/A	Decrease	N/A
low impact				*very strong/ costly impact*	*uncertain*	*probable*	*very probable*	*data unavailable*	*reduced frequency/ intensity*	

8. Houston (Miller road) United States		9. VAM Youngstown United States		10. Houston (VSTAR) United States		11. Youngstown Fine Quality and Pipe Mill and steel plant United States		12. Forêt Brazil		13. Barreiro Brazil		14. Jeceaba Brazil		15. Mine Brazil	
Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability	Impact	Probability
3	3	2	3	3	3	3	3	3	3	4	3	4	3	2	3
4	3	2	3	4	3	3	3	2	3	3	3	3	3	3	3
1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1
3	3	2	2	3	3	3	2	1	1	2	1	3	1	3	1
3	1	5	1	3	1	5	1	3	1	4	1	4	1	4	1
4	3	3	3	4	3	2	1	2	1	3	1	3	1	1	1
Decrease	3	Potential increase	3	Potential increase	3	Decrease	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

After an in-depth examination of public documents and national adaptation plans, the main phenomena identified at all the sites analyzed were the rise in mean temperatures and heat waves, which could be particularly severe in Houston and Brazil (Barreiro and Jeceaba). This could have an impact on operations at our facilities and on the working conditions of our staff.

Specific risks have been identified at several sites:

- the Houston site is the highest priority due to the risk of cyclones and the depletion of water resources; in addition, floods as an aftermath of cyclones could prevent access to our sites, stop staff from reaching their worksite, and halt the delivery of our products;
- Youngstown is the second highest priority site due to the risk of the depletion of water resources and heavy rains and snowfall with possible flooding;
- Chuzhou is the third highest priority site with a risk of heavy rains and floods;
- Brazilian sites, including the forest, may suffer from a lack of water and heavy rainfall with floods (the torrential rains observed at the end of January 2020 in the state of Minas Gerais are one such example);
- our German sites could suffer from a lowering of the level of waterways, including the Rhine, which could result in disruptions to the supply chain for raw materials including steel bars.

This study concludes by making numerous recommendations for adaptation actions specific to each of the sites studied.

To summarize, it appears that not all of our sites would be uniformly impacted and that the updated risk has not worsened overall compared to the 2014 conclusions, despite the use of a more refined methodology. Finally, a benchmark of the practices of other major groups in this field has shown that our approach is consistent and comprehensive.

The findings of this study and its conclusions will be presented in 2020 to each of the regional directorates as well as to those at the sites concerned. They will need to further examine, on a local level, the risks identified and design an appropriate adaptation plan that is in line with the emergency plans required by the local authorities.

This process starts with a general approach and focuses on the situations that would be deemed most critical, and falls within the mapping of major risks that the Company keeps updated, with the support for the Risks Department and the internal control teams. It also relies on the expertise of the insurance companies and takes their recommendations into account.

Our mining site in Pau Branco, Brazil, can be cited as an example with the securing of the Santa Barbara and Lisa earth dams (see photos below). These dams serve to retain runoff waters. The environmental authorities in the state of Minas Gerais recently decided that this type of dam should now be sized to absorb potential rainwater for 10,000 years instead of 100 years. These two dams were also equipped with emergency overflow weirs.

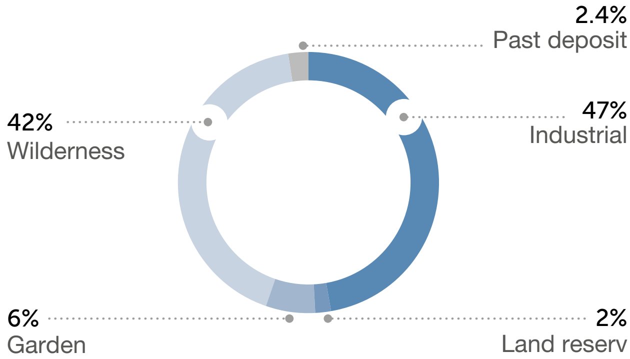
In addition, the Vallourec Mineração teams have implemented a system to continuously monitor the structural soundness of these dams, linked to an alert system. Emergency exercises are organized internally and for the local populations concerned.

4.2.4.7 Biodiversity

Studies have been conducted over the last few years at the main Vallourec sites to evaluate the impact of activities at our plants on biodiversity. No major risk has been identified.

In 2019, a study was conducted on identifying and measuring the surface area of existing "green areas" at our sites. The study related to managed green areas (gardens, lawns, etc.) and areas where local biodiversity was allowed to develop freely.

The findings of this survey conducted by the environment managers at each site are summarized in the graph below (this data will be updated regularly):



Source: KPMG 'biodiversity' file.

Excluding the Brazilian forest, which represents a significant portion of the biodiversity areas (48%), "green areas" account for 48% of the surface areas, of which a majority (42%) are for the development of biodiversity.

Measures to preserve biodiversity have been put in place for several years, primarily in Brazil and Indonesia:

- species present in these zones have been counted and listed and the awareness of employees (as well as residents adjacent to each site) has been increased;
- the Group ensures that the various sites do not negatively impact the biodiversity present at the sites by implementing preventive measures for its protection;
- certain specific activities of the Group have a direct link to biodiversity, therefore Vallourec ensures that it is respected. In this respect, it is worth mentioning Florestal, a Brazilian entity involved in forestry activities to produce charcoal that is then used as a source of energy.

The Vallourec Group invests on a long-term basis to preserve the areas of biodiversity around its industrial facilities.

In Brazil

The Barreiro site, located in the city of Belo Horizonte, runs an environmental education center at the edge of the city. This 20-hectare center includes three ecosystems: the *cerrado* (savanna), the transitional vegetation, and the *mata atlantica* (Atlantic forest). In 2019, this site developed an environmental recovery project on 2.4 hectares along the edge of the plant.

The Jeceaba site created a reference center on the "Atlantic forest" over a surface area of 660 hectares, with the goal of replanting this area with approximately 400 native species of the region. This space includes the legal reserve as well as the "green belt" and "forest belt". A surveillance system for monitoring wildlife has been established. Numerous specimens have been detected, including protected species, which is an indicator of biodiversity and helps protect regional ecosystems.

In 2019, to celebrate International Biodiversity Day, the Jeceaba environment team produced a photographic collection of the fauna found in the monitored areas, and showing the various species observed in the region. This was presented to the employees at the plant so they could discover more about local biodiversity. The team also presented the environmental conservation actions implemented at the Jeceaba plant.

The Vallourec Florestal subsidiary operates eucalyptus plantations, which serve to produce the charcoal needed to operate the Jeceaba blast furnace. Approximately half of the surfaces are preserved in their natural state and distributed so as to create corridors for wildlife to circulate. This subsidiary regularly participates in plant and wildlife study projects with Brazilian administrations (Regional Forest Institute), universities (Federation of Universities of Minas Gerais) or international NGOs.

The Vallourec Mineração subsidiary is located some 50 kilometers from the Jeceaba site, which it supplies with iron ore. As exploitation of this open-pit mine gradually continues, the resulting waste rock is pressed, dried, then put in landfills. The ground is in the end reforested with local species at the rate of six hectares per year. Accordingly, 1,600 replanted hectares have already been returned to nature. Additionally, 200 hectares are allocated for an "Atlantic forest" type natural reserve. A biodiversity study has allowed 176 wild species of mammals, reptiles, fish, and birds to be identified. In particular, endangered species were observed, such as the "Leopardus guttulus" (wild cat), the "Puma concolor" (puma or cougar), and the "Chrysocyon brachyurus" (maned wolf). 154 species of "Atlantic forest" type native plants were inventoried. Moreover, 45 caves were monitored; their specific wildlife (bats) and plants are currently being studied.

In Aulnoye-Aymeries, France

To improve knowledge of biodiversity on this site, an impact study of the Aulnoye-Aymeries area was launched in 2017, with a specialized provider in and around this site which has several plants and is located close to classified natural spaces, a space belonging to the Natura 2000 network, and listed natural heritage areas. The study, which concerned Vallourec's land holdings, the immediate periphery of Vallourec's industrial site, and a study area that was expanded to a radius of 10 kilometers, concerned unusual and invasive species.

This study, which was finalized in 2018, has shown that the same plants and wildlife exist within the site, in the fallow ground, outside, in the immediate proximity, and in the various ecosystems that comprise the Sambre basin, the marshland and flood zones bordering it, as well as in the surrounding fields and pastures.

These habitats and species pertain to conservation issues that fall primarily outside of Vallourec's holdings. However, the diversity noted within the site remains remarkable for a major industrial site such as Vallourec. Indeed, protected species have been observed on land where there is less human activity, such as the majority of the fallow land, the heap on the road to the plant, and even the stormwater basin.

This observation is thus encouraging in terms of the low impact of the Group's activities on biodiversity, and shows that it is also possible for an industrial company to help protect and develop plant wildlife.

Indonesia

For several years, PT Citra Tubindo, in association with "Batam Botanical Garden" (BBG), has been planting trees, specifically fruit trees, and has maintained a mangrove close to the facilities. These actions slow coastal erosion, halt the penetration of saltwater towards the interior, and protect the shores from storms, as well as enabling carbon to be retained, and the toxic products contained in the water to be absorbed. These actions are supported by the local populations, academic institutions and students. Accordingly, in 2018, more than 300 trees were placed on the site and more than 100 in the botanical garden.

In 2019, PT Citra Tubindo in collaboration with the BBG began the construction of a green space and continues to plant more trees. These actions will continue in 2020.

Appendix

Appendix 1– Report by one of the Statutory Auditors, appointed as independent third party, on the consolidated non-financial statement

For the year ended 31 December 2019

To the Annual General Meeting,

In our capacity as Statutory Auditor of your company (hereinafter the "entity") appointed as independent third party, and accredited by the French Accreditation Committee (*Comité Français d'Accréditation* or COFRAC) under number 3-1049[1] and, as a member firm of the KPMG International network, one of your statutory auditors, we hereby report to you on the consolidated non-financial statement for the year ended on 31 December 2019 (hereinafter the "Statement"), included in the Group Management Report pursuant to the requirements of articles L.225-102-1, R. 225-105 and R. 225-105-1 of the French Commercial Code (*Code de commerce*).

RESPONSIBILITY OF THE ENTITY

The Board of Directors' is responsible for preparing the Statement, including a presentation of the business model, a description of the principal non-financial risks, a presentation of the policies implemented considering those risks and the outcomes of said policies, including key performance indicators.

The Statement has been prepared in accordance with the entity's procedures (hereinafter the "Guidelines"), the main elements of which are presented in the Statement and available upon request at the entity's head office.

INDEPENDENCE AND QUALITY CONTROL

Our independence is defined by the requirements of article L.822-11-3 of the French Commercial Code and the French Code of Ethics (*Code de déontologie*) of our profession. In addition, we have implemented a system of quality control including documented policies and procedures regarding compliance with applicable legal and regulatory requirements, the ethical requirements and French professional guidance.

RESPONSIBILITY OF THE STATUTORY AUDITOR APPOINTED AS INDEPENDENT THIRD PARTY

On the basis of our work, our responsibility is to provide a report expressing a limited assurance conclusion on:

- the compliance of the Statement with the requirements of article R. 225-105 of the French Commercial Code;
- the fairness of the information provided in accordance with article R.225-105 I, 3° and II of the French Commercial Code, i.e., the outcomes, including key performance indicators, and the measures implemented considering the principal risks (hereinafter the "Information").

Our responsibility is also to provide a report expressing, at the request of the entity and outside of the scope of accreditation, a reasonable assurance conclusion that information selected by the entity, presented in Appendix and identified with the symbol √ in chapter "4. Corporate social Responsibility information" of the management report has been prepared, in all material respects, in accordance with the Guidelines.

However, it is not our responsibility to comment on the entity's compliance with other applicable legal and regulatory requirements, in particular the French duty of care law and anti-corruption and tax avoidance legislation, nor on the compliance of products and services with the applicable regulations.

Nature and scope of our work

The work described below was performed in accordance with the provisions of Article A.225-1 and seq. of the French Commercial Code, as well as with the professional guidance of the French Institute of Statutory Auditors (Compagnie nationale des commissaires aux comptes or CNCC) applicable to such engagements and with ISAE 3000[2] :

- We obtained an understanding of all the consolidated entities' activities, and the description of the principal risks associated;
- We assessed the suitability of the criteria of the Guidelines with respect to their relevance, completeness, reliability, neutrality and understandability, with due consideration of industry best practices, where appropriate;
- We verified that the Statement includes each category of social and environmental information set out in article L.225-102-1 III as well as information regarding compliance with human rights and anti-corruption and tax avoidance legislation;
- We verified that the Statement provides the information required under article R. 225-105 II of the French Commercial Code, where relevant with respect to the principal risks, and includes, where applicable, an explanation for the absence of the information required under article L.225-102-1 III, paragraph 2 of the French Commercial Code;
- We verified that the Statement presents the business model and a description of principal risks associated with all the consolidated entities' activities, including where relevant and proportionate, the risks associated with their business relationships, their products or services, as well as its their policies, measures and the outcomes thereof, including key performance indicators associated to the principal risks;

(1) Accreditation scope available at www.cofrac.fr
(2) ISAE 3000: international standard on assurance engagements other than audits or reviews of historical financial information

- We referred to documentary sources and conducted interviews to:
  - assess the process used to identify and confirm the principal risks as well as the consistency of the outcomes, including the key performance indicators used, with respect to the principal risks and the policies presented;
  - corroborate the qualitative information (measures and outcomes) that we considered to be the most important presented in Appendix. Concerning certain risks(1), our work was carried out on the consolidating entity, for the other risks, our work was carried out on the consolidating entity and on a selection of entities(2).
- We verified that the Statement covers the scope of consolidation, i.e. all the consolidated entities in accordance with article L. 233-16 of the French Commercial Code, within the limitations set out in the Statement;
- We obtained an understanding of internal control and risk management procedures the entity has put in place and assessed the data collection process to ensure the completeness and fairness of the Information;
- For the key performance indicators and other quantitative outcomes that we considered to be the most important presented in Appendix, we implemented:
  - analytical procedures to verify the proper consolidation of the data collected and the consistency of any changes in those data;
  - tests of details, using sampling techniques, in order to verify the proper application of the definitions and procedures and reconcile the data with the supporting documents. This work was carried out on a selection of contributing entities(2) and covers between 15% and 100% of the consolidated data selected for these tests;
- We assessed the overall consistency of the Statement based on our knowledge of all the consolidated entities.

We believe that the work carried out, based on our professional judgment, is sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures.

Means and resources

Our work was carried out by a team of six people between October 2019 and February 2020 and took a total of approximately ten weeks.

We were assisted in our work by our specialists in sustainable development and corporate social responsibility. We conducted around twenty interviews with people responsible for preparing the Statement.

Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the non-financial statement is not presented in accordance with the applicable regulatory requirements and that the Information, taken as a whole, is not presented fairly in accordance with the Guidelines, in all material respects.

Reasonable assurance report on a selection of non-financial information

Nature and scope of our work

With regard to the information selected by the entity presented in Appendix and identified with the symbol ☑ in chapter "4. Corporate Social Responsibility information" of the management report we conducted the same procedures as those described in the paragraph "Nature and scope of our work" (for the most important non-financial information). However, these procedures were more in-depth, particularly regarding the number of tests.

Consequently, the selected sample represents between 46% and 100% of the information identified with the symbol ☑.

We believe that these procedures enable us to express reasonable assurance regarding the information selected by the entity and identified with the symbol ☑.

Conclusion

In our opinion, the information selected by the entity and identified with the symbol ☑ in Chapter "4. Corporate Social Responsibility information" of the management report has been prepared, in all material respects, in accordance with the Guidelines.

Paris-La Défense, on 28 February 2020

KPMG S.A.

Fanny Houlliot	Alexandra Saastamoinen
Partner Sustainability Services	Partner

(1) Equal opportunity/discrimination risk; Consequences of global reactions to climate change; Adaptation to the consequences of climate change; Corruption; Respect of ethics (excluding corruption); Quality of products and services/customer relations.

(2) Vallourec S.A (France) ; Vallourec Star LP, Vallourec Star Houston, Vallourec Star Youngstown (United-States) ; Vallourec Tianda (Anhui) Co. Ltd. (China), Soluções Tubulares do Brasil Barreiro, Vallourec Soluções Tubulares do Brasil Jeceaba, Vallourec Floretal (Brazil).

Appendix A –

Qualitative information (actions and results) considered most important
Actions implemented to develop employees' skills
Certifications and actions implemented to ensure employees' health at work
Measures taken to fight discrimination
Programs implemented to develop customer relationship
Actions taken in favour of energy efficiency
Measurement of the environmental impact of the Group activities
Commitments and actions taken for a low-carbon economy
Assessment of Vallourec suppliers regarding corporate social responsibility standards

Appendix B –

Labour key performance indicators and outcomes	Level of assurance
Workforce at 31/12/19	Reasonable
Breakdown of the workforce by age, gender and geographical area	
New hires	
Departures	
Lost time injury rate (LTIR)	
Total Recordable Injury Rate (TRIR)	
Rate of absenteeism	
Severity rate	Limited
Number of employees having participated in a training session	
Number of training hours	
Participation rate of the social barometer	
Satisfaction score of the social barometer	

Environmental key performance indicators and outcomes	Level of assurance
Electricity consumption	Reasonable
Natural gas consumption	
CO_2 emissions - scopes 1 and 2	
CO_2 emissions - scope 3, linked to losses during extraction, storage and transport of energies	
CO_2 emissions – scope 3, linked to the use of sold products	
CO_2 emissions - scope 3, linked to purchases of materials, goods and services	
Water intakes (per source)	
Volume of hazardous and non-hazardous waste	
Percentage of waste recovered (including recycled)	
Water discharged	Limited
Quantity of metals per liter of water discharged	
VOC emissions	
NOx emissions	
Percentage of substances identified as CMR replaced	
Consumption of raw materials – Ore, pellets and scrap metal, charcoal and purchased cast iron	

Social key performance indicators and outcomes	Level of assurance
Share of purchases from suppliers involved in the formal CSR appraisal process	Limited

Appendix 2 – Methodological note

Chapter 4 of the Universal Registration Document, designed to inform shareholders and the greater public about the actions taken by Vallourec to promote sustainable development, complies with the Grenelle 2 Law of 12 July 2010, and in particular with Articles L.225-102-1, R.225-104 and R.225-105 of the French Commercial Code. The information contained herein is derived from database systems deployed worldwide, at each site concerned.

All of the CSR information published in Chapter 4 of the Universal Registration Document was verified by an Independent Third Party Body, whose report appears on page 137 of this document.

These assertions clearly explain the Group's CSR strategy, as well as its actions in these areas.

GUIDELINE INDICATORS

Vallourec defined its guidelines by reproducing the list of CSR information that appears in Articles L.225-102-1 and R.225-101 of the French Commercial Code *(Code de commerce)*, (see concordance table below). Other indicators were constructed based on those published by the Global Reporting Initiative (GRI), which proposes CSR reporting indicators for global companies.

Environmental and safety indicators have been drawn from the CR 360 reporting system since late 2016, which has allowed for monthly monitoring and consolidation. They are included in a project definition worksheet provided by the Sustainable Development Department to its network of local contacts in the Group's four working languages (French, English, German and Portuguese).

Social indicators are also the subject of a precise and standardized Group-wide definition, and covered by a detailed procedure.

- Indicators related to workforce and hours

  The data is automatically collected by the GatheringTools system, and then sent to several SIRH tools, including Qbik (consolidating and management of social data). The Human Resources Department collects this data, which goes through an on-site correspondent.

- Training-related indicators

  The data is collected in the LMS (Learning Management System). Calculation and consolidation are completed by the Group Training Department: the Vallourec University Department.

HSE SCOPE OF CONSOLIDATION

The scope of consolidation is determined according to rules established by Vallourec's Sustainable Development Department and include:

1. industrial sites. The following are thus excluded from environmental scope: the Shared Services Center in Valenciennes, the administrative offices and headquarters, and all sales offices. Research centers are also excluded, with the exception of Vallourec Research Center France, whose activity is more varied;
2. as concerns the consolidation of safety indicators, all sites are incorporated, including the registered offices in Boulogne and Rath, except for the small sales offices (less than 20 people), which represents 0.3% of the Group's workforce;
3. sites belonging to Vallourec for more than six months. This rule is to be considered when a disposal or acquisition occurs;
4. sites with active industrial operations during the year. This excludes construction sites that have not been in operation for more than six months;
5. sites for which Vallourec owns more than 50% of the voting rights. Conversely, the sites for which Vallourec is a minority shareholder are not consolidated (for example, this is the case for the HKM steel mill in Germany).

The scope of social consolidation includes companies entering the accounting consolidation scope, with the exception of Vallourec Niko Tube LLC (VNTU), created in 2018. The latter was incorporated into the scope of the environmental report in 2019.

CONSOLIDATION PRINCIPLES

1. The companies and sites included in the reporting scope in accordance with the rules described above are not accounted for using the equity method, but are treated equally in the reporting consolidation – that is, as wholly owned by the Group.
2. Precautionary principle: consolidation is established on the basis of prudent assessments to avoid transfer risk and reputational risk.
3. Accrual principle: all fiscal years are independent from one another.

Consolidation and auditing

Environmental indicators are consolidated and audited monthly by the Sustainable Development Department (timeliness, fairness, completeness). In case of doubt or inconsistency, the Regions and sites involved are questioned and must provide sufficient explanation to clarify the given indicators, as well as the achievement or shortfall of the targets set for the year. This step is essential to ensure the quality of the reports and the integrity of the indicator monitoring system within a continuous improvement process. In addition, to verify and compare the data, the Sustainable Development Department issues a quarterly summary to General Management and to all sites.

Safety indicators are issued monthly, after verification, to General Management, the Regions and divisions, and all sites.

PRODUCTION CALCULATIONS

By “metric ton processed” Vallourec means metric ton produced in each plant (number of units of work produced in the plant), whether of steel, hot-rolled tubes or cold-finished tubes. The production of each plant is added together to calculate the total production in metric tons processed or work units.

For consolidated sites, such as Vallourec Star in Youngstown (United States), and Vallourec Soluções Tubulares do Brasil (VSB) in Barreiro and Jeceaba (Brazil), the total production is the sum of the steel and tubes produced.

Production of iron ore by Vallourec Mineração, the manufacture of pellets in Jeceaba, as well as the production of charcoal by Vallourec Florestal are, however, not included in the Group’s total production.

By “metric ton shipped” or “sold” Vallourec means metric tons of tubes and accessories shipped to customers during the year. This production indicator is published in the Group’s results.

Environmental data are routinely expressed in absolute and relative terms, in both graphs and tables of quantified results.

Relative values are divided either by production, expressed as metric tons of tubes processed (which allows different sites to be compared) or metric tons of tubes shipped, expressed as metric tons of tubes (which helps in estimating the environmental footprint of tubes shipped to customers).

VERIFICATION OF CSR INFORMATION

All of the CSR information published in Chapter 4 of the Universal Registration Document was verified by an Independent Third Party. A selection of indicators identified by the symbol ☑ for more in-depth verifications, with a check at the reasonable assurance level. For each piece of information presented, Vallourec has prepared a file to demonstrate a complete and rigorous implementation of its policy.

METHODOLOGICAL LIMITATIONS AND SPECIAL CASES

The following table lists some exceptions or special rules.

Issue	Plant concerned	Description
Atmospheric emissions of NO_x and SO_2	All those consuming natural gas	In the absence of measures performed by the site on the quality of the gases emitted from its combustion facilities, the NO_X and SO2 emissions are calculated by multiplying its natural gas consumption (in kWh) for the following emissions factors: 0.0001944 for NO_X and 1.73913*10^(-6) for SO2 (EF source: suppliers of gas in France)
Wastewater quality	Vallourec Tubes France (tube mills in Saint-Saulve, Déville and Aulnoye), Vallourec Deutschland Rath, Vallourec Star Houston, PT Citra Tubindo, VSB Jeceaba	Indicators for monitoring wastewater quality (SPM, COD, TH and 10 metals) are only consolidated for sites that discharge wastewater directly into the environment after internal processing at their effluent treatment plants. These indicators are calculated based on the weighted average concentration per flows of discharged wastewater. This data is based on a list of metals established by the Group, with the knowledge that the data reported by the sites only concerns the analyses imposed by the local regulations.
Waste	All plants	"Historical" waste (hazardous/non-hazardous) produced prior to the reporting period and stored on site is not counted in the total tonnage of consolidated waste. Waste is classified as hazardous or non-hazardous according to the local regulations.
Sludge from blast furnaces and steel mills	VSB	In Brazil, sludge generated by blast furnaces is classified as non-hazardous waste, and is a totally different type of waste from tube mill sludge.
Dust from blast furnaces and steel mills	VSB	In Brazil, dust generated by blast furnaces is classified as non-hazardous waste, and is a totally different type of waste from the other types of dust produced by the other steel mills.
Methane	Vallourec Florestal	When estimating methane emissions, the calculations are based on the statistical study in Appendices 5 and 6 of the "Project Design Document Form (CDM PDD) – Version 03" registered as a CDM 8606 project at UNFCCC: "Carbonization Project – Mitigation of Methane Emissions in the Charcoal Production of V & M Florestal, Minas Gerais, Brazil", which is available at: https://cdm.unfccc.int/Projects/DB/BVQI1354824411.24/view According to that study, process methane emissions depend on the gravimetric yield of wood carbonization in furnaces (Appendix 5), or the ratio between the final mass of dry charcoal (after combustion) and the initial mass of wood (Appendix 6). Since 2019, we differentiate charcoal tonnage produced according to the type of carbonization furnaces: conventional furnaces, furnaces equipped with chimney burners, and the Carboval unit. Methane emissions are calculated for each type based on relevant emission factors.
Sequestration of Florestal	Vallourec Florestal	The method for calculating amounts of CO2 sequestered by the forest during the reference year is as follows. It derives from information drawn from the study conducted in cooperation with numerous scientific authorities (See 4.5.4.1). Annual sequestration is estimated when the tree is cut to be transformed into charcoal. The reference value is thus the annual charcoal production. The reference study allowed a 30-year observation period to be identified, considering the amount of charcoal produced, the amount of carbon absorbed by the tree trunk and the amount absorbed by the roots and stumps in the soil. It was thus possible to calculate the ratios of carbon sequestered by the roots in relation to the tonnage of charcoal produced and ultimately consumed in the blast furnaces, and the ratio of carbon absorbed by the tree trunk, also in relation to the charcoal produced. These ratios are then used to calculate the amounts of carbon sequestered annually. The amounts of carbon emitted during carbonization of the trunks and the amounts of methane emitted during the carbonization process in the ad hoc furnaces are also in proportion to the charcoal produced.
Indirect CO2e emissions linked to electricity purchases (scope 2)	All plants	The CO2 emissions of all sites that consume purchased electricity are calculated based on emission factors provided by the suppliers themselves, either directly or calculated based on their energy mixes. These emissions are referred to as "Market based". We also calculate "Location based" emissions using national or regional emission factors (e.g., states in the United States) provided in public databases (e.g., ADEME).
Indirect CO2e emissions linked to external steel purchases (scope 3 upstream)	Steel suppliers	Emissions relating to our steel purchases are calculated by multiplying, for each steel mill, the tonnage purchased by an emission factor (kg CO2 per metric ton of steel) which is provided by the supplier itself or, failing this, taken from internal databases which include the manufacturing process (blast furnaces or electric arc furnaces).

Issue	Plant concerned	Description
Indirect CO2e emissions linked to the use of products sold (scope 3 downstream)	All plants	The calculation method was developed with the support of the Carbone 4 consulting firm. We started from the amounts of Vallourec's annual revenue (in € million) for each of its six main markets: Oil & Gas; Petrochemicals; Power Generation; Mechanicals; Automotive; Construction & Other. Calculation principles: each revenue amount is multiplied by a carbon intensity (metric tons of CO2 per € million of revenue) specific to each of these markets. These intensities were calculated using recognized sources (ADEME, ATEE, IEA, Ecoinvent). So for example, for the oil market, the calculation was based on the barrel, its price and its energy content. For the Oil & Gas market, we took into account emissions relating to extraction and processes in place, but did not include upstream emissions relating to transport and the combustion of products. The breakdown (as a %) of revenue between oil and gas is a factor, as is the breakdown (as a %) between coal, nuclear and "renewables" for the Power Generation market. Carbon intensities used for each market:

Market	Carbon intensity (Metric tons of CO2 per € million)
Oil & Gas	Oil: 440, Gas: 285
Petrochemicals	1747
Power Generation	Coal: 18,844, Nuclear: 133, Renewables: 2444
Mechanicals	150
Automotive	35
Construction & Other	1494

Issue	Plant concerned	Description
Indirect CO2e emissions linked to the end-of-life of products sold (scope 3 downstream)	All plants	We calculate these emissions based on the annual tonnage of tubes and accessories sold by the Group, multiplied by the ADEME's standard emission factor which corresponds to the average end-of-life of "mineral waste".
Water consumption	Vallourec mineração	The water consumption of the site only corresponds to the part used for the extraction and land watering process, and not to the mine water that is sent directly into the river like rainwater.
Raw materials	All plants	Indicators of raw materials (iron ore, iron ore pellets, charcoal, charcoal dust, scrap, cast iron) correspond to the amounts used for steel production. Scrap is considered by Vallourec as a by-product and is not included in either the waste or the recovery rate indicator.
Compensation	All	The "Compensation" indicator is calculated as the sum of staff compensation, social security charges and pension expenses.
Turnover	All	the turnover rate includes departures and arrivals for the year in question and is defined as follows: (number of departures + number of arrivals for the year) x 2 x 100/(workforce at 31/12 of the preceding year). It includes departures, arrivals, and transfers of the workforce within the zones. The reasons for departure included are: retirement, resignation, dismissal, and other (death, change of category, contract termination, termination after trial period).
Method of accounting for lost days following a workplace accident in the United States	All	In the United States, lost days for workplace accidents are not counted beyond the 180th day in accordance with applicable ISO 45001 regulations. This accounting method is specific to the United States and differs from the rule recommended by the Group for accounting for lost days.
Number of training hours	All	The data relating to the number of training hours published covers classroom-based learning that exceeds two hours and e-learning. The percentage of employees trained is calculated in relation to the number of employees that have had access to training during the fiscal year and not to the workforce at the end of the period. Classroom-based learning of less than two hours is excluded from this data.
Number of hours worked	Vallourec Tianda	Hours worked do not include the hours of truck drivers who deliver the billets, provide internal transportation between the workshops, and load the products for delivery to a port of destination or to customers. The estimated impact represents less than 0.4% for the Vallourec Group as a whole in 2018.

Appendix 3 – Concordance table between the information required under Articles L.225-102-1 and R.225-105-1 of the French Commercial Code and the information in this chapter

1°	**GROUP BUSINESS MODEL**	Profil (p. 2) / 3.2 / 3.6 / 3.8 (p. 36 / 61 / 74)
2°	**DESCRIPTION OF THE MAIN RISKS**	
a)	**Environmental issues**	4.1.1 / 4.2 Introduction / 5.1.1 / 5.1.2 (p. 83 / 87 / 152 / 155)
b)	**Social issues**	4.1.1 / 4.2 Introduction / 5.1.2 (p. 83 / 87 / 155)
c)	**Corruption and tax evasion issues**	4.2 Introduction / 5.1.3 (p. 87 / 156)
d)	**Human rights issues**	4.1.1 / 4.2 Introduction / 5.1.2 / 5.1.3 (p. 83 / 87 / 155 / 156)
3°	**DESCRIPTION OF THE POLICIES APPLIED AND THEIR RESULTS**	
a)	**Environmental issues**	4.2.4 (p. 110)
b)	**Social issues**	4.2.2 (p. 90)
c)	**Corruption and tax evasion issues**	4.2.1 (p. 89)
d)	**Human rights issues**	4.2.1 / 4.2.2.2 / 4.2.2.3 / 4.2.2.6 (p. 89 / 98 / 100 / 105)
4°	**SOCIAL INFORMATION**	
a)	**Employment**	
1.	Total number and breakdown of employees by gender, age and geographical segment	4.2.2.1 (p. 90)
2.	New hires and dismissals	4.2.2.1 (p. 90)
3.	Compensation and compensation trends	4.2.2.4 (p. 102)
b)	**Organization of work**	
4.	Organization of working time	4.2.2.1 (p. 90)
5.	Absenteeism	4.2.2.1 (p. 90)
c)	**Health and safety**	
6.	Health and safety conditions at work	4.2.2.2 (p. 98)
7.	Workplace accidents, including their frequency and severity, and occupational illnesses	4.2.2.2 (p. 98)
d)	**Employee relations**	
8.	Dialog between employers and employees, including procedures for informing, consulting and negotiating with staff	4.2.2.3 (p. 100)
9.	Review of collective bargaining agreements	4.2.2.3 (p. 100)
e)	**Training**	
10.	Training policies implemented, particularly for environmental protection	4.2.2.5 (p. 103)
11.	Total number of training hours	4.2.2.5 (p. 103)
f)	**Equal opportunity**	
12.	Measures taken to promote gender equality	4.2.2.6 (p. 105)
13.	Measures taken to promote the employment and integration of the disabled	4.2.2.6 (p. 105)
14.	Anti-discrimination policy	4.1.3 / 4.2.2.6 (p. 86 / 105)
5°	**ENVIRONMENTAL INFORMATION**	
a)	**General environmental policy**	
15.	Organization of the Company to take environmental issues and, where appropriate, environmental assessment or certification efforts into account	4.2.4.1 (p. 111)
16.	Resources devoted to the prevention of environmental risks and pollution	4.2.4.1 et 5.1.2 (p. 111 / 161)
17.	The amount of provisions and guarantees for environmental risks, provided that such information is not likely to cause serious harm to the Company in an ongoing dispute	4.2.4.1 (p. 111) and Note 9 to the financial statements (p. 225)

b)	**Pollution**	
18.	Measures to prevent, reduce or remediate discharges into the air, water and soil which seriously impact the environment	4.2.4.5 (p. 122)
19.	Consideration of all forms of pollution specific to a business, particularly noise and light pollution	4.2.4.5 (p. 122)
c)	**Circular economy**	
	Waste prevention and management	
20.	• waste prevention, recycling, reuse, other forms of recovery and elimination measures	4.2.4.5 (p. 122)
21.	• actions to combat food waste	N / A
	Sustainable use of resources	
22.	• water consumption and water supply according to local constraints	4.2.4.3 (p. 115)
23.	• consumption of raw materials and measures to improve efficiency in their use	4.2.4.3 (p. 115)
24.	• energy consumption, measures to improve energy efficiency and use of renewable energy	4.2.4.4 (p. 119)
25.	• land use	4.2.4.5 (p. 122)
d)	**Climate change**	
26.	Significant items for greenhouse gas emissions generated from the Company's activity, particularly through use of goods and services that it produces	4.2.4.6 (p. 128)
27.	Measures taken for adaptation to the consequences of climate change	4.2.4.6 (p. 128)
28.	The medium- and long-term reduction objectives set voluntarily for the reduction of greenhouse gas emissions and the means implemented to this end	4.2.4.6 (p. 128)
e)	**Biodiversity protection**	
29.	Measures taken to preserve or enhance biodiversity	4.2.4.7 (p. 135)
6°	**SOCIETAL INFORMATION**	
a)	**Societal commitments to support sustainable development**	
30.	Impact of the Company's business on employment and local development	4.2.3.3 / 4.2.3.4 (p. 107 / 108)
31.	Impact of the Company's activity on neighbors or local populations	4.2.3.3 / 4.2.3.4 (p. 107 / 108)
32.	Relations maintained with the Company's stakeholders and dialog with them	4.2.3 (p. 106)
33.	Partnership or sponsorship actions	4.2.3.4 (p. 108)
c)	**Subcontracting and suppliers**	
34.	Consideration of social and environmental issues in the purchasing policy	4.2.3.3 (p. 107)
35.	Consideration of relations with suppliers' and subcontractors' and their CSR responsibility	4.2.3.3 (p. 107)
d)	**Fair practices**	
36.	Measures for consumer health and safety	4.2.3.2 (p. 106)
7°	**ANTI-CORRUPTION INFORMATION**	
37.	Actions to prevent corruption	4.2.3.3 / 4.2.1 (p. 107 / 89)
8°	**INFORMATION ON ACTIONS THAT SUPPORT HUMAN RIGHTS**	
	Promotion of and respect for the fundamental conventions of the International Labour Organization	
38.	• respect for freedom of association and the right to collective bargaining	4.1.2 (p. 83)
39.	• elimination of discrimination in respect of employment and occupation	4.1.2 (p. 83)
40.	• elimination of forced or compulsory labor	4.1.2 (p. 83)
41.	• effective abolition of child labor	4.1.2 (p. 83)
9°	**ADDITIONAL INFORMATION**	
42.	The consequences of the Company's activity on climate change and the use of goods and services that it produces	4.2.4.4 (p. 119)
43.	Societal commitments to support sustainable development	4.2.3.3 / 4.2.3.4 (p. 107 / 108)
44.	Societal commitments to support the circular economy	4.2.4.3 / 4.2.4.5 (p. 115 / 122)
45.	Societal commitments to combat food waste	See below

46.	Societal commitments to combat food insecurity	See below
47.	Societal commitments to support respect of animal welfare	See below
48.	Societal commitments to support responsible, equitable, and sustainable food	See below
49.	Collective agreements reached within the Company and their impact on the Company's economic performance as well as on employees' working conditions	4.2.2.3 (p. 100)
50.	Actions to combat discrimination and promote diversity	4.1.3 / 4.2.2.6 (p. 86 / 105)

In light of the Group's activities, the Company considers that it is not relevant to report on its commitments regarding combating food waste, combating food insecurity, promoting respect of animal welfare, and responsible, equitable, and sustainable food.

Appendix 4 – Summary of workforce-related and environmental indicators

Social indicators

	2014	2015	2016	2017	2018	2019
Workforce	23,709	20,964	18,325	20,093	19,164	☑ 18,827
Turnover *(%)*	12	17	9	13	14	11

	2014	2015	2016	2017	2018	2019
Safety						
LTIR[(a)]	1.32	1.24	1.41	1.24	1,0	☑ 1,01
TRIR[(b)]	4.23	3.25	2.61	3.13	2.95	☑ 2,23
Severity rate	0.06	0.07	0.06	0.045	0.050	0.058
Training						
Number of employees having participated in a training session	14,537	145,779	13,779	13,615	13,990	13,550
Number of training hours	513,597	473,009	506,459	282,542	303,588	270,151

(a) LTIR (lost time injury rate): number of accidents with lost time per million hours worked.

(b) TRIR (total recordable injury rate): number of accidents declared per million hours worked.

% of women (permanent employees)

	Production staff		Technical and supervisory staff		Managers		Total	
	2018	2019	2018	2019	2018	2019	2018	2019
Europe	2%	2%	33%	31%	22%	22%	12%	12%
Brazil	5%	6%	29%	30%	25%	25%	10%	10%
NAFTA	2%	1%	27%	27%	22%	22%	10%	10%
Asia	12%	12%	28%	28%	16%	16%	16%	16%
Middle East	-	-	15%	19%	17%	16%	8%	9%
Africa	8%	12%	13%	11%	-	-	11%	10%
WORLD	**5%**	**5%**	**29%**	**29%**	**22%**	**22%**	**12%**	**12%**

Breakdown between permanent and non-permanent contract staff

	Permanent		Fixed-term contract (including apprentices)		Temporary	
	2018	2019	2018	2019	2018	2019
Europe	6,327	5,904	553	456	226	294
Brazil	6,572	6,709	180	118	323	27
Asia	2,560	2,399	351	495	159	217
NAFTA	2,386	2,423	0	0	188	193
Middle East	254	251	15	14	0	0
Africa	53	58	3	0	25	30

Environmental indicators*

Indicators	Units	2014	2015	2016	2017	2018	2019
Production	**Metric tons "processed"**	**5,508,079**	**2,826,499**	**3,068,607**	**5,245,292**	**5,523,792**	**5,295,678**
	Metric tons shipped	2,322,800	1,410,865	1,281,500	2,256,100	2,364,000	2,290,900
Water intake	**m³/year**	**7,831,288**	**5,630,516**	**5,672,035**	**6,483,189**	**6,889,346**	**☑ 6,412,486**
	m³/metric ton "processed"	1.42	1.99	1.85	1.24	1.25	1.21
	m³/metric ton shipped	3.37	3.99	4.43	2.87	2.91	2.80
Water discharged	**m³/year**	**4,087,062**	**3,616,090**	**3,179,631**	**3,202,705**	**3,220,811**	**2,920,223**
	m³/metric ton "processed"	0.74	1.28	1.04	0.61	0.58	0.55
	m³/metric ton shipped	1.76	2.56	2.48	1.42	1.36	1.27
Waste							
Non-hazardous waste	Metric tons/year	628,005	438,266	430,980	693,674	706,711	642,584
Hazardous waste	Metric tons/year	40,909	28,549	27,670	26,095	24,777	26,090
% recovered waste	%	93	94.8	94.38	94.0	95.5	☑ 95.8
Total waste	Metric tons/year	668,914	466,815	458,650	719,769	731,488	☑ 668,674
	kg/metric ton "treated"	121	165	149	137	132	126
	kg/metric ton shipped	288	331	358	319	309	292
Energy							
Natural gas	GWh/year	3,751	2,498	2,531	3,526	3,680	☑ 3,280
	kWh/metric ton "processed"	681	884	825	779	666	619
	kWh/metric ton shipped	1,615	1,771	1,975	1,563	1,557	1,432
Electricity	**GWh/year**	**1,873**	**1,205**	**1,376**	**1,797**	**1,881**	**1,717**
	kWh/metric ton "processed"	340	426	448	343	341	324
	kWh/metric ton shipped	806	854	1,074	796	796	749
CO_2 (a)							
Total direct emissions (scope 1)(a)	Metric tons/year	1,273,427	(373,538)	(468,853)	33,332	421,397	☑ 151,728
	kg CO_2e/metric ton "processed"	231	(132)	(153)	6	76	29
	kg CO_2e/metric ton shipped	548	(265)	(366)	15	178	66

* *Data on the Group's total consolidation scope except for water, which excludes figures for mining, forest and the pelletization unit.*

Figures for the year 2017, used as a new benchmark, have been updated by integrating the Tianda site within the scope.

(a) Energies = electricity, natural gas, gasoline, gas oil, propane.

Analysis of greenhouse gas emissions 2019

Scope	Businesses	Mine	Forest
Scope 1 **Non-biogenic direct CO_2 emissions**	Natural gas combustion		
	Fuels for internal transportation	36,731	17,731
	Production of iron and steel		
	Total – scope 1 non-biogenic	**36,731**	**17,731**
Scope 1 **Biogenic direct CO_2 emissions**	Carbonization of charcoal		972,491
	Atmospheric and underground sequestration		(2,843,931)
	Combustion of charcoal		
	Total – CO_2 scope 1 biogenic	**0**	**(1,871,441)**
"Scope 1 **Biogenic direct CH_4 emissions"**	Carbonization of charcoal		322,165
"Scope 1 **Non-biogenic and biogenic direct emissions"**	**Total – scope 1**	**36,731**	**(1,531,545)**
"Scope 2 **“Supplier base” indirect emissions"**	**"Electricity purchased** **Total – scope 2"**	**306**	**19**
Scope 3 **Other upstream emissions, indirect**	Upstream and downstream external transport ordered by the Company		
	Waste treatment		
	Employee transportation and travel		
	Purchases of materials, goods and services		
	Emissions related to the carbon content of industrial equipment proportionate to amortization and depreciation		
	Emissions linked to losses during extraction, storage and transportation of energies[b]		
	Total upstream – scope 3		
Scope 3 **Other downstream emissions, indirect**	Use of sold products		
	End of Life of sold products		
	Total downstream – Scope 3		
TOTAL ACROSS ALL COMPONENTS		**37,037**	**(1,531,525)**

(a) The items appearing under this entry are those for which the Company has an action or direct influence, and for which data is available. To date, emissions pertaining to client processes are neither known nor taken into account. In an effort to improve knowledge of scope 3 in light of its importance, the Group drafted in 2019, with the assistance of a specialized consultant, a methodology to determine carbon emissions of downstream items relating to the use and end-of-life of products used by its customers. The calculation of these emissions was carried out for 2019, but also, retroactively, for 2017 and 2018.

(b) Energies = electricity, natural gas, gasoline, gas oil, propane.

Summary of emissions in metric tons of CO_2 equivalent

Production of iron and steel	Rolling and heat treatments of tubes	Finishings & Services	"Sub-total *(metric tons CO_2e)*"	% sub-subtotal	% subtotal	% total
38,457	441,064	126,251	605,771	68		
1,537	4,364	7,640	68,003	8		
216,243	0	0	216,243	24		
256,236	**445,428**	**133,891**	**890,018**	**100**	**39**	
			972,491	21		
			(2,843,931)	61		
810,985			810,985	18		
810,985	**0**	**0**	**(1,060,455.5)**	**100**	**47**	
			322,165	100	14	
1,067,222	**445,428**	**133,891**	**151,727**	**100**	**100**	**2**
50,307	**124,940**	**64,838**	**240,411**	**100**	**100**	**3**
			307,817	10		
			94,602	3		
			39,539	1		
			☑ 2,454,945	76		
			162,415	5		
			156,599	5		
			3,215,916	**100**	**100**	**36**
			☑ 5,269,808	99		
			75,600	1		
			5,345,408	**100**	**100**	**60**
1,117,529	570,368	198,729	8,953,461	100	100	100

CHAPITRE 5

Risks and risk management

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5.1 Risk factors

The Group operates in a rapidly changing environment that generates numerous risks, some of which are outside its control.

The Group has evaluated the importance of the specific risks to which it considers itself to be exposed due to the probability of their occurrence and the estimated size of their negative impact after the action plans in place are factored in. These risks are presented below and are organized by categories according to their type. In each category, the most important risk factors according to the aforementioned evaluation are indicated first and noted with an asterisk. Note that the risks linked to the Group's dependence on customers in the Oil sector and risks related to the COVID-19 pandemic and to the impact on oil prices, impacting customer demand, have been the subject of additional information since the approval of the financial statements.

The risks described below have been assessed as major risks for the Company, *i.e.* these are the risks that could have the greatest negative material impact on activities or results (or the Company's ability to achieve its objectives), and/or for which there is a significant likelihood of occurrence.

The Group's wide-ranging geographical presence, the diversity of its markets and product lines, and the nature of its development mean that the Group is exposed to various types of risk. The Group operates in environments undergoing rapid change, and this could cause exogenous risks with an impact on the risk profiles monitored by the Group.

Investors should note that other risks may exist or could arise that the Group is not currently aware of or has not considered at the date of this Universal Registration Document, and these could have a material adverse impact on the Group, its activities, its financial position, results or outlook. The Group has assessed the risk factors as at the date of this Universal Registration Document and may change its assessment of the significance of the risks at any time, particularly in the light of any new internal or external developments.

5.1.1 Risks related to the Group's strategy and activities

Risks related to the Group's dependence on customers in the oil sector*

The Group's activity is highly dependent on the level of expenses incurred by Oil & Gas companies for exploration, production and the development of oil and natural gas reserves. In 2019, 66% of the Group's consolidated revenue was earned in the Oil & Gas sector, excluding Petrochemicals. According to the Group's internal estimates, the share of tube consumption in a complex and integrated offshore project is less than 2% of the total project cost, although this proportion varies according to the complexities and types of drilling. This share may reach up to 9% of the total cost of the project for unconventional onshore drilling in the United States. The level of Exploration and Production investments thus had a direct impact on the consumption of tubes and on the Group's results. Since 2015, spending by Oil & Gas companies has been significantly impacted by the sharp drop in world oil prices, which began in late 2014 due to the overproduction of oil in relation to demand, in particular coming from the United States (shale oil) and due to the consistent production levels of the OPEC countries. This considerable drop in world oil prices led Oil & Gas companies to cut back on the number of their exploration and production projects and intensify cost control. This significantly reduced their expenses and optimized their inventory levels, which had a material impact on demand for tubes and put pressure on tube prices. In 2017, OPEC agreements, which were staggered throughout the year to limit their oil production, allowed world prices to stabilize. Compliance with these agreements has allowed for synchronized growth in the majority of countries in the world, and continued recovery in oil prices, which reached their high in October 2018. Starting in November 2018, the combined increase of production, crude stocks, as well as commercial reserves, particularly American reserves, led to a drop in oil prices. In 2019, the price of a barrel of Brent made an initial recovery during the first four months of the year, and fluctuated thereafter against an uncertain macroeconomic and geopolitical backdrop. At the beginning of 2020, the Coronavirus, which originated in China, led to a decrease in oil demand. At the beginning of March 2020, tension between OPEC and Russia, who both decided to increase their production rather than agreeing to adjust it to demand, led to a marked plunge in oil prices.

From 2014, the spot price per barrel of Brent changed as follows: from an average of USD 99 in 2014, with a peak price of USD 115 in June 2014, the average price dropped to USD 52 in 2015, then to USD 44 in 2016, rising again to USD 66.70 in 2017. Throughout 2018, oil prices gradually rose (reaching their peak in October 2018 at USD 86.07) then starting to drop as from November 2018, and ending at a price of USD 50.57 as at 31 December 2018. In 2019, the price per barrel of Brent peaked at USD 74 in April. Over the remainder of the year, it ranged between USD 58 and USD 73, ending with a price of USD 67 as at 31 December 2019. As at 19 March 2020, the price per barrel of Brent stood at around USD 28.

In 2018, the average number of international rigs (excluding North America) only rose by 4%, with an average of 988 units, compared with an average of 948 units in 2017. This was chiefly in regions where national companies that are less sensitive to the price per barrel operate (such as the Middle East). In 2019, the rig count increased by 11% compared to 2018, from an average of 988 units in 2018 to an average of 1,098 units over 2019. The increase was more pronounced in Europe, the Middle East and Africa, which saw a sharp upturn in exploration and production activity in 2019.

In the United States, the more reactive nature of local operators means that the correlation between price per barrel and rig count is much more sensitive. West Texas Intermediate (WTI) went from an average price of USD 51 in fiscal year 2017 to USD 65 in 2018. This rebound in the price of oil, combined with the drop in the break-even point for US operators had led to an +18% increase in the average number of rigs between 2017 and 2018 (an average of 1,032 units in 2018, compared with an average of 875 units in 2017). These favorable conditions allowed Vallourec to significantly expand its sales in the United States in 2018 and to continue increasing its sales prices, which it began to do in July 2017.

West Texas Intermediate (WTI) fell in 2019, from an average price of USD 65 in fiscal year 2018 to USD 57. Drilling activity in the United States was impacted throughout 2019 by strong operator discipline in terms of cash flow management, resulting in reduced investment. The average number of rigs declined by 9% to 944 units, compared with a figure of 1,032 units in 2018. The active rig count was 805 as at 31 December 2019. The fall in drilling activity impacted tube consumption and prices in the United States and this trend intensified at the end of the year by destocking activity. As at 19 March 2020, the price of WTI stood at around USD 25.

The recovery in oil prices and an alignment between oil supply and demand in 2018 had led to an increase of approximately 13% in oil company expenses compared to the 2017 fiscal year. The change was more pronounced in North America, at +23%, than in the Europe/ Africa (EA) and Middle East/Asia (MEA) regions, where the increase was around 6%. North America saw a decrease in these expenses in 2019, with a fall of 6% compared to 2018, due to tighter cash flow management by the oil companies. In contrast, investment expenditure on international projects rose sharply, mainly in Europe/Africa (EA) and Middle East/Asia (MEA), where it increased by around 15%. As a result, the total amount invested in exploration and production worldwide increased by 6% in 2019.

Likewise, the investments of Oil & Gas companies could be subject to other negative factors such as changes in applicable laws and regulations, changes in the political situation or weather conditions. These factors could consequently have a negative impact on the Group's activity, results and outlook.

These market trends had a considerable impact on Group volumes, revenue and operating income. From 1 February 2016, the Group rolled out a Transformation Plan to improve its competitiveness. This included plans to reduce investment, operating costs and capacity. However, the Group cannot be certain that these measures, which were further strengthened in 2019 with the launch of new initiatives to deliver additional savings, will be sufficient to limit the impact of the market environment on its operating income or its financial position. In addition, oil prices fell again at the start of 2020, and if this decline were to continue, it could have a significant adverse effect on the Group's activity, financial position, operating income and outlook.

Risks related to the cyclical nature of the tube market*

The tube market is traditionally subject to cyclical trends which result both from economic changes in the Oil & Gas sector as described above, and from macroeconomic conditions which have an impact on the Group's other business sectors, including Mechanicals, Automotive, Construction and Power Generation which, together with iron ore production, accounted for 27% of Group consolidated revenue in 2019. These sectors have important business cycles which follow the trends in the economic climate and which are likewise influenced by other factors, such as the growth outlook. By way of illustration, the fall in revenue in the conventional Power Generation segment is due to the expected decline in demand in the coal-fired power industry, particularly in Asia.

Deterioration in the global economic climate and the financial markets could have a significant adverse effect on the Group's revenue, income, cash flow and outlook.

Risks relating to the COVID-19 pandemic and to the impact on oil prices, impacting customer demand

At the beginning of 2020, the Coronavirus, which originated in China, led to a decrease in oil demand. At the beginning of March 2020, tension between OPEC and Russia, who both decided to increase their production rather than agreeing to adjust it to demand, led to a marked plunge in oil prices. As at 19 March 2020, the price per barrel of Brent stood at around USD 28 and the price of WTI at around USD 25.

If the decrease in oil prices seen at the beginning of March 2020 were to prevail long term, they would lead to adjustments to the expenditure of certain customers, in particular in the United States where the market is the most sensitive to changes in the price per barrel, which could have an adverse effect on the Group's revenue and income.

Risks related to dependence on particular customers

In 2019, the Group earned 26% of its consolidated revenue from its five largest customers and 38% of its consolidated revenue from its ten largest customers (see Section 3.2.2.2 "Principal Customers" of this Universal Registration Document). No customer accounted for more than 10% of the Group's consolidated revenue in 2019. The Group has a customer base in all regions of the world, thereby diluting exposure to a specific geographic market.

Nevertheless, most customers are not required to purchase a fixed amount of products or services over a given period and could decide to terminate their contracts, not renew them, or renew them on terms that are less favorable for the Group, particularly with respect to pricing. This could have a significant adverse effect on the Group's business, financial position and results.

The Group is also exposed to risk in respect of outstanding customer receivables. As a result, it has established specific credit committees to systematically evaluate the financial risks assumed with its customers. However, in a deteriorating world economic environment, to which the Oil & Gas sector is by no means immune, the risk that a worsening of its customers' financial position will expose the Group to the risk of payment default cannot be ruled out.

Risks associated with the achievement of the Company's objectives

For the purposes of its operational organization and resource allocation, Vallourec has set a number of objectives for 2020 and for the medium term, particularly in terms of generating free cash flow and EBITDA (see Section 3.8 «Outlook» of this Universal Registration Document).

The medium-term objectives are based on data, assumptions and estimates considered reasonable by Vallourec at the time of the announcement on 19 February 2020 (see Section 3.8 Outlook") and depend in particular on the main assumptions listed in Section 3.8.1.2 of this Universal Registration Document.

These data, assumptions and estimates are likely to change or be modified because of uncertainties related to the economic environment and especially to the expenditure of the main players in the Oil & Gas sector, from which the Group derives the majority of its revenue. In addition, given the changes in the sectors in which the Group operates, it is difficult to assess its outlook or forecast its needs, particularly in terms of operational capacity and resources, technological needs and product volumes.

Any change affecting the assumptions set out in Chapter 3 of this Universal Registration Document and any unpredictability could impact the Group's ability to achieve its objectives and therefore have a negative impact on the price of the Company's shares on the Euronext Paris market.

Risks associated with the competitive environment

The Group operates in a highly competitive international environment, with varying degrees of intensity in its different sectors of activity:

- in the Oil & Gas sector, the Group's main differentiating element is premium connections, for OCTG tubes in particular. These patented connections ensure perfect sealing for tube columns, thereby meeting customers' safety, environmental and performance requirements. However, strong competition in the OCTG commodity tubes market brings downward pressure to bear on prices throughout the market, including the prices of premium connections and tubes. Oil companies, particularly International Oil Companies (IOCs), are seeking to develop a strategy of qualifying low-cost suppliers, particularly Chinese suppliers, for increasingly high-end products, as low-cost players have progressed technically and developed premium connections for the least differentiated categories. This has also had the effect of increasing pressure on the prices of established operators, who have significantly reduced their prices in an effort to be able to win tenders. This new competition has particularly impacted the Europe/Africa (EA) and Middle East/Asia (MEA) regions. The intensification of the competitive landscape in an increasingly globalized seamless tube market could cause losses in market share and impact the Group's volumes, revenue and profitability. In addition, in the US market, the Group is facing competitive pressure from historical actors who are redesigning their business model and creating new production capabilities;
- in the Group's other sectors of activity:
  - in the power generation sector, premium solutions contain high-alloy steel capable of withstanding extreme temperatures and pressure, requiring top-level metallurgical skills and state-of-the-art technology. The Group has noted increased competition since 2009, in particular in the Chinese market, due to the decision of some customers to give preference to local manufacturers who have entered the market for higher grade products, potentially at the expense of the stringency of the customers' technical requirements. Furthermore, the increase in customs duties imposed by China on certain high-end products from Europe has contributed to reducing the competitiveness of our European sites and one site in Germany in particular, where the decisions was made to close the Reisholz factory focused on coal-fired conventional power plants,
  - in the petrochemical, mechanicals, automotive and construction sectors, the Group faces stronger competition as customer requirements are less sophisticated.

Risks related to maintaining advanced technology on key products

The tubes market is subject to technological change. It is not possible at this point in time to foresee how such change could affect the Group's activities in the future.

Third party technological innovations could affect the competitiveness of the Group's existing products and services and have a negative impact on the value of existing patents and the revenue generated by the Group's licenses. The Group's financial results and outlook could be affected and the Group might find itself at a competitive disadvantage if it were unable to develop or access (either alone or through partnerships) new technology, products or services ahead of its competitors, or if its new technology, products or services were not to have the success counted on in the market. The Group continues to invest in Research and Development to maintain its technological leadership and anticipate its customers' needs.

Risks related to the Group's activities in emerging countries

The Group conducts a significant part of its business in emerging countries, in particular because its strategy of being located close to its customers in these countries enables it to improve its responsiveness and to develop appropriate products and services in these countries. The risks associated with doing business in emerging countries may include political, economic and social instability (for example, the nationalization and expropriation of assets, uncertainty as to applicable law and inconsistent application of laws, and the impact of international sanctions, etc.), as well as financial instability and an increased exchange rate risk. There are also risks for personnel deployed on assignment or permanently (with a heightened risk of events such as industrial accidents or terrorism). Despite the Oversight plan in place (see Section 4.1) and its insurance cover (see Section 5.3), the Group may not be in a position to protect itself or hedge against all of these risks, and may also encounter problems in carrying on business in such countries, which could have an impact on its employees and/or results, growth or outlook.

Risks associated with political and macroeconomic instability

The Group is faced with an upsurge in geopolitical disputes involving the countries where it does business, such as the trade war between the United States and China, for example, and an increase in the reprisal measures and protectionist regulations that are an indirect result of this conflict.

This trend is being reflected in a proliferation of commercial defense procedures in Europe, the United States, China, and the Persian Gulf states in the Middle East. These procedures – anti-dumping, safeguarding or other protection mechanisms based on a national security threat, as is the case with the US measures based on Section 232 of the US Trade Expansion Act – impose customs duties or quotas in the steel sector.

These measures are likely to have a negative impact on the Group's commercial flows at global level and, therefore, on its results and outlook.

5.1.2 Operational risks

Risks associated with manufacturing or service defects*

The Group's positioning in the market for premium tubular solutions requires the implementation of a demanding quality control program for its products and services. However, despite the emphasis on manufacturing quality, the Group cannot totally eliminate the risk that some of its products or services may have production or manufacturing defects which could potentially cause damage to property, personnel or installations attached to the tubes, lead to business interruption for customers or third parties, or cause environmental damage. Defects in the Group's products or services may result in compensation from the Group or a fall in demand for its products and services, or adversely affect their reputation for safety and quality. This may in turn have a significant impact on the financial position, results and image of Company and Group activities. A major accident caused by defects in the products or services of players other than the Group might adversely affect the image of the entire Oil & Gas sector.

Risks related to an industry that consumes raw materials and energy

Tube production consumes raw materials such as iron ore, coal, coke and scrap. The Group has some in-house sources of supply and diversifies its external sources of supply whenever possible.

More generally, raw materials and energy represent a significant expense for the Group.

An increase in the price of raw materials and energy leads to a corresponding increase in the production cost of the Group's finished products. Uncertainty surrounding economic trends along with a highly competitive environment in the international market for tubes means that the Group's ability to effect any increases in raw materials and energy prices in its orders is uncertain. This could reduce Group margins and have a negative impact on earnings.

Industrial and environmental risks

The industrial nature of the Group's activity creates risks to the environment, safety and health. The Group's manufacturing processes involve working with molten materials at very high temperatures using heavy machinery and equipment. The risks this poses include industrial accidents, explosions, fires, and environmental hazards such as accidental discharge of polluting or dangerous products, and could lead to unforeseen interruptions to its business, total or partial destruction of facilities, pollution or even personal injury and death.

Such events may involve the Group in legal proceedings for damages against it and/or lead to the application of penalties, and may have an adverse effect on the Group's activity, reputation, results and outlook.

The Group's production activities in the various countries where it has a presence are subject to numerous and wide-ranging environmental, public health and safety regulations which are constantly being updated. These regulations concern, in particular, the prevention of major accidents, use of chemicals, disposal of wastewater, disposal of hazardous industrial waste, and noise pollution. Their purpose is to ensure that the Group is in control of the various environmental risks inherent in its activity, including atmospheric, aquatic and soil pollution, and the risk of damage to biodiversity.

The Group's activities also require numerous permits and authorizations in areas such as the environment, safety, and public health. These include operating licenses, waste water discharge permits, water withdrawal permits, and permits for the transport or landfill of hazardous waste products, all of which may be renewed, modified, suspended or potentially revoked by administrative and government authorities. Due to changes in their industrial activities related to the Group's transformation and in accordance with the legal provisions, only four plants in France still require authorization to operate and only the Valinox nuclear facility in Montbard is covered by "Seveso 3", with a "lower tier" classification.

The Group strives to observe strict compliance with these authorizations and, more generally, with the laws and regulations applicable in environmental matters. Maintaining compliance with existing regulations and standards results in costs and expenses that could increase significantly in the future if new regulations or stricter standards were to be adopted.

In addition, the authorities and courts might require the Group to carry out investigations and clean-up operations, or even restrict its activities or close its facilities temporarily or permanently, and/or require it to pay fines. As regards its former activities, the Group could be held responsible in the event of damage to persons or property, which could adversely affect its results. Under the regulations, the cost of clean-up of the French sites concerned in the event of cessation of their activities was estimated at €0.9 million.

Risks inherent in climate change

The Group is exposed to the risks inherent in climate change (including, for example, drought, flooding, heatwaves or cold spells, standing water and high winds). A study was conducted in 2019 with the assistance of a consultancy firm for the purposes of the Group's carbon policy. Based on the new scope of the Company, it identified risks for all 10 of the Group's major industrial basins and estimated their probability of occurrence and severity based on the IPCC 8.6 scenario, which is more pessimistic than the assessment resulting from compliance with the Paris agreements. This illustrates the difference in the impacts on our sites depending on the risk concerned and their geographical locations, and shows that the updated risk is still significant.

Measures to combat the effects of climate change may also be imposed by various authorities. For example, the Brazilian authorities determined that the exceptional rain risk for a 100-year period should be substantially increased in relation to the dikes protecting the dam intended to collect water originating from the Group's operation of the mine. The corresponding work was therefore defined in consultation with the competent environmental authority and implemented.

The Group's supply chain is also subject to climate risks. The Purchasing Department is responsible for working with the suppliers who are most affected to examine the measures to be adopted under the supplier risk assessment plan.

Risks related to Group equipment failures

The Group's success in meeting orders depends on a high level of asset reliability. The Group could nevertheless suffer breakdowns of equipment or unavailability for other reasons such as damage, fire, explosion or a computer virus. Such failures could cause delays in the delivery of orders in progress or subsequent orders for which these assets were to be used. Although the Group follows a regular maintenance and prevention program in order to keep all of its assets in good working order, it cannot exclude the possibility that breakdowns could occur. Equipment failures may lead to dissatisfaction on the part of the Group's customers, have an impact on the cost of orders and, therefore, significantly affect the financial position, results and image of the Company or the Group.

Risks related to information systems

The Group uses complex information systems (in particular to manage its sales, logistics, accounting and reporting), which are essential for conducting its commercial and industrial activity. Despite a policy to strengthen the emergency programs of its information systems, of its infrastructure (including providing access to service providers and partners), as well as its clients, a failure of one of them could have a material adverse impact on the activity, financial position, results or outlook of the Group.

The Group's launch of an ambitious strategy to digitize its production tools and the creation of new services for customers could increase the risk of theft or loss of information, including personal information.

Despite a certain number of proactive measures that have already been deployed, the Group could fall victim to complex targeted attacks of its IT networks. A growing number of companies have indeed recently been the victims of intrusions or attempted intrusions in their information systems. The techniques implemented to hack, disrupt, degrade the quality of or sabotage information systems are constantly evolving; they are sometimes not listed and it is often impossible to identify them before an attack is launched. Despite all of the precautions taken and its multiple means of defense, the Group might not be able to protect itself against such hacking techniques, or to rapidly establish an appropriate and effective response system. Any breakdown or interruption in the Group's IT services that is linked to such intrusions or to other factors could have a material adverse effect on the activity, financial position, results or outlook of the Group. The Group cannot guarantee that it will not suffer an uninsured loss.

5.1.3 Legal and tax risks

Call options stipulated in certain industrial cooperative agreements linking Vallourec to Nippon Steel Corporation and Sumitomo Corporation*

Certain industrial cooperative agreements linking the Group to Nippon Steel Corporation (NSC) and Sumitomo Corporation contain reciprocal change of control clauses. Under the terms of these clauses, each party has, in certain circumstances, a call option over the other party's interest or a right of cancellation depending on the circumstances, in the event of a change of control of the other party (or of the entity that controls it).

NSC and/or Sumitomo Corporation therefore have, in the event of a change of control of Vallourec Tubes or of Vallourec, the right to acquire the shares held by the Group in the capital of VAM USA LLC.

The agreements entered into in 2016 amended the reciprocal change of control clauses relating to Vallourec Soluções Tubulares do Brasil (VSB, formerly known as Vallourec & Sumitomo Tubos do Brasil), in order to take into account Vallourec Tubos do Brasil's contribution of almost all of its assets to VSB, and thus the expansion of VSB's business scope. In the event of a change of control of Vallourec Tubes, Vallourec Tubos do Brasil or Vallourec, NSC has the right to acquire the Jeceaba plant which was the scope of VSB's business before the 1 February 2016 agreement came into effect.

In return, the Group has the right, under certain circumstances, to acquire the shares held by the NSC group and Sumitomo Corporation in VSB in the event of a change in control of NSC or Nippon Steel and Sumikin Tubos do Brasil (or the entities controlling them).

Moreover, in the event of a change of control of Vallourec Oil & Gas France (VOGFR), Vallourec Tubes, or Vallourec, NSC has the right to cancel the Research and Development contract entered into by VOGFR and NSC on 1 April 2007, while retaining the right to use the research and development results jointly obtained and to enable any licensees to benefit from such results, as VOGFR benefits from the same rights in the event of a change of control of NSC. If NSC exercises its right of cancellation, it will also be entitled to continue to use the VAM® trademarks for six years from the date of such cancellation.

Risks associated with business ethics and corruption

Vallourec operates in the Oil & Gas sector, a sector which is considered by the NGO Transparency International as greatly exposed to the risk of corruption, has recourse to sales agents to sell its products and services, and operates in countries in which the risk of corruption may be perceived as high (according to Transparency International's ranking).

Vallourec has a presence in more than 20 countries. most with anti-corruption and competition laws. Infringement of such laws, even as a one-off occurrence, may lead to criminal and administrative sanctions, including heavy fines, as well as harming Vallourec's image and reputation.

As part of its global compliance program, Vallourec has introduced a number of internal procedures relating to the use of sales agents, gifts and invitations, and commercial sponsorship based on the principles and fundamental values of the Group's Code of Ethics. Vallourec has also rolled out a professional whistleblowing system accessible to all employees and third parties, and has published an Anti-corruption Code of Conduct with a preface by the Chairman of the Management Board. Training continued in 2019 and internal communication was strengthened. ETHIC Intelligence renewed its certification of this prevention scheme in December 2019.

It cannot be ruled out, however, that the Group could be impacted by infringements of legislation that could lead to significant civil and/or criminal sanctions and might have an adverse effect on its financial position or its image.

Risks related to intellectual property

Risks related to intellectual property primarily stem from:

- disputes brought by third parties against the Group;
- the appropriation of its technologies by competitors; and
- fraudulent use by third parties of its trademarks.

The Group has an Intellectual Property Department and a Legal Department staffed by qualified and experienced personnel who are responsible for (i) taking the necessary measures to protect and enforce its intellectual property rights, while ensuring the rights of third parties are respected, and (ii) educating Group employees on the importance of better protecting and defending its intangible assets. However, the laws and regulations, as well as the legal system in some countries in which the Group operates do not necessarily provide such extensive and effective protection for intellectual property rights, and/or the means to combat counterfeiting at this time as in countries such as France, Germany or the United States.

Risks related to counterfeiting

Like other tubular products and accessories manufacturers, the Group has had to contend with the existence of counterfeit products for sale in the market, which use the trademarks of Vallourec and its subsidiaries, and are sometimes even accompanied by false certificates. Counterfeiting activities aim to confuse customers in terms of the source of products, thereby allowing the counterfeiters to unfairly derive a profit from the Group's investments and reputation. There are thus multiple risks involved: in addition to the risk of losing customers drawn to cheaper products, there is a material risk of accidents if the counterfeit products have problems with quality and do not comply with the applicable standards. These risks could have an impact on the Group's image, and, indirectly on its financial results.

The Group created a Counterfeit Committee in 2015 and is also one of the founding members of the Steel Alliance Against Counterfeiting (SAAC), which unites the best-known manufacturers of tubular products in the world market in the fight against counterfeiting. The Group has also doubled its campaigns to raise awareness among the public authorities and market players concerned.

If, despite all of the measures taken, the Group was unable to successfully protect, maintain and defend its intellectual property, it would risk losing a portion of its technological edge, customers and income sources; this could have a significant adverse effect on its activities, results and image.

Furthermore, the risk that competitors may access some of the Group's manufacturing secrets or certain innovations that are not yet patented or that are not eligible to be patented cannot be entirely ruled out. The procedures established by the Group's Security Department and IT Department, as well as the signing of confidentiality agreements, can limit this risk, although it cannot be completely eliminated. The Group's results and outlook could therefore be affected.

Tax and tax evasion risks

The Group's entities conduct sales, industrial and/or financial activities in various countries and have the necessary personnel, equipment, and assets there for that purpose. The contracts entered into by the Group's entities, with one another or with third parties, formalize these activities. As an international group that carries out its activities in numerous countries, Vallourec has structured its sales, industrial and financial activities, as well as its contracts, in compliance with the various regulatory and legal requirements to which it is subject, and according to its sales, industrial and financial objectives. Through this structure, as well as with the regular monitoring of changes in these legal and regulatory requirements, the Group particularly aims to limits potential tax risks (including any tax evasion risks).

To the extent that the laws and regulations of the various countries in which the Group's entities are located or operate do not establish clear or definitive guidelines, the tax regime that is applied to its activities, transactions or intragroup restructurings (whether past or future), is or may sometimes be based on interpretations of French or foreign tax regulations and laws. The Group cannot guarantee that these interpretations will not be challenged by the competent tax administrations in the jurisdictions concerned. More generally, any breach of the current tax laws and regulations in the countries in which the Group or Group's entities are located or operate could result in reassessments of taxes owed, or the payment of late interest, fines and penalties. Furthermore, the tax laws and regulations could change or be modified through their interpretation and application by the jurisdictions or tax administrations concerned, in particular in the context of joint initiatives occurring on an international or community scale (OECD, G20, European Union).

Each of the preceding factors could result in an increase in the Group's tax burden, and have a material adverse impact on its financial position and results.

The Group has been and may in the future be subject to recovery proceedings and tax disputes in some countries in which the Group entities are located or operate. When the Group considers that a loss relating to the tax disputes is probable, a provision is made according to the best estimate of foreseeable expenses. The outcome of the ongoing tax proceedings might, however, differ from the Group's forecasts and positions, or from the amount that may be provisioned in the consolidated financial statements. The Group cannot provide assurance that these provisions will be sufficient to cover the amounts to be actually disbursed at the end of these proceedings.

The Group's future results, the French and foreign tax rules, and tax controls or disputes could limit the Group's capacity to use its tax deficits, and thus impact its financial position.

The Group has significant tax losses (for which the accounting impacts are described in Note 3 of the notes to the consolidated financial statements for the fiscal year ended 31 December 2019, which appear in Section 6.1 of this Universal Registration Document).

The Group's ability to effectively use these losses will depend on a number of factors, including (i) the ability to achieve tax benefits and the extent to which such benefits cover losses, (ii) the limits applicable to any tax losses imposed by the French and foreign laws and regulations, (iii) the consequences of current or future tax audits or disputes, and (iv) any changes in the applicable laws and regulations.

The impact of these factors could increase the tax pressure to which the Group is subject, and thus have an adverse effect on its effective tax rate, financial position and results.

5.1.4 Financial and market risks

Given its financial structure, the Group is exposed to (i) liquidity risks and (ii) market risks, including interest rate, foreign exchange, credit and equity risks.

A description of market and liquidity risks is provided in Note 7 to the consolidated financial statements in Section 6.1.7 of this Universal Registration Document.

Liquidity risk*

As at 31 December 2019, the maturities of current bank loans and other borrowings totaled €2,077,321 thousand; the maturities of non-current bank loans and other borrowings totaling €1,747,061 thousand are shown in the table below:

Breakdown by maturity of non-current loans and other borrowings (> 1 year)

(in € thousand)	> 1 year	> 2 years	> 3 years	> 4 years	5 years or more	Total
As at 31/12/2018	**11,011**	**11,736**	**784,995**	**407,474**	**581,421**	**1,796,637**
Other non-current borrowings	1,723	781,368	399,722	502,211	62,037	1,747,061
AS AT 31/12/2019	**1,723**	**781,368**	**399,722**	**502,211**	**62,037**	**1,747,061**

The Group's financial resources are composed of bank financing and market financing.

The majority of long-term and medium-term bank financing has been put in place in Europe through Vallourec and, to a lesser extent, the subsidiaries in Brazil. The Vallourec credit lines (€2,128 million) do not benefit from any security or guarantee.

Market financing is arranged exclusively by Vallourec.

As at 31 December 2019, the Group was compliant with its commitments and the terms and conditions for obtaining and maintaining all of the above facilities. Together, the above resources were sufficient to cover the Group's cash requirements as at 31 December 2019.

As at 31 December 2019, the Group had confirmed bank credit facilities of €2,128 million, including €426 million unused, and cash of €1,794 million. The Group therefore had liquid assets of €2,220 million at its disposal.

As mentioned in Note 7.1.5 of the notes to the consolidated financial statements for the Group fiscal year ended 31 December 2019, set out in Section 6.1 of this Universal Registration Document, credit lines of €194 million will expire in February 2020, €100 million in July 2020 and €1,724 million in February 2021. Drawn credit lines will therefore need to be repaid by these deadlines.

In this regard, on 19 February 2020 the Group announced its plan to launch a capital increase with preferential subscription rights maintained, for an amount of around €800 million. Vallourec has obtained a commitment from a banking syndicate to underwrite the balance of the capital increase, subject to the usual conditions.

The Group also announced that it had entered into an agreement with several banks for the provision of a confirmed medium-term bank facility of €800 million, conditional on the completion of the capital increase. This syndicated loan will replace all the bank facilities expiring in February 2021.

With the completion of these transactions for a total cumulative amount of €1,600 million, plus €1,794 million in available cash on the balance sheet and an EIB credit line of €110 million maturing in 2027, the Group will be able to meet its liquidity needs for the next 12 months. In the event of unfavorable developments in the situation relating to the COVID-19 pandemic or if low oil prices per barrel were to prevail longer term which would affect the company's ability to carry out the refinancing transactions referred to above, the Group would explore other means of financing.

In February 2014, Vallourec established a confirmed credit line for the amount of €1.1 billion, maturing in February 2019, plus two one-year extension options. In addition to the first one-year extension obtained for €1.078 billion, the second extension was granted in July 2016 for the sum of €989 million, which was then raised to €1,034 million in July 2017. The new maturity date is in February 2021. This credit line is available for the Group's general funding purposes. €1,021 million had been drawn on this line as at 31 December 2019.

In June 2015, Vallourec agreed to a confirmed bilateral line of €90 million until February 2019 with two one-year extension options, which were granted in July 2016. €89 million had been drawn on this line as at 31 December 2019.

In September 2015, Vallourec established a confirmed credit line for the amount of €400 million, maturing in July 2019. An initial one-year extension (until July 2020) was granted in July 2016 for the full amount. A second extension was granted in February 2019, extending this financing from July 2020 to February 2021 in the amount of €300 million. €296 million had been drawn on this line as at 31 December 2019.

In May 2016, Vallourec established a confirmed credit line for €450 million maturing in February 2020. An extension of one additional year was granted in February 2019, allowing this financing to be extended from February 2020 to February 2021 in the amount of €300 million. €296 million had been drawn on this line as at 31 December 2019.

In May 2018, Vallourec established a credit line for €110 million with the European Investment Bank, maturing in April 2027. This line of credit is available to finance the Group's Research and Development, and digitization projects. As at 31 December 2019, this line had not been drawn.

Each of these bank facilities requires Vallourec to maintain its consolidated net debt-to-equity ratio ("banking covenant") at 100% or less, calculated as at 31 December each year. As defined in the bank loan agreements, the banking covenant ratio is the ratio of the Group's consolidated net debt (including the financial lease debt and the shareholder's loan in Brazil) to the Group's equity, restated for gains and losses on derivatives and for foreign currency translation reserves (gains and losses of consolidated subsidiaries in foreign currency).

As at 31 December 2019, the restated indebtedness ratio ("banking covenant") as defined in the bank loan agreements was 81%. The implementation of IFRS 16 has no impact on the banking covenant.

A change in control of Vallourec could trigger repayment of all or part of the debt, as decided by each participating bank. It is also stipulated that the entire debt will be immediately due and payable if the Group defaults on one of its debt obligations (cross default), or in case of a major event with consequences for the Group's business or financial position and its ability to repay its debt.

In addition to this bank financing, the Group aims to diversify its sources of financing on the markets. For example, Vallourec launched a commercial paper program on 12 October 2011 to meet its short-term needs. The program has a €1 billion ceiling. As at 31 December 2019, Vallourec had outstanding €110.0 million for maturities ranging from 1 to 12 months. This commercial paper program is rated B by Standard & Poor's.

Vallourec also issued a long-term (15-year) private bond in August 2012 for an amount of €55 million, with an annual coupon of 4.125%.

On 30 September 2014, Vallourec issued a €500 million bond, maturing in September 2024, with a fixed annual coupon of 2.25%.

On 27 September 2017, Vallourec issued a €250 million bond, consisting of Bonds Convertible into New Shares and/or Exchangeable for Existing Shares, maturing in October 2022, with a fixed annual coupon of 4.125%, a 37.5% conversion premium and a unit par value of €6.89.

On 11 October 2017, Vallourec issued a €400 million bond, which received a matching contribution on 23 October 2017 in the amount of €150 million (*i.e.* €550 million in total) maturing in October 2022 with a fixed annual coupon of 6.625%. This bond is callable pursuant to the contractual terms as from 15 October 2020.

On 12 April 2018, Vallourec issued a €400 million bond, maturing in October 2023, with a fixed annual coupon of 6.375%. This bond is callable pursuant to the contractual terms as from 15 October 2020.

As at 31 December 2019, the market values of these fixed-rate bonds were €63.7 million, €531.7 million, €557.7 million and €409.4 million, respectively.

These bond issues were intended to diversify and increase the amount and extend the maturity of the financial resources available to the Group.

They specifically include a change-of-control clause that would trigger the mandatory early redemption of the bonds at the request of each bondholder in the event of a change of control of Vallourec (in favor of a person or a group of people acting jointly), entailing a downgrade in the Company's financial rating.

The bonds may also be redeemed early at the request of the bondholder or Vallourec, depending on the case, in the event of certain standard cases of default for this type of bond issuance or a change in Vallourec's position or in the tax regulations.

Rating risk

A review of Vallourec's debt rating could increase the cost of borrowing and in certain cases limit Vallourec's access to the capital that the Company needs.

Vallourec's financial rating from the rating agencies relies, in part, on factors that are beyond its control, such as the conditions affecting the Oil & Gas market in general or those impacting certain countries or regions where the Group conducts its business. The rating agencies may modify Vallourec's rating at any time, in particular due to a change in economic conditions or a deterioration in the Group's performance or results. A downgrading of Vallourec's rating could have a material adverse effect on its results and financial position.

Market risks

FOREIGN EXCHANGE RISK

Foreign currency translation risk

The assets, liabilities, revenues and expenses of the Group's subsidiaries are expressed in various currencies. The Group's financial statements are presented in euros. The assets, liabilities, revenues and expenses denominated in currencies other than the euro are translated into euros at the applicable rate so that they can be included within the financial statements.

If the euro rises (or falls) against another currency, the value in euros of the various assets, liabilities, revenues and expenses initially recognized in that other currency will fall (or rise). Therefore, changes in the value of the euro may have an impact on the value in euros of the assets, liabilities, revenues and costs not denominated in euros, even if the value of these items in their original currency has not changed.

In 2019, net income, Group share, was generated to a significant extent by subsidiaries that prepare their financial statements in currencies other than the euro (mainly in US dollars and the Brazilian real). A 10% change in exchange rates would have had an upward or downward impact on net income, Group share, of around €4.5 million. In addition, the Group's sensitivity to long-term foreign exchange rate risk is reflected in the changes that have occurred in recent years in the foreign currency translation reserves booked to equity (-€636.7 million as at 31 December 2019) which, in recent years, have been linked mainly to changes in the US dollar and Brazilian real.

Foreign currency translation reserve – Group share

(in € thousand)	**31/12/2018**	**31/12/2019**
USD	251,022	277,548
GBP	(12,031)	(12,294)
BRL	(880,712)	(902,066)
CNY	16,192	16,710
Other	(22,930)	(16,639)
TOTAL	**(648,459)**	**(636,741)**

As far as the Group is aware, translation risk is unlikely to threaten its financial equilibrium.

Transaction risk

The Group is subject to foreign exchange risks owing to its business exposure linked to sales and purchase transactions entered into by some of its subsidiaries in currencies other than their functional currency.

The main foreign currency involved is the US dollar (USD): a significant portion of the Group's transactions (approximately 37% of Group revenue in 2019) are invoiced in US dollars by companies whose functional currency is not the US dollar. Exchange rate fluctuations between the euro, the Brazilian real and the US dollar may therefore affect the Group's operating margin. Their impact is, however, very difficult to quantify for two reasons:

- there is an adjustment phenomenon on sales prices denominated in US dollars, which is related to market conditions in the various sectors of activity in which Vallourec operates;
- certain sales and purchases, even though they are denominated in euros, are influenced by the level of the US dollar. They are therefore affected indirectly and at some time in the future by movements in the US currency.

The Group actively manages its exposure to foreign exchange risk to reduce the sensitivity of its net profits to currency fluctuations by setting up hedges once the order is placed and sometimes once a quotation is given.

Orders, receivables, payables and cash flow from operating activities are thus hedged with financial instruments, mainly forward purchases and sales.

Order cancellations could therefore result in the cancellation of hedges implemented, leading to the recognition in the consolidated income statement of gains and losses with regard to these canceled hedges.

To be eligible for hedge accounting as defined under IFRS 9, the Vallourec Group has developed its cash management and invoicing systems to facilitate the traceability of hedged transactions throughout the duration of the hedging instruments.

As at 31 December of the last two years, forward foreign exchange contracts to hedge foreign currency-denominated purchases and sales amounted to the following:

Hedging contracts with regard to commercial transactions – exchange rate risk

(in € thousand)	31/12/2018	31/12/2019
Forward exchange contracts – forward sales	1,158,870	1,118,676
Forward exchange contracts – forward purchases	30,339	37,729
Currency options – sales	-	-
Currency options – purchases	-	-
Raw materials and energy – purchases, options	-	-
TOTAL	**1,189,209**	**1,156,405**

Contract maturities as at 31 December 2019

Contracts on commercial transactions *(in € thousand)*	Total	1 year	1 to 5 years	> 5 years
Exchange contracts: forward sales	1,118,676	1,103,091	15,585	-
Exchange contracts: forward purchases	37,729	37,729	-	-
Currency options: sales	-	-	-	-
Currency options: purchases	-	-	-	-
Raw materials and energy – purchases, options	-	-	-	-
TOTAL	**1,156,405**	**1,140,820**	**15,585**	**-**

Forward sales (€1,119 million of the €1,156 million total) correspond mainly to sales of US dollars. These contracts were transacted at an average forward EUR/USD rate of 1.16 and an average forward USD/BRL rate of 4.09. In 2019, as in 2018, the hedges entered into generally covered an average period of about 10 months and mainly hedged highly probable future transactions and foreign currency receivables.

In addition to hedges on commercial transactions, Vallourec has implemented forward contracts for USD 24 million (€21.7 million) and for GBP 23 million (€26.5 million) since 2011.

These instruments are intended to hedge the foreign currency loans and checking accounts established by the financial holding company Vallourec Tubes in the currency of the subsidiaries receiving them. The forward purchases and sales mature at various times in 2020, as and when the hedged loans and borrowings mature. However, the Group cannot guarantee that it will be able to systematically hedge all its foreign currency-denominated contracts. Lack of hedging of these contracts may have a significant adverse effect on the Group's results and financial status.

5.2 Risk management and internal control system

5.2.1 Risk management

Risk management and internal control are rolled out in all companies in which Vallourec directly or indirectly holds the majority of share capital. Companies whose shares are listed or under joint control have an appropriate system and internal control structure, consistent with current local legislation.

Internal control and internal audit rely on the results of the risk analysis, in order to improve the Group's internal control mechanisms and define its internal audit plan, respectively.

5.2.1.1 Objectives and general principles of risk management

Risk management provides management leverage for the Group, and primarily contributes to:

- securing the Group's decision-making processes and other procedures in order to promote the achievement of its objectives; and
- creating and preserving the Group's value, assets and reputation.

Furthermore, risk management aims to:

- promote consistency between the Group's actions and values; and
- mobilize the Group's employees around a common vision in terms of primary risks and raise their awareness of the risks inherent to their business.

Vallourec adopts a detailed cross-company approach in its "Group Risk Management Policy". The Risk Management Department provides methodological support for promoting and implementing this policy. This favors the development of internal control by anticipating risks and reviewing the "best practices" for controls.

Risks are managed by the industrial and sales units and by the functional departments.

The Risk Committees set up within each major entity and Region, and the Management Board evaluate the risks and determine the controls and action plans aimed at limiting the impact and/or the probabilities of these risks occurring.

5.2.1.2 Risk management system

Identifying risks consists of determining the main risks the Group faces with its operational and functional departments. In collaboration with the entity in question, the Risk Management Department analyzes these risks and maps them, an exercise which in particular aims to agree on a list of risks and to determine how to reduce, transfer, eliminate or accept them. Priorities are determined not only according to probability of occurrence and/or consequences of risks, and control level, but also of the progress of control improvements through benchmark practices in the subject area.

Risk maps are in place for each of the major entities, Regions, and for the Management Board. Each map incorporates main risks, along with their likely scenarios, internal and external experiences with such risks, controls in place and "best practices".

Risk management is provided by the Regions and Management Board during the annual committee meetings in which the Head of risk management participates, in order to provide ideas and guarantee that actions are consistent at Group level. Each Committee meeting is attended by the relevant entity manager and their main assistants. Functional managers affected by specific risks may also be invited, in particular managers from the Departments of Technology, Research and Development and Innovation, and Information Systems. Each Committee meeting handles the following matters:

- validation of diagnosis, allocation and follow-up of action plans for each priority risk;
- validation of the key risk indicators, which ensures the relevance of new controls after closure of the action plan, and the on-going application of said controls.

The Group works collaboratively with its insurers to supplement this work of identifying and mitigating industrial operating risks and to roll out business continuity plans.

5.2.2 Internal control

5.2.2.1 Objectives and general principles of internal control

The Group's internal control system was developed and implemented with significant involvement from the Group's staff. It aims to provide reasonable assurance that the following four objectives can be achieved:

- compliance with laws and regulations in force;
- proper application of the instructions issued and compliance with the policies laid down by the Management Board;
- proper operation of internal processes (in particular those relating to achieving objectives and safeguarding assets); and
- accuracy of accounting and financial information.

The internal control process is constantly evolving in order to adapt to changes in the economic and regulatory environment and the Group's structure and strategy. Independently of these developments, the key control activities for internal control and risk management processes are regularly reviewed, at least annually for the most critical control activities.

In order to ensure the consistency of daily actions led worldwide on behalf of the Group, Vallourec has put in place a set of key internal control procedures. These constitute the basis for the internal rules which apply to all its employees and to its units.

At the heart of Vallourec's internal control system, these procedures provide a framework for the actions of each employee. They relate, in particular, to ethics, compliance with laws and regulations, the delegation of authority, the separation of assignments and tasks, the confidentiality of information, the prevention of insider trading, the procedure for relations with the media and financial communication.

ETHICS AND COMPLIANCE WITH LAWS AND REGULATIONS

The Group's structure and actions in terms of ethics and compliance with laws and regulations are described more extensively in Section 4.2.1 "Ethics and Compliance" of this Universal Registration Document.

DELEGATION OF AUTHORITY

The level of authority given to each manager within the Group must remain compatible with the maintenance of an overall level of control, with the Group's strategy, and with the application of rules common to all Group entities.

To meet these requirements, the aim of the delegated authority procedure at Group level is to clearly define the prerequisite approval levels for the main commitments entered into by any Group entity. Delegations of authority may not contravene applicable statutory and regulatory provisions.

Led by the Internal Control Department, this procedure is adapted as often as needed. It is implemented in each Region in the areas for which the subdelegations have been authorized by the Group. The strict application of these delegations of authority is systematically confirmed during the internal audits of the Group's entities.

CONFIDENTIALITY OF INFORMATION

Against a backdrop of intense competition, the Group needed to make all employees aware of their obligations as regards confidentiality. Vallourec therefore drew up a Confidentiality Charter with the aim of enabling it to carry out its business under the best possible conditions in the face of competition and of protecting people working for Vallourec by informing them of the confidentiality obligations with which they must comply.

PREVENTION OF INSIDER TRADING

Vallourec has a Code of Good Conduct on the prevention of insider trading that may occur in connection with transactions in its shares. This Code concerns not only Vallourec's corporate officers, but all of the Group's employees and partners.

Its objective is to ensure compliance with precautions in order to (i) protect staff at all levels by making them aware of stock exchange regulations and applicable penalties, so as to enable them to avoid being the subject of legal proceedings, (ii) protect Vallourec and the Group, in particular from the risks of damage to its image and reputation and a decline in the value of its shares, and (iii) retain the confidence of investors and maintain equality of treatment between shareholders.

The Group's Legal Director performs an ethics function, and is mainly in charge of overseeing compliance with the provisions of the Code of Good Conduct, although each employee involved is ultimately responsible for compliance with the applicable regulations. In particular, the Legal Director updates the insider lists required by current regulations and keeps them available for the French securities regulator (*Autorité des Marchés Financiers* – AMF).

PROCEDURES FOR RELATIONS WITH THE MEDIA

Vallourec defined procedures for relations with the media, as well as a set of best practices to be followed on social networking sites, which aim to safeguard the development of the Group's image and the promotion of its activities, while ensuring its messages are consistent and its reputation is protected.

All information for the media, whether provided or requested, and when it concerns in particular a press release, conference, interview or telephone call, is subject to an internal validation process.

Likewise, all activity on social networking sites must be conducted in accordance with the best practices that have been formally adopted by the Communications Department and posted on Vallourec's Intranet.

FINANCIAL COMMUNICATIONS

Vallourec has drawn up a financial communications procedure, which aims to ensure that the Group's system of providing financial information to the public complies with applicable statutory and regulatory provisions.

Annual and interim financial reports and quarterly financial information are the subject of an internal approval process prior to their release and filing with the AMF.

5.2.2.2 Internal control mechanism

The Management Board sets the internal control policy and ensures it is implemented by the executive management of each Group entity.

To ensure the consistency of the Group's procedures worldwide, the Management Board relies on the functional departments to draw up procedures, give instructions and ensure compliance with them.

Moreover, the Internal Audit Department always participates in these processes with the objective of evaluating the quality of the self-assessment at the internal control level approved by each company manager, through the evaluation of a predefined number of "key" checkpoints.

INTERNAL CONTROL MECHANISM FOR FINANCIAL AND ACCOUNTING INFORMATION

Financial and accounting reporting

Preparation of financial and accounting information is centralized based on the subsidiaries' financial statements, adjusted to comply with Group standards. The information is collected *via* reporting and consolidation software at all the consolidated subsidiaries.

The subsidiaries report monthly in the following month. Accounting consolidation is comprehensive and completed quarterly, within the same period of one month. The reporting of off-balance sheet contingent liabilities and commitments is an integral part of the quarterly consolidation process.

External financial information

Vallourec publishes quarterly information as at 31 March and 30 September each year, including, in particular, the consolidated statement of financial position and income statement. The preparation of the quarterly, interim and annual consolidations is the responsibility of the Management Board. The Statutory Auditors conduct an audit of the annual financial statements and a limited review of the interim financial statements. They generally do not audit the quarterly financial information.

Cash management and financing

The Cash Management and Financing Department is in charge of the Group's financing strategy and manages banking liquidity and access to market financing.

The Cash Management and Financing Department ensures that cash flow is optimized and controlled through:

- forecasts prepared by companies in the Group;
- centralizing euro, pound sterling, Chinese yuan and US dollar cash flow at the main European companies;
- centralized cash management in Chinese yuan for the main Chinese companies at Vallourec (China) Co. Ltd;
- centralized cash management in US dollars for some US companies at Vallourec Holding, Inc. and Vallourec Tubes; and
- monthly cash management reports in Brazilian real at the Brazilian companies.

Long-term (more than one year) financing and investment are managed by the Cash Management and Financing Department. Financing and investments of less than one year are delegated to subsidiaries according to a specific Group procedure: quality of the banks involved, risk-free investment, and monitoring of the financial guarantees given.

The Cash Management and Financing Department is also responsible for foreign exchange and interest rate risk management strategy.

To this end, currency hedging operations for sales in US dollars, pound sterling, Chinese yuan, Norwegian krone, Kuwaiti dinars, and Canadian dollars are centralized for the Group's main companies.

Currency and currency hedging operations are governed by rules established by the Group's Cash Management and Financing Department and, more generally, all the cash management operations specific to each company are conducted within the framework of a general cash and risk management policy.

The Cash Management and Financing Department ensures debts, investments and foreign exchange transactions of subsidiaries are tracked. As part of this tracking, it prepares a monthly report, which is sent to the Management Board.

Procedures and instructions for financial and accounting reporting

With the objective of producing high-quality financial and accounting information, Vallourec has established procedures and instructions tailored to its French and foreign subsidiaries. These procedures are classified by topic and deal mainly with accounting, cash and cash equivalents, and reporting issues, and with the IFRS framework.

Details of the procedures are available on an intranet site that can be consulted by all of the Group's finance staff.

To ensure consistency between financial and accounting data on the one hand, and management tools and rules on the other, the Group has drawn up a set of procedures in a Management Manual, summarizing the definitions, principles and rules for management control and for the production of financial information. This document is disseminated among employees who are in charge of preparing and controlling management and financial information. Its purpose is to contribute to the quality and consistency of this information.

OTHER KEY INTERNAL CONTROL MECHANISMS

Industrial capital expenditure

The Management Board reviews the Group's capital expenditure position presented by the Capital Expenditure, Projects and Engineering Department several times per year. It examines budgets, capital expenditure authorizations, and actual and forecast expenses.

According to the procedure "Management of CAPEX projects", projects with an expected cost of over €1 million follow a specific qualification and authorization process through three stages of Front-End Loading.

The Qualification Committee includes the Group's experts, examines the fundamental aspects of the projects at each of the three stages (market assumptions, technical choices, budget, planning and risks) and meets once a month under the aegis of the Capital Expenditure, Projects and Engineering Department. The Authorization Committee brings together either the Director of Capital Expenditure, Projects and Engineering and the Director of Management Control for projects over €1 million, or the members of the Management Board for projects of more than €5 million. During these committee meetings, the projects are compared in terms of alignment with strategy, profitability and risks, all within the framework of the Group's budget.

The Capital Expenditure, Projects and Engineering Department participates as a member of the steering committees for major industrial projects in progress, in order to implement "best practices" of governance and management. The goal is to reliably complete these projects in line with expected costs, quality and time frames. It also audits certain projects underway, in order to ensure that best project management practices are effectively implemented.

The Capital Expenditure, Projects and Engineering Department carries out a monthly check on compliance with annual objectives and, in conjunction with the Regions concerned, ensures that corrective measures are taken if any discrepancy is noted.

A posteriori controls are carried out on expenses, expected objectives and the profitability of capital expenditure projects at the initiative of the Capital Expenditure, Projects and Engineering Department, and with the support of the Management Control Department. Such controls are performed on projects authorized in earlier years that are in production.

Management system

Vallourec has management systems (Vallourec Management Systems – VMS), which are implemented at all Group companies. VMS has been structured around seven main components:

- the Human Resources management system, including, in particular, the Talent 360 system, on which the management of performance, annual appraisals and professional appraisals depend;
- the CAPTEN+ Safe program, which coordinates all actions to continuously improve work safety;
- programs related to sustainable development, following the commitments of the Group's Sustainable Development Charter;
- management systems contributing to industrial excellence, which specifically comprise the quality management and lean management systems. Lean management aims to improve performance in terms of productivity, level of stock and time to complete orders;
- systems that include activities related to excellence in sales, including marketing, key account management, and the implementation of valued offers;
- Research and Development management systems, through the innovative project management system; and
- the major projects management system described in the Group's Qualification and Authorization Management Handbook, which coordinates the activities and deliverables required for managing industrial investments.

In addition to the control of processes and continuous improvement, VMS is responsible for ensuring that initiatives are consistent with the aims of the Group's strategic plan.

The functional departments assist the Group's entities in rolling out VMS, sharing and capitalizing on "best practices", and developing managers' expertise.

Quality – safety

The Quality Department and the Group Safety Department are in charge of proposing the guidelines and objectives of the Group to General Management, in terms of quality and safety, and of defining applicable standards on the subject for the Group as a whole.

Under VMS, these standards define the suitable systems, methods and specific tools to be implemented to consistently improve product quality and control of manufacturing processes, on the one hand, and the safety of people and equipment, on the other. They are defined in compliance with the quality management standards (ISO 9001 or ISO/TS 16949, API, ASME, etc.) and safety standards (OHSAS 18001, ISO 45001).

The Quality Department and the Safety Department handle promotion of these standards, assist with their implementation, set up the necessary training programs and oversee the sharing of best practices. Through the visits they make to all Group sites, in addition to the audits carried out by external certification bodies, they ensure these practices are well understood and properly applied to all processes which contribute to customer satisfaction.

The Vallourec Quality approach takes into account the requirements of the most stringent standards, in particular those relating to standardization, problem resolution, the control of variations in quality and risk prevention.

The safety improvement program, known as CAPTEN+ Safe, relies on the commitment of management as a whole, the involvement of all employees and the establishment of appropriate follow-up indicators.

Sharing the Management Board's concern regarding safety and quality, the Supervisory Board starts each of its meetings with a progress review of the Group's safety and quality performance.

Sustainable development

Sustainable development is managed within Vallourec by the Sustainable Development Department, which reports to the Group's General Counsel, General Secretary and a member of the Executive Committee.

The Sustainable Development Department's main role is to mobilize the Regions and functions to make progress in sustainable development and social responsibility, in particular by identifying the expectations of the various stakeholders of the business, as well as the best practices to be developed.

Whenever necessary, the Sustainable Development Department submits the decisions to be implemented by the Divisions and functional departments to the Executive Committee.

The Sustainable Development Department is also directly responsible for environmental actions. It coordinates and leads the initiatives of those responsible for environmental matters in the Regions and business units. They are tasked with the particular duty of ensuring compliance with applicable laws and regulations on operations, and with improving environmental performance pursuant to Vallourec's Sustainable Development Charter and the Group's Environmental Policy, which in particular concerns water, waste, hazardous products, emissions and noise. Annual or bi-annual audits, depending on the importance of the sites, are conducted locally. An environmental performance report is published every quarter for the managers concerned. Since 2016, the Group has had a new application specifically for managing environmental and safety data. This application now simplifies the collection and verification of data and offers new features to the sites that help them with their own local reporting.

The Sustainable Development Department also supervises the energy performance improvement program led by the Process Communities. The Department adjusts practices and ensures that the operational entities invest in new energy-efficient, "eco-designed" equipment. These actions were also aimed at reducing greenhouse gas emissions.

Innovation, Research and Development

The Development and Innovation Department (D&I), which comprises product lines, the R&D centers, the Key Account Managers and the Innovation teams, established procedures at Group level concerning the management of new product development projects, industrial processes and services, the project portfolio management for product lines, and the Group's idea generation process (Front-End Innovation). The defined processes and governance are consistently applied by the entities concerned. These procedures also incorporate aspects of intellectual property.

The product lines projects are undertaken according to various criteria, including their value for our customers, their technical feasibility, and the associated risks. The project committees review the risk analysis.

The selected projects benefit from specific training and assistance actions that are conducted by experienced professionals, to speed up the implementation and to reduce the time-to-market for solutions.

The product line innovation portfolios include ideas under investigation and projects under development. These portfolios are reviewed regularly for decision-making and prioritization of projects, based on the value and associated risks criteria.

Purchases

The Purchasing Department is continuing with its ongoing improvement process for internal control. This process occurs at the stage of the initial purchase (product specification, selection of suppliers and contracts) through processing (receipt of the necessary quantities at the price agreed to and under the determined delivery and payment conditions).

At the start of the process, the Purchasing Department centralizes the analysis of all purchases in order to have good visibility on the most strategic goods and services among the Group's purchases. It has set up a specific information system to ensure that visibility. On this basis, purchase strategies are determined in cooperation with internal customers and validated by management. Taking commercial practices into account, it focuses on precisely formalizing the contracts and orders to avoid later disputes.

In an effort to make competitive, high quality, and responsible purchases, suppliers are selected based on analytical matrices. These simultaneously consider the financial health of the suppliers, their level of social and environmental responsibility and, of course, the criteria of quality, lead times and overall cost.

At the end of the purchase process, and in addition to the control of supplier invoices, a quality control process is likewise conducted for the products or services that require it. Purchase orders, receiving controls and supplier payments are rigorously carried out by different entities.

A process is in place to systematically assess supplier risk. In addition, quarterly reviews are carried out to ensure that every effort is being made to minimize and then eliminate these risks.

In order to prevent any conflicts of interest and any unethical relations between the Purchasing Department and suppliers, every major purchase has to be approved by both the internal client and the Purchasing Department. This decision is made based on a comparative analysis of offers and suppliers.

The emphasis on formalizing procedures and educating buyers, mainly through e-learning, has also allowed the entire Purchasing Department to gain further knowledge on risk management and internal control.

Information systems

In 2014, the Information Systems Department strengthened its capacity to detect attempts at intrusion by putting in place network observation and analysis mechanisms for all the Regions. In 2015, the mechanisms were extended in France to improve coverage of all sites.

A plan concerning industrial security, primarily that of the lower IT levels of the plants, which are close to production workshops, progressed in France.

The roll-out of a hard drive encryption solution for laptops continued.

A strengthened analysis system for messaging was established in addition to the classic measures.

The commissioning of the SAP application at Vallourec Star, LP and its roll-out at Vallourec Oil and Gas France was successfully completed.

A plan to harmonize financial reporting, and the adoption of a standard accounting plan for all of the Group's units, was executed and a software program to track and manage suppliers for Purchases was set up and centralized.

Actions to educate employees on protecting information and support for major projects related to risk management and internal control included:

- performance and follow-up of the action plan for an internal control campaign for all the Group's Regions;
- development of a Group IT Charter with the aim of strengthening users' best practices;
- pooling of CNIL (French data privacy agency) practices with the Legal Department;
- a training program on protecting information; and
- updating of the guidelines for IT security rules and procedures, which are published under the Group guidelines available on the intranet.

Human Resources

The Human Resources Department relies on an internal control process for all of its functioning: duties, training and talent management, the working environment, compliance with the Vallourec Group's internal regulations and the prevailing statutory and regulatory provisions, compensation management and the protection of private data and information in the social and human fields.

Within the context of talent management, the Human Resources Department identifies key positions in the Group, analyzes the risks of misconduct, and consequently prepares development and succession plans. Furthermore, Human Resources (HR) management ensures that there is an available group of people who have the necessary expertise and abilities to perform the duties with which they have been entrusted.

Various control activities relating to the Human Resources process are monitored in cooperation with the Group HR Director.

HR managers took part in training and workshops provided in 2018 in their reporting entity and within their function, taking responsibility, whenever necessary, for the improvement action plans that resulted from these sessions.

Commercial relations

With the aim of specifying and formalizing certain practices regarding contractual relations with its customers, Vallourec has developed a procedure for managing customer risk (limits regarding credit and delegation of authority, and credit insurance) and drawn up general sales terms to be applied by all Group entities, in order to make practices consistent throughout the Group and reduce risk exposure.

The procedures for reviewing contracts and candidates for invitations to tender were reviewed in 2012, in order to roll out a new tool to evaluate and summarize the legal risk associated with sales. The rolling out of this new tool improves the effective analysis of the legal conditions that apply to sales contracts signed by the Group's subsidiaries with their customers, and allows discrepancies in relation to the Group's standards to be precisely managed and related statistics to be recovered. The general conditions and standard documents are regularly updated in order to monitor changes in the market and regulations.

Furthermore, the Legal Department and the Risk Management Department work together closely. They provide monitoring in order to identify "best practices" for managing the contractual legal risk, with a view towards ongoing improvement.

Insurance

The main industrial risks are covered by two types of Group insurance:

- a general insurance policy (direct material damage to Group property, not subject to specific exclusions, as well as any resulting costs and consequential losses); and
- a third-party liability insurance policy (liability arising as a result of injury or loss caused to third parties during operations or after delivery or service).

5.2.3 Entities and persons involved in risk management and internal control

5.2.3.1 The Management Board

The Management Board, acting directly or by delegation, is responsible for the quality of the internal control systems and risk management. It designs and implements the internal control and risk management systems, which have been tailored to the Group, its activity and organization, and in particular defines relevant roles and responsibilities within the Group.

It conducts on-going oversight of internal control and risk management systems with the dual objective of preserving their integrity and improving them – in particular by adapting them to structural changes and the business environment. It initiates any corrective action necessary to correct issues that are identified and stays within the scope of the accepted risks. It ensures that these actions are properly conducted.

The Management Board makes sure that the appropriate information is communicated within the desired period of time to the Supervisory Board and Audit Committee.

5.2.3.2 The Supervisory Board

The Supervisory Board is informed of the basic characteristics of the internal control and risk management mechanisms selected and implemented by the Management Board to manage risks: the organization, roles and duties of the main players, the process, risk reporting structure and operational follow-up of the control mechanisms. It acquires an overall understanding of the procedures relating to the preparation and processing of the accounting and financial information.

The Supervisory Board sees to it that the major risks identified, which have been incurred by the Group, are addressed by its strategies and objectives, and that these major risks are taken into account in the Group's management.

In particular, the Supervisory Board verifies with the Management Board that the mechanism for managing the internal control and risk management systems is sufficient to ensure the reliability of the Group's financial information and provides a true and fair view of its results and financial position.

5.2.3.3 The Finance and Audit Committee

Pursuant to Article L. 823-19 of the French Commercial Code *(Code de commerce),* the Finance and Audit Committee is responsible for the following:

- monitoring the process of preparation of financial information;
- monitoring the effectiveness of the internal control and risk management systems as well as the internal audit system, regarding the procedures for the preparation and processing of accounting and financial information, without prejudice to its independence;
- issuing a recommendation to the Supervisory Board on the Statutory Auditors proposed for appointment by the Shareholders' Meeting;
- monitoring the Statutory Auditors in the completion of their assignment, particularly the statutory audit of the parent company and consolidated financial statements;
- ensuring compliance with the requirements for the independence of Statutory Auditors and taking the necessary steps to comply with the rules on capping audit fees for services other than certification of the financial statements; and
- approving the provision by the Statutory Auditors of services other than certifying the financial statements, where such services are not prohibited.

The Finance and Audit Committee ensures that the internal control and risk management systems are effectively monitored, based on the information that is communicated to it by the Management Board, or which it requests. It ensures there are internal control and risk management systems, and that they are used, and makes sure that the weaknesses identified are addressed by corrective actions. Conversely, it does not take part in implementing said systems.

In order to carry out its role of monitoring the effectiveness of the internal control and risk management systems, as well as the internal audit system, regarding the procedures for preparation and processing of accounting and financial information, the Finance and Audit Committee takes formal note of the results of the internal audit and external audit work conducted on these subjects, in order to ensure that if any problems are detected, appropriate action plans are put in place and thoroughly implemented.

5.2.3.4 Head of risk management and internal control

The Head of risk management and internal control ensures that the overall risk management process, as defined by the Management Board, is rolled out and implemented. To that end, it puts in place a structured, permanent and adaptable mechanism which aims to identify, analyze and address the main risks. It carries out the risk management system and provides methodological support to the Company's operational and functional departments. Vallourec has established an "Internal Control" function for risk management which supports the transition from project mode to permanent structure, to strengthen the culture of internal control within the Group. Training delivered to all the Group's executive managers has helped to strengthen the internal control culture at Vallourec.

5.2.3.5 Internal Audit Department

The Group's Internal Audit Department is an independent and objective entity, which reports to a member of the Management Board. Its purpose is to handle all topics, without restriction.

The Internal Audit Department, whose duties, powers and responsibilities are formally set out in an internal audit policy, helps the Group achieve its objectives by evaluating the proper implementation of internal control and risk management mechanisms, using a systematic and methodical approach. It identifies the weaknesses of these mechanisms, issues proposals for corrective actions, and makes sure, until they are resolved, that the audit points noted are addressed with proper follow-up.

The Internal Audit Department may also participate in specific engagements, such as operations relating to business acquisitions or disposals, project assistance, or investigations.

In order to draft its annual audit plan, the Internal Audit Department takes into particular consideration the Group's risk mapping, as well as the requests of the Management Board and the Heads of Regions and functional departments. The purpose of the annual audit plan that is prepared using these methods is to audit all of the Group's entities, in which it directly or indirectly holds a majority interest, over a three- or four-year period.

At the end of each audit, the Internal Audit Department issues a report, which leads to recommendations, which are systematically followed up on. It simultaneously reports on its work and findings, as well as on the degree of progress of action plans, by presenting summaries to the Finance and Audit Committee on a semi-annual basis.

The Internal Audit Department is implementing an ongoing improvement process, which aims to improve the internal audit process, in particular by adapting the detailed work programs to the most significant risks. Given the climate of heightened cybercrime, a specific IT systems audit program was prepared in 2018, to be systematically deployed in 2019.

5.2.3.6 Employees

Each employee concerned and, in particular, the Heads of offices, Regions and functional departments have the necessary information to operate and oversee internal control and risk management systems, with regard to the responsibilities and objectives he/she has been assigned.

Vallourec's core values also include an ethical component in terms of conduct, the requirements of which are relayed by the Group's Code of Ethics, which applies to all levels of the Company.

5.2.4 Role of the Statutory Auditors

The Statutory Auditors formally examine the internal control and risk management mechanisms, relying on internal audit work to obtain a greater understanding and to formulate, completely independently, an opinion as to their effectiveness.

They certify the financial statements and, within this context, can identify during the fiscal year significant risks and major weaknesses in internal control which could have a significant impact on accounting and financial information.

They present their observations on the internal control procedures which relate to the preparation and treatment of the financial and accounting information, and attest to the preparation of other information required by law.

5.2.5 Limits on risk management and internal control

In contributing to the effectiveness of its operations, the efficient use of its resources and the control of risk, the Group's internal control and risk management system plays a key role in the management and supervision of the Group's various activities. However, like any system of control, it cannot guarantee that the Group's objectives will be achieved or that all risks, in particular, of error or fraud, will be totally eliminated or contained.

The Group's international profile requires complex processes at entities with different levels of maturity in terms of internal control, evolving in a variety of legal environments, and running different information systems. In this context, Vallourec faces risks related to internal control, which could lead to inaccurate and/or inappropriate transactions or operations being carried out. Vallourec could also be the victim of fraud (theft, embezzlement, etc.). However, Vallourec has developed a structured and formalized process to review its internal control on an on-going basis, as the developments of this report attest. This approach is based on a set of rules and procedures circulated to all subsidiaries. Reviews and regular audits are conducted to make sure they adhere to them. These rules and procedures are regularly updated to ensure they are in line with changes in Vallourec's processes. Vallourec's fundamental values also incorporate an ethical behavior component, the requirements of which are set out in the Group's Code of Ethics, effective since 2009 and widely circulated to all staff. It applies to all Company levels.

5.3 Insurance policy

The Group's policy regarding protection against risks of accident is based on taking out insurance policies, supplemented with an operational program of developing, rolling out and managing preventative measures. This policy is coordinated by the Human Resources Department for the life sector (life insurance, mutual health cover), and by the Risk Management and Insurance Department for the safety of individuals, and for all other aspects.

Industrial risks insured within the Vallourec Group are covered by two main types of insurance taken out with first-rate insurers:

- insurance for property damage;
- civil liability insurance.

The Group's policy with regard to establishing insurance coverage for industrial risks is designed to achieve the following objectives:

- to take out shared insurance policies to ensure, firstly, the consistency of transferred risks and insurance coverage purchased and, secondly, to leverage economies of scale, while taking into account the specific characteristics of the Group's different businesses and contractual or legal constraints;
- to optimize thresholds and means of action in the insurance or reinsurance markets by appropriate deductibles.

The Group's insurance policy consists of defining the overall insurance coverage policy for the Group's activities, using the analysis of the requirements of the subsidiaries to select adequate insurance solutions, with the help of external providers (brokers, consultants, insurers), and to decide whether to maintain the financial consequences of such events within the Group or transfer them to the insurance market.

Implementation of the insurance risk coverage policy takes into particular account the insurability of the risks linked to the Group's activities, the available capacities in the insurance and reinsurance markets, the premiums proposed in light of the coverage offered, and exclusions, limits and sublimits, and deductibles.

The basic principles of Vallourec's insurance policy consist of:

- pursuing an active policy of prevention and protection for industrial sites, aimed at reducing the frequency and scale of accidental risks of fire or explosion, as well as detecting other exposures to natural or environmental disasters. To date, more than 90% of the insured values were included in at least one multi-risk audit by the insurers' loss prevention engineers, under the framework of a plan to conduct annual visits to the Group's major industrial sites;
- an active policy for the prevention of contractual risks was established, in particular through the nearly systematic use of the CLEAR formula, which primarily aims to control contractual liability clauses that could have a potential financial impact on the Group's results;
- organizing a mechanism for distributing casualty premiums according to the subsidiary scoring criteria established by the insurer with a system of awarding a bonus/malus depending on the score, in an effort to encourage subsidiaries to fine-tune their objectives for preventing damage from fire/equipment breakdowns; and
- communicating detailed information on the Company to the insurance and reinsurance markets.

The Group takes out global insurance coverage for all its subsidiaries for third party liability and physical loss. The primary insurance contracts that cover all Regions and/or central Departments are detailed below.

5.3.1 Insurance for property damage and business interruption

This insurance covers all direct physical loss to the Group's insured property, not subject to exclusions, as well as any costs and consequential losses.

Deductibles applied to physical loss range from €100,000 to €1,000,000 per claim, according to the severity of the risk concerned.

Insurance for operating losses and supplementary operating expenses is taken out on a case-by-case basis according to each risk analysis, taking into account the existing emergency plans (PCAs).

5.3.2 Civil liability insurance

5.3.2.1 General civil liability insurance

This insurance covers the Group for any liability arising as a result of damage caused to third parties, either resulting from the Group's operations or after delivery of goods or services, as well as for professional civil liability.

The indemnity also includes a limit on liability.

In respect of both property and civil liability insurance, contracts are split between a main Group contract and local contracts integrated into the main contract. The Group contract prevails where terms or limits differ from those of local contracts issued by the partners of the lead insurer.

The insured cap for third-party civil liability and products was raised in 2011, 2012, 2014, and 2018 to take account of the increased size of the Group and the prevailing levels of compensation on the market in this area.

5.3.2.2 Assistance-repatriation insurance

An assistance-repatriation insurance policy for employees seconded abroad (travelers, personnel under a site contract (rotators) and expatriates) covers all Vallourec Group subsidiaries.

5.3.2.3 Civil liability of corporate officers

The Group has taken out liability insurance covering corporate officers against the risk of claims made against them that could result in them being held personally, jointly and severally liable for loss suffered by third parties and which could be attributed to a real or alleged professional error committed by them during performance of their duties.

5.3.3 Insurance policy

The insurance policy described above gives a picture of the Group's situation for prior periods at a given moment in time and cannot be considered representative of a permanent situation. The Group's policy with regard to insurance may change at any time according to market conditions, specific opportunities and the Management Board's assessment of the risks incurred and the adequacy of insurance coverage. The Group cannot guarantee that it will not suffer an uninsured loss.

CHAPTER 6

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6.1 Consolidated financial statements

6.1.1 Valllourec Group consolidated income statement

In € thousand	Notes	2018	2019
Revenue	*2.2*	**3,920,677**	**4,173,047**
Cost of sales[(a)]	*2.3*	(3,342,399)	(3,435,289)
Sales, general and administrative costs[(a)]	*2.3*	(404,929)	(378,390)
Others	*2.3*	(23,094)	(12,840)
EBITDA	*2.3*	**150,255**	**346,528**
Depreciation	*2.4*	(299,789)	(307,303)
Impairment of assets and goodwill	*2.5*	(53,249)	(29,920)
Asset disposals, restructuring costs and non-recurring items	*2.6*	(74,356)	(26,250)
Operating income (loss)		**(277,139)**	**(16,945)**
Financial income		14,289	14,441
Interest expenses		(189,490)	(188,232)
Net interest expenses		(175,201)	(173,791)
Other financial income and expenses		(44,430)	(70,280)
Financial income/(loss)	*7.1.6*	**(219,631)**	**(244,071)**
Pre-tax income (loss)		**(496,770)**	**(261,016)**
Income tax	*3.1*	(4,917)	(75,192)
Share in net income/(loss) of equity affiliates		1,320	(3,895)
Net income/(loss) from continuing operations		**(500,367)**	**(340,103)**
Net income/(loss) for the consolidated entity		**(500,367)**	**(340,103)**
Attributable to non-controlling interests		2,088	(2,554)
Group share		**(502,455)**	**(337,549)**
Group share:			
Net earnings per share	*6.4*	(1.1)	(0.7)
Diluted earnings per share	*6.4*	(1.1)	(0.7)

(a) Before depreciation and amortization.

6.1.2 Statement of comprehensive income

In € thousand	2018	2019
Net income/(loss) for the consolidated entity	**(500,367)**	**(340,103)**
Other comprehensive income (loss):		
Actuarial gains and losses on post-employment benefits	(19,887)	(28,364)
Tax attributable to actuarial gains and losses on post-employment benefits	1,559	2,052
Items that will not be reclassified to profit or loss	**(18,328)**	**(26,312)**
Exchange differences on translating net assets of foreign entities	(86,168)	15,579
Change in fair value of hedging financial instruments	(14,628)	12,745
Tax attributable to the change in fair value of hedging financial instruments	(1,218)	(612)
Items that may be reclassified subsequently to profit or loss	**(102,014)**	**27,712**
Other comprehensive income/(loss) (net of tax)	**(120,342)**	**1,400**
Total comprehensive income/(loss)	**(620,709)**	**(338,703)**
Attributable to non-controlling interests	498	(401)
Group share	**(621,207)**	**(338,302)**

6.1.3 Cash flow statement

In € thousand	Notes	2018	2019
Consolidated net income (including non-controlling interests)		**(500,367)**	**(340,103)**
Net amortization, depreciation and provisions	*2.7*	280,577	298,634
Unrealized gains and losses linked to changes in fair value		18,361	1,874
Capital gains and losses on disposals		18,285	2,733
Share of net income from equity associates		(1,320)	3,895
Dividends reclassified as other flows linked to investing activities		(564)	(1,152)
Cash flow from operating activities after net financial cost and taxes		**(185,028)**	**(34,119)**
Net financial costs	*7.1.6*	175,201	173,790
Tax expense (including deferred taxes)	*3.1*	4,917	75,192
Cash flow from operating activities before net financial cost and taxes		**(4,910)**	**214,863**
Interest paid		(189,490)	(188,232)
Tax paid		(29,932)	(46,583)
Interest received		14,301	14,441
Cash flow from operating activities		**(210,031)**	**(5,511)**
Change in operating working capital requirements under the cash flow statement	*2.8*	(155,203)	124,321
Net cash flow from operating activities		**(365,234)**	**118,810**
Cash outflows for acquisitions of property plant and equipment, intangible and biological assets	*4.6*	(129,221)	(158,677)
Cash inflows from disposals of property, plant and equipment and intangible assets		12,343	11,540
Impact of acquisitions (changes in consolidation scope)		(5,816)	803
Impact of disposals (changes in consolidation scope)		38,227	5,435
Cash from subsidiaries sold (changes in consolidation scope)		-	5
Other cash flow from investing activities		(11,022)	1,283
Net cash from (used in) investing activities		**(95,489)**	**(139,611)**
Repayment of shareholder loan	*7.4*	(41,029)	(9,970)
Increase or decrease in equity			51,705
Dividends paid to non-controlling interests		(266)	(682)
Movements in treasury shares		-	(1,326)
Proceeds drawn from new borrowings	*7.1.7*	1,345,971	2,631,883
Repayment of borrowings	*7.1.7*	(1,081,420)	(1,546,011)
Repayment of lease debts		-	(32,757)
Other cash flow from financing activities		(3,760)	(7,397)
Cash flow from financing activities		**219,496**	**1,085,445**
Effect of changes in exchange rates		**(32,047)**	**(8,058)**
CHANGE IN CASH		**(273,274)**	**1,056,586**
Opening net cash		**1,010,323**	**737,049**
Closing net cash		**737,049**	**1,793,635**
Change		(273,274)	1,056,586

The cash flow statement is drawn up on the basis of the cash in Note 7.1, net of overdrafts and other short-term bank borrowings that have an initial maturity of less than three months.

Reconciliation of cash in the cash flow statement and the statement of financial position – 2019

In € thousand	Note	2018	Change	2019
Cash and cash equivalents (1)	*7.1*	739,576	1,054,267	1,793,843
Current bank overdrafts (2)	*7.1*	2,527	(2,319)	208
CASH (3) = (1) - (2)		**737,049**	**1,056,586**	**1,793,635**

Reconciliation of cash in the cash flow statement and the statement of financial position – 2018

In € thousand	Note	2017	Change	2018
Cash and cash equivalents (1)	*7.1*	1,021,035	(281,459)	739,576
Current bank overdrafts (2)	*7.1*	10,712	(8,185)	2,527
CASH (3) = (1) - (2)		**1,010,323**	**(273,274)**	**737,049**

6.1.4 Vallourec Group statement of financial position

In € thousand	Notes	31/12/2018	31/12/2019
NON-CURRENT ASSETS			
Net intangible assets	*4.3*	71,277	63,405
Goodwill	*4.1*	358,416	363,983
Net property, plant and equipment	*4.4*	2,690,639	2,642,079
Biological assets	*4.5*	59,611	62,486
Equity affiliates	*5*	134,358	129,421
Other non-current financial assets	*7.3*	44,180	43,134
Other non-current assets	*2.8.3*	111,920	87,660
Deferred taxes	*3.2*	250,215	248,582
Total		**3,720,616**	**3,640,750**
CURRENT ASSETS			
Inventories	*2.8.1*	1,135,017	987,975
Trade and other receivables	*2.8.2*	598,558	638,120
Other current financial assets	*7.3*	4,963	7,221
Other current assets	*2.8.3*	214,315	237,527
Cash and cash equivalents	*7.1*	739,576	1,793,843
Total		**2,692,429**	**3,664,686**
TOTAL ASSETS		**6,413,045**	**7,305,436**

In € thousand	Notes	31/12/2018	31/12/2019
EQUITY			
Equity – Group share	*6.1*	1,802,257	1,467,337
Non-controlling interests	*6.2*	462,019	512,708
Total equity		**2,264,276**	**1,980,045**
Shareholder loan	*7.4*	**28,892**	**20,560**
NON-CURRENT LIABILITIES			
Bank loans and other borrowings	*7.1*	1,796,637	1,747,061
Employee benefit commitments	*8*	214,359	227,787
Provisions	*9*	40,578	44,579
Deferred taxes	*3.2*	15,313	9,499
Other non-current financial liabilities	*7.2*	-	103,560
Other non-current liabilities	*2.8.3*	9,217	16,867
Total		**2,076,104**	**2,149,353**
CURRENT LIABILITIES			
Overdraft and other short-term borrowings	*7.1*	1,000,872	2,077,321
Provisions	*9*	136,298	120,999
Trade payables		582,272	579,739
Other current financial liabilities	*7.2*	31,831	48,119
Other current liabilities	*2.8.3*	292,500	329,300
Total		**2,043,773**	**3,155,478**
TOTAL EQUITY AND LIABILITIES		**6,413,045**	**7,305,436**

6.1.5 Statement of changes in equity, Group share

In € thousand	Capital	Additional paid-in capital	Consolidated reserves	Foreign currency translation reserve	Reserves – changes in fair value of financial instruments – net of tax	Treasury shares	Net income or loss for the period	Total equity Group share	Total non-controlling interests	Total equity
POSITION AS AT 31 DECEMBER 2017	**915,976**	**1,417,897**	**1,190,448**	**(564,461)**	**6,694**	**(3,833)**	**(536,691)**	**2,426,030**	**458,545**	**2,884,575**
Change in foreign currency translation reserve	-	-	-	(84,110)	-	-	-	(84,110)	(2,058)	(86,168)
Financial instruments	-	-	-	-	(16,279)	-	-	(16,279)	433	(15,846)
Actuarial gains and losses on retirement commitments	-	-	(18,363)		-	-	-	(18,363)	35	(18,328)
Other comprehensive income (loss)	-	-	*(18,363)*	*(84,110)*	*(16,279)*	-	-	*(118,752)*	*(1,590)*	*(120,342)*
2018 net income/(loss)							**(502,455)**	**(502,455)**	**2,088**	**(500,367)**
Comprehensive income	-	-	*(18,363)*	*(84,110)*	*(16,279)*	-	*(502,455)*	*(621,207)*	*498*	*(620,709)*
Appropriation of 2017 net income/(loss)	-	-	(536,691)	-	-	-	536,691	-	-	-
Change in treasury shares	-	-	(1,799)	-	-	1,799	-	-	-	-
Dividends paid	-	-	-	-	-	-	-	-	(266)	(266)
Share-based payments	-	-	(155)	-	-	-	-	(155)	-	(155)
Changes in consolidation scope and other	-	-	(2,766)	112	243	-	-	(2,411)	3,242	831
POSITION AS AT 31 DECEMBER 2018	**915,976**	**1,417,897**	**630,674**	**(648,459)**	**(9,342)**	**(2,034)**	**(502,455)**	**1,802,257**	**462,019**	**2,264,276**
Change in foreign currency translation reserve	-	-	-	11,796	-	-	-	11,796	3,783	15,579
Financial instruments	-	-	-	-	12,183	-	-	12,183	(50)	12,133
Actuarial gains and losses on retirement commitments	-	-	(24,732)	-	-	-	-	(24,732)	(1,580)	(26,312)
Other comprehensive income (loss)	-	-	*(24,732)*	*11,796*	*12,183*	-	-	*(753)*	*2,153*	*1,400*
2019 net income/(loss)							**(337,549)**	**(337,549)**	**(2,554)**	**(340,103)**
Comprehensive income	-	-	*(24,732)*	*11,796*	*12,183*	-	*(337,549)*	*(338,302)*	*(401)*	*(338,703)*
Appropriation of 2018 net income/(loss)	-	-	(502,455)	-	-	-	502,455	-	-	-
Change in treasury shares	-	-	(2,202)	-	-	876	-	(1,326)	-	(1,326)
Dividends paid	-	-	-	-	-	-	-	-	(682)	(682)
Share-based payments	-	-	2,506	-	-	-	-	2,506	-	2,506
Changes in consolidation scope and other	-	-	2,209	(78)	71	-	-	2,202	51,772	53,974
POSITION AS AT 31 DECEMBER 2019	**915,976**	**1,417,897**	**106,000**	**(636,741)**	**2,912**	**(1,158)**	**(337,549)**	**1,467,337**	**512,708**	**1,980,045**

6.1.6 Statement of changes in non-controlling interests

In € thousand	Consolidated reserves	Foreign currency translation reserve	Reserves – changes in fair value of financial instruments – net of tax	Net income or loss for the period	Total non-controlling interests
POSITION AS AT 31 DECEMBER 2017	**453,702**	**27,283**	**598**	**(23,038)**	**458,545**
Change in foreign currency translation reserve	-	(2,058)	-	-	(2,058)
Financial instruments	-	-	433	-	433
Actuarial gains and losses on retirement commitments	35	-	-	-	35
Other comprehensive income (loss)	*35*	*(2,058)*	*433*	-	*(1,590)*
2018 net income/(loss)	**-**	**-**	**-**	**2,088**	**2,088**
Comprehensive income	*35*	*(2,058)*	*433*	*2,088*	*498*
Appropriation of 2017 net income/(loss)	(23,038)	-	-	23,038	-
Dividends paid	(266)	-	-	-	(266)
Changes in consolidation scope and other	3,593	(351)	-	-	3,242
POSITION AS AT 31 DECEMBER 2018	**434,026**	**24,874**	**1,031**	**2,088**	**462,019**
Change in foreign currency translation reserve	-	3,783	-	-	3,783
Financial instruments	-	-	(50)	-	(50)
Actuarial gains and losses on retirement commitments	(1,580)	-	-	-	(1,580)
Other comprehensive income (loss)	*(1,580)*	*3,783*	*(50)*	-	*2,153*
2019 net income/(loss)	**-**	**-**	**-**	**(2,554)**	**(2,554)**
Comprehensive income	*(1,580)*	*3,783*	*(50)*	*(2,554)*	*(401)*
Appropriation of 2018 net income/(loss)	2,088	-	-	(2,088)	-
Dividends paid	(682)	-	-	-	(682)
Changes in consolidation scope and other	52,023	(251)	-	-	51,772
POSITION AS AT 31 DECEMBER 2019	**485,875**	**28,406**	**981**	**(2,554)**	**512,708**

6.1.7 Notes to the consolidated financial statements for the year ended 31 December 2019

In € thousand (€k) unless stated otherwise.

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Note 1 Accounting standards and basis for the preparation of the consolidated financial statements

1.1 Accounting standards

The consolidated financial statements for the year ended 31 December 2019, including the related notes to the consolidated financial statements, were approved by Vallourec's Management Board on 17 February 2020 and will be submitted for approval at the Shareholders' Meeting.

Pursuant to EC Regulation No. 1606/2002 adopted on 19 July 2002 for all listed companies in the European Union, Vallourec has prepared its consolidated financial statements in accordance with the International Financial Reporting Standards (IFRS) as adopted by the European Union, using the standards and interpretations applicable as at 31 December 2019. These financial statements are available on the Company's website at www.vallourec.com.

The IFRS framework covers the IFRS standards issued by the International Accounting Standards Board (IASB), as well as the International Accounting Standards (IAS) and their interpretations as issued by the Standing Interpretations Committee (SIC) and the International Financial Reporting Interpretations Committee (IFRIC).

The accounting principles and measurement methods have been applied consistently to the periods presented, with the exception the changes to standards presented below:

1.1.1 NEW MANDATORY STANDARDS

IFRS 16 – Leases

IFRS 16 – Leases introduces a new accounting model for lease agreements, which is mandatory as from 1 January 2019. This standard requires that for leases within its scope, lessees recognize all lease payments remaining payable in the form of a right of use and a lease debt. The accounting and measurement principles now applicable to lease agreements and the effects of its application are detailed below.

Accounting method and measurement standard

Lease agreements, as defined by IFRS 16 – Leases, are recognized in the statement of financial position, which results in the recognition of:

- an asset that corresponds to the right of use of the leased asset for the term of the lease;
- a debt owed under the obligation to pay.

The Group's leases are primarily for real property and industrial equipment used to manufacture and transport products.

The Group uses the following exemptions permitted by the standard:

- exclusion of short-term leases (term of 12 months or less);
- exclusion of leases for which the underlying asset is of low value (unit value when new that is less than USD 5,000);
- exclusion of leases of intangible assets.

The right of use of assets

On the effective date of a lease agreement, the right of use is measured at its cost and includes:

- the initial amount of the lease debt to which are added, if applicable, the advance payments made to the lessee, net, where appropriate, of benefits received from the lessor;
- where appropriate, the initial direct costs incurred by the lessee in concluding the agreement and estimated refurbishment costs.

The right of use is amortized linearly over the term of the lease.

Measurement of lease debt

On the effective date of the agreement, the lease debt is recognized in an amount equal to the current value of lease payments over the term of the agreement. The amounts taken into account for lease payments in debt measurement are:

- fixed lease payments (including fixed lease payments in substance);
- variable lease payments based on a rate or an index, using the rate or index on the effective date of the agreement;
- payments to be made by the lessee under a residual value guarantee;
- penalties to be paid in the event of the exercising of an option for termination or non-renewal of the lease, if the term of the lease was determined on the assumption that the lessee would exercise it.

The implicit rates used are calculated individually over the ultimate term of the lease.

Changes in lease debt are as follows:

- it is increased by interest expenses determined by applying the implicit rates used to the debt, at the start of the period;
- and reduced by the amount of the payments made.

Impact as at 1 January 2019

For the purpose of its initial application of IFRS 16, the Group has selected the simplified retrospective transition method, recognizing the cumulative effect of the initial application of the standard on the date of initial application, without restating comparative periods.

The lease assets are primarily real property and industrial equipment used to manufacture and transport products. The impact on the opening statement of financial position as at 1 January 2019 is an increase of €86 million in property, plant and equipment, in consideration of the recognition of a lease debt. Previous fiscal years are not restated.

The reconciliation between the lease debt and the amount of future minimum payments under the simple leases mentioned in Note 34 of 31 December 2018 is shown below.

The average implicit rate used to measure the lease debt for 2019 is 11%. The Group has used implicit rates reflecting the maturity of the leases.

The application of the new IFRS 16 standard has no impact on the indebtedness ratio according to the definition of the current banking covenants, the latter excluding the impact linked the application of IFRS 16 from the calculation of the covenants ("banking covenant").

In € thousand

Amount of long-term leases published as at 31 December 2018	**147,873**
Leases not covered by the scope of IFRS 16	(2,751)
New gross lease debt as at 1 January 2019	**145,122**
Discounting	(56,204)
Others	(2,795)
New lease debt discounting as at 1 January 2019	**86,123**
Reclassification of finance lease debts as at 1 January 2019 as lease debt	59,157
LEASE DEBT RECOGNIZED AS AT 1 JANUARY 2019	**145,280**

IFRIC 23 – Uncertainty over Income Tax Treatments

This interpretation specifies that the provisions of IAS 12 – Income Taxes shall apply as concerns the recognition and measurement of tax when there is a tax uncertainty. When it is likely that the tax administration will not accept a tax treatment, the Group recognizes a tax liability. In the event that the Group considers it likely that the tax administration will reimburse it for a tax already paid, it recognizes a tax asset. Tax assets and liabilities relating to these uncertainties are measured on a case-by-case basis based on the most likely amount.

This standard has had no impact on the financial statements as at 31 December 2019.

Other mandatory standards

Other mandatory standards relate to:

- Amendments to IAS 19 – Plan Amendment, Curtailment or Settlement;
- Amendments to IAS 28 – Long-term Interests in Associates and Joint Ventures;
- Amendments to IFRS 9 – Prepayment Features with Negative Compensation.

These standards have no impact on the Group's financial statements.

1.1.2 NEW STANDARDS NOT APPLIED EARLY

The Group has not opted for early application of any other standards or interpretations that will be mandatory for fiscal years beginning on or after 1 January 2020.

1.2 Basis for measurement and presentation of the consolidated financial statements

1.2.1 HISTORICAL COST CONVENTION

The Group's consolidated financial statements are prepared using the historical cost convention, except for biological assets, derivative financial instruments that are measured at fair value, as well as financial assets measured at fair value through profit and loss or equity.

1.2.2 FOREIGN CURRENCY TRANSACTIONS

Translation of the financial statements of subsidiaries whose functional currency is not the euro

The presentation currency of the consolidated financial statements is the euro.

Assets and liabilities of foreign subsidiaries, including goodwill, are translated at the official exchange rates on the reporting date. The income statements of foreign subsidiaries are translated at the average exchange rate for the period.

The ensuing translation differences are recorded in equity. The Group's share of such differences is recorded on the separate line, "Foreign currency translation reserve".

Translation of transactions in foreign currencies

Foreign currency transactions are translated into the functional currency. When the transaction is subject to a hedge, it is translated at the spot rate on the day the hedging instrument is set up. In the absence of a hedge, foreign currency transactions are translated at the prevailing exchange rates on the transaction date.

Monetary assets and liabilities denominated in foreign currencies are translated at the closing exchange rates prevailing on that date. Translation differences resulting from differences between these rates and the rates at which the transactions were initially recorded are included in financial income or loss.

The main exchange rates used (euro/currency) are as follows:

	USD	GBP	BRL	CNY
AS AT 31/12/2018				
Average rate	1.18	0.88	4.31	7.81
Closing rate	1.15	0.89	4.44	7.88
AS AT 31/12/2019				
Average rate	1.12	0.88	4.41	7.74
Closing rate	1.12	0.85	4.52	7.82

1.2.3 CONSOLIDATION PRINCIPLES

Subsidiaries are fully consolidated from the date of acquisition. They cease to be consolidated when control is transferred outside the Group.

➔ Definition

There is control when the Group (i) holds power over an entity, (ii) is exposed to or is entitled to variable returns due to its connections with the entity and (iii) has the capacity to exercise its power over the entity so as to influence the amount of the returns it obtains.

➔ Accounting method

The consolidated financial statements include all of the assets, liabilities and comprehensive income of the subsidiary.

Non-controlling interests represent the share of interest which is not directly or indirectly attributable to the Group. The results and all other components of other items of comprehensive income are divided between the Group and non-controlling interests. The comprehensive income of the subsidiaries is divided between the Group and the non-controlling interests, including when this distribution results in allocating a loss to the non-controlling interests.

Changes in the percent interest in subsidiaries that do not result in a change of control are considered transactions impacting equity, as they are transactions that are performed with shareholders acting in this capacity.

The effects of these transactions are recorded in equity for the net tax amount and thus do not have an impact on the Group's consolidated income statement.

These transactions are moreover presented in the cash flow statement under financing or investment operations, as applicable.

The results of acquired companies are included in the income statement from their effective acquisition dates. The results of companies sold are included until the date control ceases.

Cash flows on the income statement and statement of financial position relating to intra-Group commercial and financial transactions are eliminated.

The consolidation scope is presented in Note 10.

1.2.4 USE OF ESTIMATES AND JUDGMENT

Estimates

The preparation of the financial statements under IFRS leads Vallourec's management to use estimates and formulate assumptions that affect the carrying amount of certain assets and liabilities, income and expenses, and some of the information in the notes to the financial statements.

Such assumptions are inherently uncertain, and actual results could differ from these estimates. The Group regularly reviews its estimates and assumptions in order to take into account past experience and any factors deemed relevant in prevailing economic conditions. In the current economic climate (uncertainty about economic changes, a highly competitive international environment and volatility in costs of raw materials and energy), the uncertain nature of some estimates may be more pronounced.

Accounts and information subject to significant estimates include the measurement of the following items:

- the recoverable value of goodwill, intangible assets and property, plant and equipment (see Note 4.1, Note 4.3 and Note 4.4);
- provisions for disputes, onerous contracts and for restructuring and contingent liabilities (see Note 9);
- tax loss carryforwards recognized as deferred tax assets (see Note 3.2).

Judgment

The Group must use assumptions and judgments to evaluate the level of control in certain shareholdings, notably to define relevant activities and identify substantive rights, as well as the type of joint arrangement in question for a jointly controlled business. These judgments are revised if facts and circumstances change.

Note 2 Operational activities

The Vallourec Group is a world leader in premium tubular solutions, primarily aimed at the Oil & Gas, Industry, and power generation markets. Originally based in France and Germany, Vallourec now has frontline positions in the United States, Brazil, Europe, the Middle East and Asia. The Group provides a wide range of premium tubular solutions – high-performance solutions whose manufacture requires significant technological and industrial expertise – in addition to related specialized services that provide customers with a complete range of innovative solutions.

2.1 Segment information

The Group's customer-focused organizational structure is designed to provide a growing number of integrated services for delivery of comprehensive turnkey solutions, and involves analysis of financial information according to a number of areas (markets, regions, sites, and products).

None of these areas taken independently can comprehensively measure results or assets and liabilities for individual segments.

The segments presented according to the Group's internal organization comply with the definition of operating segments identified and grouped according to IFRS 8. This information corresponds to that reviewed by the Executive Committee.

The Group presents its segment information based on the following operating segments:

- Seamless tubes. This segment covers all the entities with production and marketing plants dedicated to the Group's main activity, *i.e.* the production of hot-rolled seamless carbon and alloy steel tubes, both smooth and threaded, for the oil and gas industry. This activity is characterized by a highly integrated manufacturing process, from production of the steel and hot-rolling to the final stages, facilitating the manufacture of products that are suitable for a variety of markets (including Oil & Gas, Power Generation, Chemicals and Petrochemicals, Automotive and Mechanicals, and others);
- Specialty Products. This segment incorporates a number of activities whose characteristics are very different from those described above, but which are not presented separately due to their relative immateriality. This treatment is authorized by IFRS 8.

The following tables provide information on the income and results for each operating segment, as well as certain information on the assets, liabilities and investments for the 2019 and 2018 fiscal years.

INFORMATION ON RESULTS, ASSETS AND LIABILITIES BY OPERATING SEGMENT

2019	Seamless tubes	Specialty products	Holdings & miscellaneous	Inter-segment transactions	Total
INCOME STATEMENT					
Revenue[(a)]	4,143,131	28,778	1,138	-	4,173,047
EBITDA	372,043	(7,498)	(18,017)	-	346,528
Depreciation of industrial assets	(299,195)	(4,590)	(3,518)	-	(307,303)
Impairment of assets and goodwill	(8,719)	(21,201)	-	-	(29,920)
Asset disposals, restructuring costs and non-recurring items	(6,800)	-	(19,450)	-	(26,250)
OPERATING INCOME (LOSS)	**57,329**	**(33,289)**	**(40,985)**	**-**	**(16,945)**
Unallocated income					(44,731)
Unallocated expenses					(199,339)
Pre-tax income (loss)					(261,016)
Income tax					(75,192)
Share in net income/(loss) of equity affiliates					(3,895)
Net income/(loss) for the consolidated entity					(340,103)
STATEMENT OF FINANCIAL POSITION					
Non-current assets	3,587,189	63,438	4,643,167	(4,653,044)	3,640,750
Current assets	1,815,154	47,777	45,558	(37,646)	1,870,843
Cash and cash equivalents	565,237	379	1,643,115	(414,888)	1,793,843
TOTAL ASSETS	**5,967,580**	**111,594**	**6,331,840**	**(5,105,578)**	**7,305,436**
CASH FLOWS					
Property, plant and equipment, intangible assets and biological assets	(162,520)	(639)	(4,126)	-	(167,285)

(a) Sales to external customers.

2018	Seamless tubes	Specialty products	Holdings & miscellaneous	Inter-segment transactions	Total
INCOME STATEMENT					
Revenue[a]	3,888,204	31,524	949		3,920,677
EBITDA	198,089	(16,113)	(31,721)	-	150,255
Depreciation of industrial assets	(285,746)	(13,695)	(744)	396	(299,789)
Impairment of assets and goodwill	(16,458)	(36,791)	-	-	(53,249)
Asset disposals, restructuring costs and non-recurring items	(48,108)	8,815	(35,053)	(10)	(74,356)
Operating income (loss)	**(152,223)**	**(57,784)**	**(67,518)**	**386**	**(277,139)**
Unallocated income					(20,064)
Unallocated expenses					(199,567)
Pre-tax income (loss)					(496,770)
Income tax					(4,917)
Share in net income/(loss) of equity affiliates					1,320
Net income/(loss) for the consolidated entity					(500,367)
STATEMENT OF FINANCIAL POSITION					
Non-current assets	3,660,758	89,214	4,182,105	(4,211,461)	3,720,616
Current assets	1,904,399	44,083	94,348	(89,977)	1,952,853
Cash and cash equivalents	395,074	2,592	642,944	(301,034)	739,576
TOTAL ASSETS	**5,960,231**	**135,889**	**4,919,397**	**(4,602,472)**	**6,413,045**
CASH FLOWS					
Property, plant and equipment, intangible assets and biological assets	(127,184)	(1,271)	(219)	-	(128,674)

(a) Sales to external customers.

GEOGRAPHICAL REGIONS

The following tables provide information by geographical region on revenue (by location of the Group's customers) and capital expenditure as well as certain information on assets (by regions where the companies operate).

2019	Europe	North America	South America	Asia	Rest of the World	Total
REVENUE						
Sales to external customers	594,597	1,215,343	702,456	1,222,035	438,616	4,173,047
STATEMENT OF FINANCIAL POSITION						
Property, plant and equipment, intangible assets, biological assets and goodwill	558,416	1,379,713	897,456	288,597	7,771	3,131,953
CASH FLOWS						
Property, plant and equipment, intangible assets and biological assets	(57,245)	(35,149)	(60,548)	(14,133)	(210)	(167,285)

2018	Europe	North America	South America	Asia	Rest of the World	Total
REVENUE						
Sales to external customers	586,579	1,280,853	625,558	1,087,991	339,696	3,920,677
STATEMENT OF FINANCIAL POSITION						
Property, plant and equipment, intangible assets, biological assets and goodwill	519,281	1,414,833	915,748	329,762	319	3,179,943
CASH FLOWS						
Property, plant and equipment, intangible assets and biological assets	(50,535)	(32,818)	(27,476)	(17,695)	(150)	(128,674)

2.2 Revenue

Revenue reflects the sale of finished products and services. The Group analyzes the following five stages to determine the principle for recognizing revenue:

1. identification of contract;
2. identification of distinct performance obligations within the contract;
3. evaluation of contract price;
4. allocation of overall price to each performance obligation pro rata of their specific sale prices;
5. recording of revenue when a performance obligation has been satisfied.

Revenue is recorded either a single time, when the Group has fulfilled the performance obligation by transferring control of the asset, or *pro rata* of the percentage of completion calculated on the basis of committed costs at the closing date.

No revenue is recognized if there are significant uncertainties as to the recovery of the amount due.

Revenue corresponds primarily to tube sales and is recognized once, in full, when the Group has fulfilled the performance obligation by transferring control of the asset; this is determined in most cases by the Incoterms. Long-term contracts that mainly relate to welding activities are recognized using the percentage completion method. A smaller proportion of revenue derives from royalties, sales of iron ore, etc.

A breakdown of revenue by segment and geographical area is shown in Note 2.1.

ORDER BOOK

As required by IFRS 15, the order book reflects fixed revenue contracts with customers for which the services have not yet been delivered or have been partially delivered as at the end of the fiscal year. The Group's order book chiefly reflects revenue deriving from contracts for tube sales.

2.3 EBITDA

EBITDA is an important indicator for the Group, enabling it to measure its performance from continuing operations. It is calculated by taking operating profit before amortization and depreciation and excluding certain operating revenues and expenses that are unusual in nature or occur rarely, such as:

- impairment of goodwill and fixed assets determined in the context of impairment tests in accordance with IAS 36;
- significant restructuring expenses, or those related to adjustments to headcount in respect of major events or decisions;
- capital gains or losses on disposals;
- income and expenses resulting from major litigation, significant roll-out operations or capital transactions (*e.g.*, costs of integrating a new activity).

The income statement format used by the Group employs a classification by function.

EBITDA breaks down as follows:

	2018	2019
Revenue	**3,920,677**	**4,173,047**
Cost of sales	**(3,342,399)**	**(3,435,289)**
of which Direct Cost of Sales	(207,456)	(238,137)
of which Cost of raw material consumed	(1,485,316)	(1,440,917)
of which Labor costs	(757,158)	(741,878)
of which other manufacturing costs[(a)]	(964,252)	(939,377)
of which Change in non-raw material inventories	71,783	(74,980)
Sales, general and administrative costs	**(404,929)**	**(378,390)**
of which Research and Development costs	(44,598)	(44,615)
of which Selling and marketing costs	(76,724)	(76,027)
of which General and administrative costs	(283,607)	(257,748)
Others	**(23,094)**	**(12,840)**
of which Employee profit-sharing, bonuses and others	(14,995)	(27,637)
of which Other Income and Expenses	(8,099)	14,797
Total of gross operating expenses	**(3,770,422)**	**(3,826,519)**
EBITDA	**150,255**	**346,528**

(a) "Other manufacturing costs" mainly include the costs of energy and consumables, and the costs of outsourcing, maintenance and provisions.

PERSONNEL EXPENSES

	2018	2019
Wages and salaries	(750,266)	(738,045)
Employee profit-sharing and bonuses	(15,569)	(31,648)
Expenses related to share subscription and share purchase options and performance shares[(a)]	155	(2,506)
Social security costs	(192,107)	(183,613)
TOTAL	**(957,787)**	**(955,812)**

(a) Including a €0.1 million profit for all share subscription plans and a €2.6 millions expense for performance share allocation plans for 2019 (compared to respectively €1.3 million profit and €1.2 million expense for 2018).

In 2019, the impact of the updating of performance factors on existing plans led to an increase in the number of performance shares allocated and to recording an adjustment, which resulted in an expense.

Note 8 contains information about retirement commitments.

Closing headcount of consolidated companies	2018	2019
Managers	3,116	3,130
Technical and supervisory staff	2,703	2,595
Production staff	12,511	12,375
TOTAL	**18,330**	**18,100**

Group headcount as at 31 December 2019 was 18,100 people, compared with 18,330 people as at 31 December 2018.

2.4 Depreciation and amortization

Depreciation and amortization breaks down as follows:

	2018	2019
Depreciation of industrial assets	(265,653)	(248,868)
Depreciation of rights of use	-	(30,823)
Depreciation and amortization – Research and Development	(9,770)	(9,773)
Depreciation and amortization – Sales and Marketing Department contracts	(5,997)	(1,194)
Depreciation and amortization – general and administrative expenses	(18,369)	(16,645)
TOTAL DEPRECIATION AND AMORTIZATION	**(299,789)**	**(307,303)**

2.5 Impairment of assets and goodwill

	2018	2019
Property, plant and equipment	(51,586)	(29,920)
Others assets	(1,663)	-
TOTAL	**(53,249)**	**(29,920)**

In 2019, depreciation expense related to individual assets and resulted in an impairment loss (chiefly €21 million on one individual asset as a result of the deterioration of its medium-term outlook in China's nuclear market).

2.6 Asset disposals, restructuring costs and non-recurring items

	2018	2019
Reorganization measures (net of expenses and provisions)	(43,287)	(39,058)
Gains and losses on disposals of non-current assets and other non-recurring items	(31,069)	12,808
TOTAL	**(74,356)**	**(26,250)**

Most of the €39 million in adjustment measures (including €29 million in provisions during fiscal year 2019) relates to restructuring expenses in Germany (redundancy and severance pay, early retirement, various social security measures and early termination payments to suppliers).

Other non-recurring items in 2019 were the impacts of pension plan changes in Brazil and the United States for €9 million, and income from asset disposals.

2.7 Reconciliation of net provisions with the cash flow statement

	Notes	2018	2019
Depreciation	*2.4*	**(299,789)**	**(307,303)**
Impairment of assets and goodwill	*2.5*	**(53,249)**	**(29,920)**
Provision allowances net of reversal included in EBITDA		55,983	21,480
Provision allowances net of reversal included in assets disposals, restructuring costs and non-recurring items		22,366	24,760
Provision allowances net of reversal included in financial income/(loss)		(5,888)	(7,651)
Total		**(280,577)**	**(298,634)**
Net amortization, depreciation and provisions of cash flow statement		**280,577**	**298,634**

2.8 Working capital requirement

2.8.1 INVENTORIES AND WORK-IN-PROGRESS

Inventories are valued at the lesser of cost or net realizable value, and provisions for impairment are recognized if necessary.

Net realizable value is the estimated selling price in the ordinary course of business less estimated costs of completion and the estimated costs necessary to make the sale.

Inventory costs of raw materials, goods for resale and other supplies comprises the purchase price excluding taxes, less discounts, rebates and other payment deductions obtained, plus incidental costs of purchase (transportation, unloading expenses, customs duties, buying commissions, etc.). These inventories are measured at weighted average cost.

The cost of work in progress and intermediate and finished goods consists of the production cost excluding financial expenses. Production costs comprise raw materials, factory supplies and labor, and direct and indirect industrial overheads attributable to processing and production, based on normal capacity. General and administrative expenses are excluded from this measurement.

With the exception of safety reserves recorded in property, plant and equipment, spare parts and consumables are recorded in inventory, including in the event of a consumption forecast beyond one year.

The cost of any underutilized capacity is excluded from the value of inventories. Made-to-order products are impaired, where applicable, for the unaffected portion and valued at scrap prices (if applicable). Inventories are impaired based on their net realizable values.

	2018			2019		
	Gross value	Impairment	Net value	Gross value	Impairment	Net value
Raw materials and merchandise	438,952	(55,578)	383,374	419,522	(60,508)	359,014
Goods in production	383,351	(37,679)	345,672	347,461	(34,785)	312,676
Intermediate and finished goods	452,291	(46,320)	405,971	355,378	(39,093)	316,285
TOTAL	**1,274,594**	**(139,577)**	**1,135,017**	**1,122,361**	**(134,386)**	**987,975**
Increase in provisions		(50,162)			(40,020)	
Reversals of provisions		84,021			52,639	

Raw materials and merchandise mainly comprise ferrous alloys, electrodes, refractories, steel rounds/billets, scrap, consumables, and so on. Goods in production are products and services at intermediate stages of processing. Intermediate products are products that have reached a point of completion but require subsequent finishing.

2.8.2 TRADE AND OTHER RECEIVABLES

Receivables are recorded at the transaction price. The Group bases its measurement of expected credit losses on the default rates previously observed by customer, current conditions, and forecasts of future economic conditions.

The Group derecognizes a financial asset when the contractual rights to the cash flows generated by the assets expire, or, in the case of transactions involving receivables without recourse, when the rights to receive contractual cash flows and almost all the risks and benefits inherent in ownership of the financial assets have been transferred.

	2018			2019		
	Gross value	Impairment	Net value	Gross value	Impairment	Net value
Advances and partial payments on orders	9,683		9,683	27,332		27,332
Trade & other receivables	600,155	(11,280)	588,875	616,739	(5,951)	610,788
TOTAL	**609,838**	**(11,280)**	**598,558**	**644,071**	**(5,951)**	**638,120**
Increase in provisions		(11,792)			(2,322)	
Reversals of provisions		32,924			9,347	

In 2019, the Group completed operations to mobilize receivables without recourse with financial institutions in the amount of €110 million. The amount of the corresponding receivables thus no longer appears in the Group's consolidated balance sheet.

The amount of receivables covered by insurance or a letter of credit as at 31 December 2019 was less than 20% of total customer borrowing: the majority of the Group's business is with operators with high credit quality, namely national or international oil companies or their subcontractors. Lastly, a residual portion of revenue is generated from industrial customers who may have higher risk profiles and for whom credit insurance arrangements are in place.

In the event of country risk, the Group makes specific arrangements to protect itself from any financial loss when the order is placed (for example, it may set up a confirmed letter of credit, or payment in advance).

Unused provisions are not significant at Group level.

The Group does not specifically track the counterparty's historical loss rates by country; consolidated analysis shows a low loss rate, with a 5-year average in the order of 0.5% of revenue.

2.8.3 OTHER ASSETS AND LIABILITIES

	2018				2019			
	Assets		Liabilities		Assets		Liabilities	
	Non-current	Current	Non-current	Current	Non-current	Current	Non-current	Current
Tax receivables/liabilities	6,376	133,779	703	59,205	5,684	141,415	7,991	78,848
Social receivables/liabilities	-	5,429	-	184,198	-	4,243	-	192,219
Others	108,366	81,039	8,514	49,097	84,198	99,413	8,876	58,233
Provisions	(2,822)	(5,932)	-	-	(2,222)	(7,544)	-	-
TOTAL	**111,920**	**214,315**	**9,217**	**292,500**	**87,660**	**237,527**	**16,867**	**329,300**

Other assets (current and non-current) consist primarily of tax receivables in Brazil and the United States, deposits and a surety bond paid in Brazil in respect of tax litigation (see Note 9), and expenses recorded in advance.

2.8.4 RECONCILIATION OF WORKING CAPITAL REQUIREMENT

The change in working capital requirement during fiscal year 2019 was as follows:

Gross values	31/12/2018	Translation difference	Change	Reclassification and other	31/12/2019
Inventories	1,274,594	8,917	(167,839)	6,689	1,122,361
Trade receivables	609,838	3,142	37,301	(6,210)	644,071
Trade payables	(582,272)	(5,704)	3,992	4,245	(579,739)
Working capital requirements	**1,302,160**	**6,355**	**(126,546)**	**4,724**	**1,186,693**
Other receivables and payables	2,819	666	(1,723)	3,329	5,091
OPERATING WORKING CAPITAL REQUIREMENTS	**1,304,979**	**7,021**	**(128,269)**	**8,053**	**1,191,784**
Impact of hedging instruments			3,948		
TOTAL			**(124,321)**		
Change in operating working capital requirements under the cash flow statement			124,321		

The change in working capital requirement during fiscal year 2018 was as follows:

Gross values	31/12/2017	Translation difference	Change	Reclassification and other	31/12/2018
Inventories	1,183,837	(13,043)	136,876	(33,076)	1,274,594
Trade receivables	603,653	(3,710)	17,008	(7,113)	609,838
Trade payables	(581,622)	(8,335)	(4,741)	12,426	(582,272)
Working capital requirements	**1,205,868**	**(25,088)**	**149,143**	**(27,763)**	**1,302,160**
Other receivables and payables	(70,877)	1,761	22,536	49,399	2,819
OPERATING WORKING CAPITAL REQUIREMENTS	**1,134,991**	**(23,327)**	**171,679**	**21,636**	**1,304,979**
Impact of hedging instruments			(16,476)		
TOTAL			**155,203**		
Change in operating working capital requirements under the cash flow statement			(155,203)		

Note 3 Taxes

Income tax expense comprises current tax and deferred tax.

In accordance with IAS 12, deferred taxes are recognized, using the liability method, for temporary differences existing at the reporting date between the tax bases of assets and liabilities and their carrying amounts, as well as for tax losses, under the conditions set out below.

The main types of deferred tax recognized are:

- long-term deferred tax assets (provisions for French company retirement commitments) which are likely to be recovered in the foreseeable future;
- deferred tax assets for short-term recurring items (provision for paid time off, etc.) or non-recurring items (employee profit-sharing, provisions for liabilities that are not deductible for tax purposes, etc.) when they are likely to be recovered in the foreseeable future;
- deferred tax associated with the adjustments resulting from the transition from statutory financial statements to IFRS financial statements and with consolidation adjustments;
- tax loss carryforwards.

The rates used to calculate deferred taxes are the tax rates expected to apply during the period in which the asset will be realized or the liability settled, based on tax regulations that have been adopted or substantially adopted at the reporting date.

Deferred taxes are not discounted to present value.

Current and deferred tax expenses are recognized as income or expenditure in the income statement unless they relate to a transaction or event that is recognized under other comprehensive income or directly in equity (see hedge accounting in Note 7.5.3 and actuarial gains and losses on post-employment obligations in Note 8).

Deferred taxes are presented on separate lines in the statement of financial position under non-current assets and non-current liabilities.

Net deferred tax assets are recognized only for those companies and tax groups that, based on a review at each reporting date, appear reasonably likely to recover these assets in the foreseeable future.

3.1 Reconciliation of theoretical and actual tax expense

	2018	2019
Current tax expense	(36,577)	(80,695)
Deferred taxes	31,660	5,503
Net expense	**(4,917)**	**(75,192)**
Consolidated net income/(loss)	(501,687)	(336,208)
Tax expense	(4,917)	(75,192)
Consolidated net income/(loss) before tax	**(496,770)**	**(261,016)**
Statutory tax rate of consolidating company	34,43%	34,43%
Theoretical tax	171,039	89,868
Impact of main tax loss carryforwards	(133,021)	(135,726)
Impact of permanent differences	(28,301)	(40,370)
Other impacts	(10,713)	28,300
Impact of differences in tax rates	(3,921)	(17,264)
Net expense	**(4,917)**	**(75,192)**
Actual tax rate	**-1%**	**-29%**

The 29% rate mainly reflects the items detailed below:

- the impact of tax loss carryforwards and timing differences mainly concerns the non-recognition of deferred tax assets (DTAs) for the year in France, Germany, China, and the United States;
- permanent differences mainly concern the write-back of financial expenses, IFRS 2 (stock options and free share plans) and the impact of withholding tax;
- differences in taxation mainly reflect the range of tax rates applied in each country (France 34.4%, Germany 31.6%, United States 21%, Brazil 34.0%, China 25.0% and Saudi Arabia 20%).

3.2 Deferred tax assets and liabilities

Deferred taxes are recognized using the liability method.

The rates used are the recovery rates known at the reporting date.

	2018	2019
Deferred tax assets	250,215	248,582
Deferred tax liabilities	15,313	9,499
NET DEFERRED TAX ASSETS/(DEFERRED TAX LIABILITIES)	**234,902**	**239,083**

2019	Assets	Liabilities	Net deferred tax liabilities
Non-current assets	-	137,820	
Other assets and liabilities	31,028	-	
Inventories	15,910	-	
Employee benefit commitments	5,287	-	
Derivatives	170	-	
Distributable reserves and foreign currency translation reserves	-	-	
Net balance	**52,395**	**137,820**	**(85,425)**
Recognition of tax losses	324,508	-	324,508
TOTAL	**376,903**	**137,820**	**239,083**

2018	Assets	Liabilities	Net deferred tax liabilities
Non-current assets	-	124,453	
Other assets and liabilities	25,243	-	
Inventories	16,930	-	
Employee benefit commitments	3,824	-	
Derivatives	987	-	
Distributable reserves and foreign currency translation reserves	-	-	
Net balance	**46,984**	**124,453**	**(77,469)**
Recognition of tax losses	312,371	-	312,371
TOTAL	**359,355**	**124,453**	**234,902**

The Group's deferred taxes (gross values) as at 31 December 2019 and 31 December 2018 are broken down as follows:

2019	Gross value	Corresponding deferred tax	Recognized deferred tax	Unrecognized deferred tax
Tax loss carryforwards	3,827,886	1,017,355	324,508	692,847
Other tax assets	-	-	(75,926)	385,119
Total tax assets	**-**	**1,017,355**	**248,582**	**(1,077,966)**
Tax liabilities	-	-	(9,499)	-
Total tax liabilities	**-**	**-**	**(9,499)**	**-**
TOTAL	**-**	**-**	**239,083**	**(1,077,966)**

Unrecognized deferred taxes relate primarily to France, Germany and China due to a history of recent losses and the absence of any short-term prospects of recovery.

2018	Gross value	Corresponding deferred tax	Recognized deferred tax	Unrecognized deferred tax
Tax loss carryforwards	3,699,145	975,797	312,372	663,425
Other tax assets	-	-	(62,157)	297,949
Total tax assets	**-**	**975,797**	**250,215**	**(961,374)**
Tax liabilities	-	-	(15,313)	-
Total tax liabilities	**-**	**-**	**(15,313)**	**-**
TOTAL	**-**	**-**	**234,902**	**(961,374)**

Tax loss carryforwards relate mainly to Vallourec Soluções Tubulares do Brasil, the French tax consolidation Group, Vallourec Star, and Vallourec Deutschland.

The deferred tax assets are recognized when there is reasonable assurance of being able to recover these deferred tax assets in the foreseeable future (between 5 and 10 years). When it is estimated that allocating these carryforwards to future taxable profits would be uncertain, no deferred tax asset is recognized and, where applicable, deferred tax assets at the opening date are impaired.

Changes in deferred taxes are broken down as follows:

	2018	2019
As at 1 January	**224,156**	**234,902**
Impact of changes in exchange rates	(21,029)	(2,499)
Recognized in profit or loss	31,660	5,503
Recognized in comprehensive income	204	1,439
Changes in consolidation scope	(138)	31
Others	49	(293)
AS AT 31 DECEMBER	**234,902**	**239,083**

The amount of the deferred tax recognized in other comprehensive income corresponds mainly to the change in deferred taxes calculated on derivatives, and actuarial gains and losses on retirement commitments and similar employee commitments.

Note 4 Goodwill, intangible and tangible assets, and biological assets

4.1 Goodwill

Goodwill is measured as the surplus of:

- the total of:
  - the fair value of the consideration transferred,
  - the amount of any non-controlling interests in the acquired entity,
  - in the case of a step acquisition, the fair value at the acquisition date of the acquirer's previously held interest in the acquiree; and
- the fair value at the acquisition date of the identifiable assets acquired and liabilities assumed.

For major acquisitions, fair value measurements are done with the help of independent experts and reflect the best estimates of the management.

Non-controlling interests may be valued either at the share of the identifiable net assets of the acquired company, or at fair value.

For transactions with non-controlling interests, the Group recognizes in the equity, Group share, the difference between the price paid and the book value of the share of non-controlling interests acquired or sold in controlled companies.

Acquisition costs incurred by the Group in carrying out the business combination, such as referral agents' commissions, legal and due diligence fees and other professional or consultancy fees, are expensed when they are incurred.

Impairment risks:

Pursuant to IAS 36 – Impairment of Assets, goodwill is tested for impairment at least once a year, or more frequently if there is an indication of impairment. The testing procedures are designed to ensure that the recoverable amount of the cash-generating unit to which the goodwill is assigned or allocated is at least equal to its net carrying amount (see Note 4.2). If an impairment loss is recognized, an irreversible provision is recorded in operating profit under "Impairment of assets and goodwill".

	2018			2019		
	Gross value	**Impairment**	**Net value**	**Gross value**	**Impairment**	**Net value**
Goodwill	553,088	(194,672)	358,416	560,612	(196,629)	363,983

BREAKDOWN OF GOODWILL BY CASH-GENERATING UNITS

	Vallourec do Brasil	Vallourec North America	Vallourec Europe	Total
As at 31/12/2017	**38,027**	**296,501**	**13,672**	**348,200**
Impact of changes in exchange rates	(3,722)	14,061	(123)	10,216
As at 31/12/2018	**34,305**	**310,562**	**13,549**	**358,416**
Impact of changes in exchange rates	(498)	5,971	94	5,567
AS AT 31/12/2019	**33,807**	**316,533**	**13,643**	**363,983**

4.2 Impairment tests

➔ Impairment of assets

To perform impairment tests, goodwill was allocated to the Cash-Generating Units (CGUs). CGUs are groups of assets whose on-going use generates cash inflows that are largely independent of the cash inflows generated by other groups of assets.

When an asset within a CGU is finalized or put up for sale and no longer contributes to the cash flows of the CGU, it is tested separately.

The recoverable value of an asset or CGU is the higher of the following:

- its value in use, which corresponds to the present value of the forecast future cash flows it generates, without taking into account planned investment into capacity and expected gains in terms of productivity; or
- its fair value less costs of disposal.

The test base of a CGU is comprised of net current and non-current operating assets.

An impairment test is carried out:

- at least once a year for CGUs with indefinite useful lives, a category that, for the Vallourec Group, is limited to goodwill; and
- for the other CGUs, if indications of impairment appear.

A Group stock market value that is less than its consolidated net assets during a business cycle, or a negative outlook associated with the economic, legislative or technological environment or with the business sector constitutes general indications of impairment liable to result in impairment tests on all the Group's CGUs.

When the recoverable amount of the CGU is less than its net carrying amount, an impairment loss is recognized and presented on the impairment of assets and goodwill line under operating income (loss). When a CGU includes goodwill, the impairment loss is first deducted from goodwill and then, where applicable, the CGU's other assets.

CASH-GENERATING UNITS

The Group includes mainly three CGUs, which group together the assets of several subsidiaries that participate in the production cycle of the products sold by these CGUs, and represent 99% of the net assets of the Group and all of the goodwill:

- Vallourec Europe: the CGU groups together the tube mills (France, Germany, and China) and the finishing lines that they supply (in France, Germany, the Middle East, and Asia);
- Vallourec North America: the CGU comprises a steel mill and tube mills in the United States, along with the finishing lines they supply (the United States, Mexico, and Canada);
- Vallourec do Brasil: the CGU in Brazil comprises a steel mill, integrating a mine and forests, which provide the raw material necessary for them to function, tube mills, as well as the finishing lines they supply.

IMPAIRMENT INDICATIONS

As at 31 December 2019, impairment tests were carried out on the CGUs to which goodwill was allocated (Vallourec Europe CGU, Vallourec North America CGU, Vallourec do Brasil CGU) and individual assets for which an indication of impairment was identified, particularly Valinox Nucléaire in China, as well as on assets related to "Power Generation" activities for coal-fired conventional power plants (Reisholz plant in Germany) and VCHA (China).

RECOVERABLE VALUE

For each CGU tested, the recoverable value is considered as equal to the value in use, which corresponds to the present value of the forecast future cash flows it generates.

For individual assets, the recoverable value is considered as the higher value between the fair value less the sales costs or the value in use, which corresponds to the present value of the forecast future cash flows it generates.

FUTURE CASH FLOWS

For the term of the BPs, *i.e.* five years

The forecasts used are those of the five-year strategic plan, which relies on macroeconomic assumptions per market, based on external sources (E&P Oil&Gas investment forecasts by region, price per barrel and gas price, currencies, raw materials, inflation, etc.). In particular, several external sources, such as IEA, IHS and Wood Mackenzie, were taken into account to estimate the volumes of E&P Oil&Gas investments by region. On the basis of these elements, the regions, under the coordination of the central Development and Innovation (D&I) and Technology and Industry (T&I) Departments, establish their sales forecasts (volumes and prices).

It should be noted that the bulk of our revenue comes from the sale of seamless tubes and connections for the oil industry (tubing and casing for oil and gas wells, pipelines, refining tubes and petrochemicals, etc.). The buying patterns of our clients may differ based on their own business model and how they adapt structurally to price trends (cost structure, stock policy, risk aversion, project portfolio, financing capacity). The experience and know-how of our teams are key elements in the preparation of our forecasts.

The Group's five-year strategic plan was presented to the Supervisory Board in December 2019. In this plan, the Group used assumptions for 2019 that were consistent with the data recorded in late 2019, and a gradual recovery of business.

Vallourec considers that the term of the strategic plan should bring a gradual increase in investment by oil companies and benefits from the competitiveness plans and new industrial routes launched by the Group.

Exchange-rate assumptions are consistent over the entire period with those used for the five-year strategic plan.

CGUs are tested in the main currency representing future cash flows, namely:

- in EUR for the Vallourec Europe CGU;
- in USD for the Vallourec North America CGU;
- in BRL for the Vallourec do Brasil CGU.

A three-year extrapolation period from 2025 to 2027

The principle of a three-year extrapolation beyond the strategic plan was maintained in 2019 to take account of the cycle effects that have an impact on oil investments and therefore on Vallourec's business. The normative level corresponds to the levels of investment by oil operators consistent with the long-term prospects of the O&G Market (depletion of existing fields and increased demand for oil and gas). They may vary from one year to the next depending on the economic context.

This period also makes it possible to gradually converge the revenue growth rates for the final year of the strategic plan towards the perpetuity growth rate.

The perpetuity growth rates were reviewed on 31 December 2019 in order to make the latter consistent with the currency in which the weighted average cost of capital ("WACC") and the future cash flows were calculated. These rates result from long-term inflation forecasts of the currency used for each CGU.

If the perpetuity projection had been carried out based on the last year of the BP (compared to taking a three-year extrapolation period into account), no depreciation would have been necessary.

DISCOUNT RATE

The CGU discount rates correspond to their Weighted Average Cost of Capital (WACC), which is defined as the weighted average cost of equity and the cost of debt after tax. Discount rates are estimated using the Capital Asset Pricing Model (CAPM).

The main components of the cost of equity are:

- a risk-free rate estimated from the 10-year French Treasury Bond (OAT);
- a systematic risk premium is obtained by applying to the share market risk premium of the CGU a beta calculated using stock market data from a sample of listed companies performing a comparable activity;
- a specific risk premium linked to the CGU's country risks.

The cost of the debt after tax of each CGU is calculated by increasing the risk-free rate of a credit spread calculated based on the average data of the listed companies in the sample mentioned above.

Gearing (or debt-to-equity ratio) makes it possible to weight the cost of equity and the cost of debt after tax. It corresponds to the net financial debt/market capitalization median of the companies in the sample of listed companies selected for reference purposes.

The parameters expressed above are calculated over an average period of two years.

The discount rate for each CGU is calculated in the main currency in which future cash flows will be denominated.

The use of this approach results in discount rates of 8.4% for the Vallourec Europe CGU, 8.8% for the Vallourec North America CGU, and 11.1% for the Vallourec do Brasil CGU.

IMPAIRMENT TEST RESULTS

Beyond the impairment of individual assets related to adaptations in the production units (€30 million) primarily Valinox Nucléaire in China (€21 million), the tests performed do not result in the recognition of impairment losses over the fiscal year.

CGUs with the highest sensitivity to assumptions are Vallourec Europe and Vallourec North America. These sensitivity analyses are presented below.

For the Vallourec do Brasil CGU, the recoverable value greatly exceeds the book value and no reasonably feasible change in the test assumptions would result in an impairment as at 31 December 2019.

SENSITIVITY ANALYSES

The sensitivity analyses presented in the table below were calculated by changing a single parameter.

Sensitivity analyses of the CGUs *(in € million)*		**Vallourec Europe**	**Vallourec North America**[(a)]
Net values			
• current part		798	1,379
• non-current part		163	143
Tested bases as at 31/12/2019		961	1,522
CGU value in use		**961**	**1,580**
Sensitivity to the discount rate	+0.5 pt	931	1,461
	-0.5 pt	1,102	1,719
EBITDA sensitivity	-10% per year	847	1,275
	+10% per year	1,173	1,879
EUR/USD foreign exchange rate sensitivity	+5 cts	506	1,530
	-5 cts	1,506	1,630
Perpetuity grow rate sensitivity	+0.5 pt	1,067	1,670
	-0.5 pt	961	1,503
Impairment loss		**-**	**-**

(a) Tests conducted in dollars and converted into euros at the closing rate.

The table above shows that CGU flows are sensitive to changes in the value of their export transactions denominated in a currency other than that of the country where they are based (mainly USD).

4.3 Intangible assets

Intangible assets acquired separately are recognized at cost. They are mainly patents and trademarks, which are amortized on a straight-line basis over their useful lives.

Intangible assets acquired as part of a business combination are recorded separately from goodwill if their fair value can be measured during the acquisition phase. Those with a finite life are amortized over their estimated useful lives for the Company.

	2018			**2019**		
	Gross value	**Depreciation and impairment**	**Net value**	**Gross value**	**Depreciation and impairment**	**Net value**
Intangible assets	566,096	(494,819)	71,277	576,645	(513,240)	63,405

Intangible assets relate to technology, software, patents and licenses, as well as to the know-how and customer relations acquired mainly in connection with business combinations.

Other than goodwill, there are no intangible assets with indefinite useful lives.

4.4 Property, plant and equipment

➔ Measurement at cost net of depreciation and impairment

Except when acquired as part of a business combination, property, plant and equipment are recorded at their acquisition or production cost. They are not subject to remeasurement. At each reporting date, the acquisition cost is reduced by accumulated depreciation and any provisions for impairment determined in accordance with IAS 36 – Impairment of Assets.

➔ Component approach

The main components of an asset having a useful life different from that of the main asset (furnaces, heavy industrial equipment, etc.) are identified by the technical departments and depreciated over their own useful lives.

Subsequent expenditure on replacement of the component (*i.e.* the cost of the new component) is capitalized, provided that future economic benefits are still expected to be derived from the main asset.

The component approach is also applied to expenditure on major overhauls that are planned and carried out at intervals of over one year. Such expenditure is identified as a component of the asset's acquisition price, and is depreciated over the period between two overhauls.

➔ Maintenance and repair costs

Recurring maintenance and repair costs that do not meet the criteria for the component approach are expensed when they are incurred.

➔ Property, plant and equipment acquired as part of a business combination

Property, plant and equipment acquired as part of a business combination are measured at fair value on the acquisition date. They are depreciated using the straight-line method over the remaining useful life at the acquisition date.

➔ Right of use

Lease agreements, as defined by IFRS 16 – Leases, are recognized in the statement of financial position, which results in the recognition of:

- an asset that corresponds to the right of use of the leased asset for the term of the lease;
- a debt owed under the obligation to pay.

The Group's leases are primarily for real property and industrial equipment used to manufacture and transport products.

The Group uses the following exemptions permitted by the standard:

- exclusion of short-term leases (term of less than 12 months)
- exclusion of leases for which the underlying asset is of low value (unit value when new that is less than USD 5,000);
- exclusion of leases of intangible assets.

➔ The right of use of assets

On the effective date of a lease agreement, the right of use is measured at its cost and includes:

- the initial amount of the debt to which are added, if applicable, the advance payments made to the lessee, net, where appropriate, of benefits received from the lessor;
- where appropriate, the initial direct costs incurred by the lessee in concluding the agreement and estimated refurbishment costs.

The right of use is amortized linearly over the term of the lease.

➔ Depreciation and amortization

Depreciation of property, plant and equipment is calculated on a straight-line basis over the useful lives summarized below. Land is not depreciated.

Main categories of property, plant and equipment	Useful life
Buildings	
Buildings	30-40
Fixtures and fittings	10
Technical plant, equipment and tools	
Industrial plant	20-25
Other (automated equipment, etc.)	5-10
Other tangible assets	
Transportation equipment and office furniture	5-10
Computer equipment	3

Depreciation of new industrial sites in the development stage is calculated according to the production-units method for assets used directly in the production process, and the straight-line depreciation method for other assets.

	2018			2019		
	Gross value	Depreciation and impairment	Net value	Gross value	Depreciation and impairment	Net value
Land	127,786	(32,042)	95,744	137,341	(35,235)	102,106
Buildings	807,997	(366,010)	441,987	901,100	(414,036)	487,064
Technical installations, industrial equipment and tools	4,248,591	(2,321,945)	1,926,646	4,361,899	(2,557,631)	1,804,268
Current property, plant and equipment	101,889	(3,341)	98,548	124,500	(3,356)	121,144
Other tangible assets	322,043	(194,329)	127,714	325,381	(197,884)	127,497
TOTAL	**5,608,306**	**(2,917,667)**	**2,690,639**	**5,850,221**	**(3,208,142)**	**2,642,079**

PROPERTY, PLANT AND EQUIPMENT (EXCLUDING RIGHTS OF USE)

	Gross value	Depreciation and impairment	Net value
As at 31/12/2017	**5,734,621**	**(2,757,732)**	**2,976,889**
Acquisitions	121,480	-	121,480
Disposals	(129,151)	108,594	(20,557)
Net depreciation expenses for the fiscal year	-	(269,248)	(269,248)
Impairment	-	(51,586)	(51,586)
Impact of changes in exchange rates	(65,156)	15,479	(49,677)
Reclassification and other changes	(53,488)	36,826	(16,662)
As at 31/12/2018	**5,608,306**	**(2,917,667)**	**2,690,639**
Acquisitions	157,181	-	157,181
Disposals	(77,620)	61,239	(16,381)
Initial impact of IFRS 16[(a)]	(106,538)	55,139	(51,399)
Net depreciation expenses for the fiscal year	-	(249,189)	(249,189)
Impairment	-	(29,920)	(29,920)
Impact of changes in exchange rates	31,252	(15,240)	16,012
Reclassification and other changes	31,589	(32,324)	(735)
AS AT 31/12/2019	**5,644,170**	**(3,127,962)**	**2,516,208**

(a) Reclassification of property, plant and equipment from finance leases (IAS 17) to right of use as at 1 January 2019.

"Impairment losses" recorded as at 31 December 2018 and 31 December 2019 are linked to impairments of individual assets located primarily in Europe and China.

RIGHT OF USE

	Gross value	Impairment	Net value
Acquisitions	19,349	-	19,349
Disposals	(1,751)	958	(793)
Initial impact of IFRS 16	193,151	(55,139)	138,012
Net depreciation expenses for the fiscal year	-	(30,823)	(30,823)
Impact of changes in exchange rates	(6,295)	2,986	(3,309)
Others	1,598	1,837	3,435
AS AT 31/12/2019	**206,052**	**(80,181)**	**125,871**

Right of use includes the finance lease signed in 2010 for the construction of water treatment equipment at Vallourec Soluções Tubulares do Brasil, which had a net carrying amount of €92.6 million as at 31 December 2019.

4.5 Biological assets

The Group owns biological assets in Brazil, which mainly consist of eucalyptus plantations cultivated for the Group's coke requirements. They are valued according to the principles defined by IAS 41 – Agriculture. The existence of an active market in Brazil requires the Group to measure these assets at fair value less selling costs upon initial recognition and at each reporting date.

	2018	2019
AS At 1 JANUARY	**71,494**	**59,611**
Investments	6,209	9,677
Valuation at fair value	3,293	10,343
Net depreciation expenses for the period	(8,870)	(8,334)
Impairment	(1,663)	-
Reclassification to inventory	(3,171)	(4,990)
Impact of changes in exchange rates	(7,444)	(1,035)
Other changes	(237)	(2,786)
AS AT 31 DECEMBER	**59,611**	**62,486**

The Group's Brazilian subsidiary Vallourec Florestal cultivates eucalyptus plantations mainly to produce the charcoal used in the blast furnaces of Vallourec Soluções Tubulares do Brasil.

As at 31 December 2019, the company cultivated approximately 108,672 hectares of eucalyptus over a total area of 224,686 hectares.

In 2019, Vallourec Florestal posted revenue of €29.1 million, as compared to €45.6 million in 2018.

4.6 Reconciliation of net cash outflows related to fixed asset acquisitions on the cash flow statement

	2018		2019	
	Intangible assets and property, plants and equipment	Biological	Intangible assets and property, plants and equipment	Biological
Acquisition of intangible assets	985		427	
Acquisition of property, plant and equipment	121,480	6,209	157,181	9,677
Total capital expenditures	**122,465**	**6,209**	**157,608**	**9,677**
Changes in fixed asset liabilities and partner contributions	547		(8,608)	
TOTAL	**123,012**	**6,209**	**149,000**	**9,677**
Statement of cash flows: capital expenditures paid out during period:	129,221		158,677	

4.7 Operational off-statement commitments

Off-balance sheet commitments received amounted to €14 million as at 31 December 2019, compared with €16 million at 31 December 2018. They primarily corresponded to fixed asset orders, etc.

COMMITMENTS GIVEN BY MATURITY

	2018	2019	< 1 year	1 to 5 years	> 5 years
Long-term lease[(a)]	147,873	-	-	-	-
Trade receivables	5,462	6,005	6,005	-	-
Other obligations	77,397	51,063	36,796	12,587	1,680
TOTAL	**230,732**	**57,068**	**42,801**	**12,587**	**1,680**

(a) In 2019, the majority of lease agreements are recognized in the balance sheet with the application of IFRS 16; any other contract is individually significant.

Note 5 Investments in equity affiliates

➔ Definition

Associates are companies in which the Group exercises significant influence over operating and financial policies without having control.

A joint venture is a joint arrangement whereby the parties that have joint control of the entity have rights to its net assets.

The Group's investments in joint ventures and associates are accounted for using the equity method.

➔ Equity Associates

The equity method provides for an investment in an associate being initially recorded at cost, and then subsequently adjusted for the change in the Group's share in the income and other comprehensive income of the associate.

An investment is recorded under the equity method as of the date when the entity becomes an associate or joint venture. When an associate or joint venture is acquired, the difference between the cost of the investment and the Group share in the net fair value of the identifiable assets and liabilities of the entity is recorded under goodwill. In the event that the net fair value of the identifiable assets and liabilities of the entity is higher than the cost of the investment, the difference is recorded under income.

Shares in the net income of associates are incorporated in the net income of the activities pursued, whether or not their activities are an extension of the Group's activities.

➔ Impairment testing

In the event of impairment, the total book value of the investment (including goodwill) undergoes impairment testing according to the provisions prescribed by IAS 36 – Impairment of Assets.

➔ Loss of significant influence or joint control

When the investment no longer constitutes an associate, the equity method is no longer applied. Any retained interest in the former associate that constitutes a financial asset is measured at fair value on the date the interest ceases to be an associate or joint venture.

➔ Acquisition of a joint operation or equity-accounted company

Pursuant to IFRS 3, the previously held equity interests are remeasured at fair value, giving rise to gains and losses on disposals ("Assets disposals, restructuring costs and non-recurring items"), and the assets acquired and liabilities assumed are accounted for at fair value as at the acquisition date.

The Group's main equity affiliates (individual carrying amount greater than €25 million) are listed below.

	HKM	Others	Total associates	Vallourec Umbilicals	Others	Total joint ventures	Total
Activity	Steel mill			Welded tubes			
Business location	Germany			France			
As at 31/12/2018	80,690	25,614	106,304	25,419	2,635	28,054	134,358
AS AT 31/12/2019	**80,690**	**22,020**	**102,710**	**23,595**	**3,116**	**26,711**	**129,421**

Since 16 November 2018, Vallourec has exercised joint control over Vallourec Umbilicals following the capital increase subscribed by Banque Publique d'Investissement (BPI) to finance its industrial development project and has been consolidated using the equity method as from the date of the transaction. Vallourec and BPI hold 51% and 49% of the company respectively following the transaction.

5.1 Data relating to associates

The condensed financial data (100%) for HKM is presented below.

HKM	31/12/2018	31/12/2019
Non-current assets	634,955	627,837
Current assets	661,185	662,722
Non-current liabilities	493,865	464,474
Current liabilities	398,825	422,636
Net assets	**403,450**	**403,449**
Sales	2,474,027	2,503,257
Operating income (loss)	9,308	9,652
Net income/(loss) from continuing operations	-	-
Other comprehensive income (loss)	-	-
Total comprehensive income	-	-
Dividends paid to the Group	-	-

The reconciliation of the condensed financial data from the HKM associate with the book value of the Group's interests in this associate is as follows:

HKM	31/12/2018	31/12/2019
Net assets	403,450	403,449
Group's percentage interest in HKM	20%	20%
Goodwill	-	-
Others	-	-
Value of investments in equity affiliates	80,690	80,690
HKM net income/(loss)	-	-
Group's percentage interest in HKM	20%	20%
Share of net income	-	-

The Group likewise holds interests in other associates (which, considered individually, are not significant) for an overall book value of €22 million as at 31 December 2019, compared with €26 million as at 31 December 2018.

5.2 Data related to joint ventures

The condensed financial data (100%) for Vallourec Umbilicals is presented below.

Vallourec Umbilicals	31/12/2018	31/12/2019
Non-current assets	19,204	30,332
Current assets excluding cash and cash equivalents	3,514	3,254
Cash and cash equivalents	30,479	18,069
Other non-current liabilities	1,232	969
Non-current borrowings	-	-
Other current liabilities	2,126	4,423
Current borrowings	-	-
Net assets	**49,839**	**46,263**

Vallourec Umbilicals	Q4 2018	2019
Sales	38	6,801
Operating income (loss)	(1,158)	(3,425)
Financial income/(loss)	(4)	(113)
Tax expense	(3)	-
Net income/(loss) from continuing operations	(1,165)	(3,538)
Other comprehensive income (loss)	-	-
Total comprehensive income	(1,165)	(3,538)
Dividends paid to the Group	-	-

The reconciliation of the condensed financial data from the joint venture Vallourec Umbilicals with the book value of the Group's interests in this joint venture is as follows:

Vallourec Umbilicals	31/12/2018	31/12/2019
Net assets	49,839	46,263
Group's percentage interest	51%	51%
Goodwill	-	-
Others	-	-
Value of investments in equity affiliates	25,418	23,595
Income from Vallourec Umbilicals	(1,165)	(3,538)
Group's percentage interest	51%	51%
Share of net income	(594)	(1,804)

5.3 Transactions entered into with related parties

	Associates	Joint-venture
	HKM	Vallourec Umbilicals
Sales to related parties	2,459	1,299
Purchases from related parties	308,318	2
Related party receivables	166	381
Related party payables	88,945	2

Purchases mainly concern the acquisition of steel rounds from HKM, which are used as raw manufacturing materials by the European rolling mills of Vallourec Deutschland and Vallourec Tubes France.

5.4 Compensation of the management and supervisory boards

The total compensation for members of the Executive Committee, as constituted at 31 December 2019 (10 people in 2019, compared to 10 in 2018), as well as retirement commitments at the reporting date, were as follows:

	2018	2019
Compensation and benefits in kind	6,670	6,019
Share-based payments[(a)]	1,421	612
Retirement commitments	716	870
Supplementary retirement commitments	5,797	6,061

(a) *Information provided based on the 2019, 2018, 2017, 2016, 2015, 2014, 2013, and 2012 share subscription option, performance share and employee share ownership plans.*

As regards retirement commitments for executive management, there is no specific plan. Executive management is covered by the Vallourec Group's supplementary pension plan (a benefit plan introduced in 2005 and closed on 31 December 2015), as well as by plans under Articles 83 and 82 of the French General Tax Code set up on 1 April 2016. These plans do not give rise to any commitments.

As at 31 December 2019, no loans or guarantees had been granted to executive management by the parent company or its controlled subsidiaries.

The amount of the attendance fees and other compensation received by members was €0.9 million in 2019, compared with €0.9 million in 2018.

Note 6 Equity, share-based payment and earnings per share

6.1 Equity – Group share

CAPITAL

Vallourec's issued capital comprises 457,987,760 ordinary shares with a nominal value of €2 per share, fully paid up. No change in capital occurred over the 2019 and 2018 fiscal years.

RESERVES, FINANCIAL INSTRUMENTS

These reserves for change in fair value of hedging instruments (net of tax) arise primarily from two types of transaction:

- effective currency hedges assigned to the order book and commercial tenders. Changes in the currency impacts at year-end are recognized in equity;
- variable rate borrowings for which interest rate swaps (fixed rate) have been contracted. These are accounted for in accordance with the cash flow hedge method. Changes in the fair value of the swap contracts, linked to interest rate movements, are recognized in equity.

FOREIGN CURRENCY TRANSLATION RESERVE

This reserve arises as a result of the translation of the equity of subsidiaries outside the euro zone. The change in the reserve corresponds to fluctuations in exchange rates used to translate the equity and net profit of these subsidiaries. Components of the reserve are reversed to income only in the case of a partial or total disposal and loss of control of the foreign entity.

	USD	GBP	BRL	CNY	Others	Total
As at 31/12/2017	**193,059**	**(12,107)**	**(738,432)**	**19,532**	**(26,513)**	**(564,461)**
Change	57,963	76	(142,280)	(3,340)	3,583	(83,998)
As at 31/12/2018	**251,022**	**(12,031)**	**(880,712)**	**16,192**	**(22,930)**	**(648,459)**
Change	26,526	(263)	(21,354)	518	6,291	11,718
AS AT 31/12/2019	**277,548**	**(12,294)**	**(902,066)**	**16,710**	**(16,639)**	**(636,741)**

6.2 Non-controlling interests

Non-controlling interests are primarily held by Sumitomo Corp. and Nippon Steel Sumitomo Metal Corp.

CONTRIBUTIONS TO NON-CONTROLLING INTERESTS

	2018	2019
Main American entities (Vallourec Star and VAM USA)	286,234	337,314
Vallourec Soluções Tubulares do Brasil – Brazil	134,499	130,757
Others	41,286	44,637
TOTAL	**462,019**	**512,708**

CONTRIBUTIONS TO INCOME/(LOSS)

	2018	2019
Main American entities (Vallourec Star and VAM USA)	(5,057)	4,990
Vallourec Soluções Tubulares do Brasil – Brazil	2,497	1,178
Others	472	(3,614)
TOTAL	**(2,088)**	**2,554**

6.3 Share-based payments (options and performance shares)

IFRS 2 – Share-based Payment, requires the measurement and recognition of the benefits arising from share option and performance share allocation plans that are equivalent to compensation of the beneficiaries: these are recognized as payroll costs spread over the vesting period, with a corresponding increase in equity.

Changes in value after the award date have no impact on the option's initial measurement. The number of options taken into account in measuring the plan is adjusted at each reporting date to reflect the probability of the beneficiaries' continued service at the end of the vesting period.

- Some members of executive management and employees benefit from the share subscription or share purchase options that entitle them to purchase an existing share or to subscribe to a capital increase at an agreed price.
- Options must be measured using the Black & Scholes model on the date they are awarded.
- Some members of executive management and employees benefit from share allocation plans where vesting conditions are related to performance criteria (percentage of consolidated EBITDA). These plans are measured using a binomial model to project share prices.

Vallourec offers employee shareholding plans reserved for its employees. These plans are measured using a binomial model to project share prices.

The impact on the income statement of employee share ownership plans is presented in Note 2.3.

SHARE SUBSCRIPTION PLANS

Characteristics of the plans

The Vallourec Management Board authorized share subscription plans from 2009 to 2019 for some executive management and corporate officers of the Group.

The characteristics of these plans are as follows (figures for the 2009 plan are restated to reflect the 2:1 stock split on 9 July 2010 and the subsequent doubling of the number of shares):

	2009 Plan	2010 Plan	2011 Plan	2012 Plan	2013 Plan
Allocation date	01/09/2009	01/09/2010	01/09/2011	31/08/2012	02/09/2013
Maturity date	01/09/2013	01/09/2014	01/09/2015	01/03/2017	03/03/2018
Expiration date	01/09/2019	01/09/2020	01/09/2021	30/08/2020	01/09/2021
Exercise price in euros	31.0	42.7	36.4	22.2	27.7
Number of options granted	964,107	853,641	1,140,431	883,602	1,003,746

	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan
Allocation date	15/04/2014	15/04/2015	18/05/2016	18/05/2017	15/06/2018	17/06/2019
Maturity date	15/04/2018	15/04/2019	18/05/2020	18/05/2021	15/06/2022	17/06/2023
Expiration date	15/04/2022	15/04/2023	18/05/2024	18/05/2025	15/06/2026	17/06/2027
Exercise price in euros	23.13	13.57	3.90	6.02	5.50	2.20
Number of options granted	622,261	683,413	537,895	292,500	354,220	354,220

Change in number of unexpired options

For all of these plans, the change in the number of unexpired options is as follows:

In number of options	2018	2019
Options outstanding as at 1 January	**4,013,201**	**3,674,986**
Options exercised	-	-
Options lapsed	-	(487,437)
Options canceled	(692,435)	(361,430)
Options distributed	354,220	354,220
OPTIONS OUTSTANDING AS AT 31 DECEMBER	**3,674,986**	**3,180,339**
Options available for exercise	2,110,179	1,771,883

The reported figures correspond to the number of options, with a performance factor of 1 for plans that were vesting, and to the actual number of shares allocated for plans that had matured.

As at 31 December 2019, the average exercise price was €17.93.

Measurement of plans(a)

	2018 Plan	2019
Share price at allocation date	€5.33	€2.23
Volatility(b)	30.00%	32.00%
Risk-free rate(c)	0.42%	0.10%
Exercise price	€5.50	€2.20
Dividend rate(d)	3.00%	3.00%
Fair value of the option(e)	€1.02	€0.48

(a) The binomial model of projecting share prices has been used to measure the fair value of the options granted.

(b) Volatility corresponds to historical volatility observed over a period corresponding to the duration of the plans.

(c) The risk-free rate corresponds to the zero-coupon rate (source: French Institute of Actuaries – Institut des Actuaires).

(d) The expected dividend rates have been determined on the basis of analysts' expectations and the Group's dividend policy.

(e) The fair value for the Management Board and the Operational Committee is €0.48 for the 2019 plan.

PERFORMANCE SHARE ALLOCATION PLANS

Characteristics of the plans

The Vallourec Management Board authorized performance share allocation plans from 2014 to 2019 for some employees and corporate officers of the Group.

The characteristics of these plans are as follows:

Performance share allocation plans	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan
Allocation date	16/12/2014	15/04/2015	18/05/2016	18/05/2017	15/06/2018	17/06/2019
Vesting period	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)
Holding period	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)
Performance conditions	Yes[(a)]	Yes[(b)]	Yes[(c)]	Yes[(d)]	Yes[(e)]	Yes[(f)]
Theoretical number of shares allocated	661,861	388,583	610,001	820,275	842,630	836,630

(a) Definitive allocation of shares in 2017 for French residents and members of the Management Board, and in 2018 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2014, 2015 and 2016. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the final allocation will depend on the following four criteria, assessed for 2014, 2015 and 2016: the rate of return on capital employed (ROCE), compared with the ROCE in the budget; consolidated revenue on a like-for-like basis, as compared with the revenue in the budget; the relative stock market performance of the Vallourec share on the regulated NYSE Euronext market in Paris, as compared with a benchmark panel; and the relative EBITDA performance as compared with the same panel as for the previous criterion. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.

(b) Definitive allocation of shares in 2018 for French residents and members of the Management Board, and in 2019 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2015, 2016 and 2017. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the definitive allocation will depend on the following two criteria, assessed for 2015, 2016 and 2017: the rate of return on capital employed on a consolidated basis (ROCE), compared with the ROCE in the strategic plan, and the Total Shareholder Return (TSR) for 2015, 2016 and 2017. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.

(c) Definitive allocation of shares in 2019 for French residents and members of the Management Board, and in 2020 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the definitive allocation will depend on the following two criteria, assessed for 2016, 2017 and 2018: the rate of return on capital employed on a consolidated basis (ROCE), compared with the ROCE in the strategic plan, and the Total Shareholder Return (TSR) for 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.

(d) For all beneficiaries (excluding members of the Management Board and the Executive Committee), this will depend on cost reduction in 2017, 2018 and 2019, in comparison with the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2017, 2018 and 2019. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.4. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2017, 2018 and 2019 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2017 and 2019 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

(e) For all beneficiaries (excluding members of the Management Board and Executive Committee), this will depend on cost reduction in 2018, 2019 and 2020, in comparison to the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2018, 2019 and 2020. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2018, 2019 and 2020 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2018 and 2020 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

(f) For all beneficiaries (excluding members of the Management Board and the Executive Committee), this will depend on cost reduction in 2019, 2020 and 2021, in comparison with the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2019, 2020 and 2021. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2019, 2020 and 2021 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2019 and 2021 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

International performance share allocations plans	2-4-6 plan 2014
Allocation date	15/04/2014
Vesting period	3 years (French residents) or 4 years (non-French residents)
Holding period	2 years (French residents) or none (non-French residents)
Performance conditions	Ratio of EBITDA to revenue (2014, 2015 and 2016)
Theoretical number of shares allocated	208,100

Free share allocation plans (without performance condition)	Value 13 Plan	Value 14 Plan	Value 15 Plan	Value 16 Plan	Value 17 Plan
Allocation date	10/12/2013	16/12/2014	15/12/2015	14/12/2016	14/12/2017
Vesting period	4.6 years	4.6 years	4.6 years	4.6 years	4.6 years
Theoretical number of shares allocated	6,445	6,336	2,744	3,344	3,409

In 2019, in order to meet the legal and tax requirements of each country, several different employee share ownership plans (ESOP) were offered:

- leveraged company mutual fund (*fonds commun de placement entreprise levier* – FCPE *levier*): employees subscribe *via* a company mutual fund to a number of Vallourec shares at a price discounted by 15% and receive, at the end of the vesting period, a performance multiple on their Vallourec shares as well as protection of their initial investment, excluding currency effects. The increase in the multiple is achieved through the transfer of the discount, from dividends and other financial rights related to ownership of the shares to the bank structuring the transaction through a swap contract;
- standard company mutual fund (*fonds commun de placement entreprise classique* – FCPE classique): employees subscribe *via* a company mutual fund to Vallourec shares at a price discounted by 20% and receive any dividends;
- share and Stock Appreciation Rights (SAR): employees, by buying one share at a price discounted by 15%, receive one SAR (protection on their initial investment, excluding currency effects, and a performance multiple on said share), which will be paid by the employer, in cash, at the end of the holding period. The resulting liability (SAR) is covered by warrants provided to the employer by the bank structuring the transaction. The warrants are issued in consideration of the issue of shares reserved for the bank at a price discounted by 15%;
- cash and Stock Appreciation Rights (SAR): employees, by depositing funds in an interest-bearing bank account, receive SARs (performance multiple on the deposit), which will be paid to the employee by the employer in cash at the end of the holding period.

  The resulting liability (SAR) is covered by warrants provided to the employer by the bank structuring the transaction. The warrants are issued in consideration of the issue of shares reserved for the bank at a price discounted by 15%.

The IFRS 2 expense resulting from the benefit granted to the employee under the terms of the ESOP is measured on the grant date. The fair value of the benefit corresponds, in the case of the standard offering, to the value of the economic benefit granted less the cost to the employee of the non-transferability of the share, and, for the leveraged plans, to the estimated present value of the amounts ultimately paid to the employee. In the case of the "share and SAR" plan, the discount on the share held by the employee and the measurement of the option protecting the initial investment are added.

No discounts were granted in 2019 and 2018.

The IFRS 2 expense resulting from the Stocks Appreciation Rights (SAR) is measured again at each quarter-end by reference to the fair value corresponding to the estimated present value of the amounts ultimately paid to the employee. The liability to employees resulting from SARs resulted in an expense included in personnel costs of €0.2 million.

In accordance with IFRS 9, the income from warrants is remeasured at each quarter-end by reference to the fair value of the derivative instrument.

The income corresponding to the warrants paid by the bank to the employer was added to the employees' investment and recognized in personnel expenses for €0.2 million in 2019 since it is intended to cover income associated with SARs (see above).

Change in number of shares

For all of these plans, the change in the number of shares being vested is as follows:

In number of shares	2018	2019
Number of shares being vested as at 1 January	**2,208,468**	**2,251,685**
Shares delivered over the year	(83,238)	(178,126)
Shares canceled	(716,175)	(304,200)
Shares allocated over the year	842,630	836,630
NUMBER OF SHARES BEING VESTED AS AT 31 DECEMBER	**2,251,685**	**2,605,989**

The reported figures correspond to the number of shares, with a performance factor of 1 for plans that were vesting, and to the actual number of shares allocated for plans that had matured.

Measurement of plans[a]	2018 Plan	2019 Plan
Share price at allocation date	€5.33	€2.23
Risk-free rate[b]	-0.07% (France), -0.30% (non-French)	-0.25% (France), -0.36% (non-French)
Dividend rate[c]	3.00%	3.00%
Fair value of the share	€4.57 (French residents) or €4.72 (non-French residents)	€1.93 (French residents) or €1.97 (non-French residents)

(a) *The binomial model of projecting share prices has been used to measure the fair value of the shares granted. The employee benefit corresponds to the fair value of the shares allocated, taking into account the impossibility of receiving dividends during the vesting period and the cost to the employee of the non-transferability of shares during the holding period.*

(b) *The risk-free rate corresponds to the zero-coupon rate (source: French Institute of Actuaries –* Institut des Actuaires*).*

(c) *The expected dividend rates were determined based on analysts' expectations (external information) and the Group's dividend policy.*

6.4 Earnings per share

- Basic earnings per share are calculated by dividing the net income for the year attributable to ordinary shareholders by the weighted average number of ordinary shares outstanding in the same period.
- Diluted earnings per share are calculated taking into account the maximum impact of the conversion of dilutive common shares (options, performance shares) and using the "share repurchase" method as defined in IAS 33 "Earnings per Share".

Details of the earnings and numbers of shares used to calculate basic and diluted earnings per share are presented below:

	2018	2019
Net income (loss) attributable to ordinary shareholders for basic earnings per share	**(502,455)**	**(337,549)**
Weighted average number of ordinary shares for basic earnings per share	457,987,760	457,987,760
Weighted average number of treasury shares for basic earnings per share	(117,878)	(494,306)
Weighted average number of shares for basic earnings per share	457,869,882	457,493,454
Earnings per share *(in €)*	**(1.1)**	**(0.7)**
Earnings per share comparable to 2018 *(in €)*	-	-
Dilution effect – stock purchase and subscription options and performance shares	-	-
Weighted average number of ordinary shares or diluted earnings per share	457,869,882	457,493,454
Diluted earnings per share *(in €)*	**(1.1)**	**(0.7)**
Earnings per share comparable to 2018 *(in €)*	-	-

Dividends paid during the year	2018	2019
for the previous fiscal year *(in €)*	-	-
interim dividend for the current fiscal year *(in €)*	-	-

Note 7 Financing and financial instruments

7.1 Net financial debt

- "Bank loans and other borrowings" include bank loans which bear interest, bond issues and bonds convertible and/or exchangeable into new or existing shares (OCEANE).
- Borrowings are classified as current liabilities for the portion to be repaid within 12 months after the reporting date and as non-current liabilities for payments due in more than 12 months.
- Borrowings are initially recorded at fair value less associated transaction costs as soon as they are directly attributable. These costs (loan issue expenses and premiums) are taken into account in the calculation of the amortized cost using the effective interest rate method. They are recognized in financial profit or loss on an actuarial basis over the life of the liability.
- At each reporting date, financial liabilities are then measured at amortized cost using the effective interest rate method, in addition to the specific procedures associated with hedge accounting (see below).

This item consists of current bank account balances and investment securities (units in short-term cash UCITS and mutual and investment funds) that are immediately available (not pledged), risk-free and have a low volatility level.

	31/12/2018			31/12/2019		
	Total	Non-current	Current	Total	Non-current	Current
Bond issues	2,117,352	1,717,647	399,705	1,726,538	1,726,538	-
Bank borrowings	117,415	27,564	89,851	1,737,712	20,142	1,717,570
Other financial liabilities	560,215	51,426	508,789	359,924	381	359,543
Current bank overdrafts	2,528	-	2,527	208	-	208
Total of current and non-current bank loans and other borrowings	**2,797,509**	**1,796,637**	**1,000,872**	**3,824,382**	**1,747,061**	**2,077,321**
Investment securities	401,896	-	401,896	925,505	-	925,505
Cash and cash equivalents	337,681	-	337,681	868,338	-	868,338
Cash and cash equivalents	**739,576**	**-**	**739,576**	**1,793,843**	**-**	**1,793,843**
NET FINANCIAL DEBT	**2,057,933**	**1,796,637**	**261,296**	**2,030,539**	**1,747,061**	**283,478**

7.1.1 BOND ISSUES

OCEANE are initially recorded by distinguishing between two components as soon as conversion parity is respected: a debt component recorded under amortized cost, calculated using an estimated market interest rate for an equivalent non-convertible bond issue, and a conversion option component, recorded under equity for an amount that is equal to the difference between the OCEANE issue value and the debt component. Issue expenses are allocated between the two components, *pro rata* of their respective values.

Bond issues *(in € million)*	Nominal amount	Due date	Rate	Market value as at 31 December 2019	Amount in statement of financial position as at 31 December 2019
Bond issues – August 2012	55	Aug. 2027	4.125%	64	54
Bond issues – September 2014	500	Sept. 2024	2.250%	532	499
OCEANE – September 2017	250	Oct. 2022	4.125%, 37.5% conversion premium and *6.89* strike	-	233
Bond issues – October 2017[(a)]	550	Oct. 2022	6.625%	558	545
Bond issues – April 2018[(a)]	400	Oct. 2023	6.375%	409	396
TOTAL	**1,755**				**1,727**

(a) Bonds callable pursuant to the contractual terms as from 15 October 2020.

These bond issues were intended to diversify and increase the amount and extend the maturity of the financial resources available to the Group.

These bond issues specifically include a change-of-control clause that would trigger the mandatory early repayment of the bonds at the request of each bondholder in the event of a change of control of the Company (in favor of a person or a group of people acting in concert) leading to a downgrade of the Group's financial rating.

In addition, these bonds may be subject to a request for prepayment should any of the common default scenarios for this type of transaction arise. Early redemption may also be requested in some cases by either the Company or the bondholder, particularly in respect of a change in Vallourec's position or tax status.

7.1.2 BANK BORROWINGS

Bank borrowings consist primarily of drawdowns on the Vallourec SA (€1,702 million) credit facilities, which are detailed in Note 7.1.5 and borrowings in Brazil amounting to €20 million.

7.1.3 OTHER FINANCIAL LIABILITIES

Other financial liabilities primarily correspond to outstanding commercial paper (€110 million) and to ACC ACE in Brazil (€207 million).

In fact, the Vallourec Group has sought to diversify its funding sources by using market financing. For example, Vallourec SA launched a commercial paper program on 12 October 2011 to meet its short-term needs. The program has a €1 billion ceiling. As at 31 December 2019, Vallourec had an outstanding debt of €110 million for maturities of up to one year. This commercial paper program was rated B by Standard & Poor's.

In addition, Vallourec & Sumitomo Tubos do Brasil and to a lesser extent Vallourec Transportes e Serviços do Brasil benefit from an ACC ACE program to finance their export operating requirements. As at 31 December 2019, ACC ACE amounted to €207 million.

7.1.4 BREAKDOWN BY CURRENCY, INTEREST RATE AND MATURITY OF LOANS AND OTHER FINANCIAL LIABILITIES

Debt by currency

	31/12/2018	%	31/12/2019	%
USD	284,678	10%	182,861	5%
EUR	2,398,712	86%	3,605,087	94%
BRL	88,019	3%	20,580	1%
Others	26,100	1%	15,854	0%
TOTAL	**2,797,509**	**100%**	**3,824,382**	**100%**

Breakdown by maturity of loans and other financial liabilities

	31/12/2018	31/12/2019
< 3 months	339,812	1,011,739
> 3 months and < 1 year	661,060	1,065,582
> 1 year	11,011	1,723
> 2 years	11,736	781,368
> 3 years	784,995	399,722
> 4 years	407,474	502,211
5 years and more	581,421	62,037
TOTAL	**2,797,509**	**3,824,382**

Debt by interest rate

	31/12/2018	%	31/12/2019	%
Fixed rate	2,654,662	95%	3,819,201	100%
Variable rate	142,847	5%	5,181	0%
TOTAL	**2,797,509**	**100%**	**3,824,382**	**100%**

7.1.5 CREDIT FACILITIES AND COVENANTS

Credit facilities

Confirmed credit lines *(in € million)*	Amount	Initial due date	Extension due date	Drawdown amount as at 31 December 2019
Line of €1.1 billion – February 2014	1,078	Feb. 2019	Feb. 2020 for €44m Feb. 2021 for €1,034m	1,021
Bilateral of €90 million – June 2015	90	Feb. 2019	Feb. 2021 for €90m	89
Line of €400 million – September 2015	400	Jul. 2019	Jul. 2020 for €100m Feb. 2021 for €300m	296
Line of €450 million – May 2016	450	Feb. 2020	Feb. 2020 for €150m Feb. 2021 for €300m	296
Bilateral of €110 million – May 2018 – EIB available to finance the Group's Research and Development, and Digitization projects	110	Apr. 2027	-	-
TOTAL	**2,128**			**1,702**

Covenant

Each of these bank facilities, by credit facility, requires the Group to maintain its consolidated net debt-to-equity ratio ("bank covenant") at less than or equal to 100%, calculated as at 31 December each year. As defined in the bank loan agreements, the banking covenant ratio is the ratio of the Group's consolidated net debt (including the financial lease debt and the shareholder's loan in Brazil) to the Group's equity, restated for gains and losses on derivatives and for foreign currency translation reserves (gains and losses of consolidated subsidiaries in foreign currency).

As at 31 December 2019, the restated indebtedness ratio ("banking covenant") as defined in the bank loan agreements was 81%. The implementation of IFRS 16 has no impact on the banking covenant ratio.

Banking covenant	31/12/2018	31/12/2019
Net debt (excluding financial lease debt)	1,998,776	2,030,539
Financial lease debt[(a)]	59,157	50,042
Net debt	**2,057,933**	**2,080,581**
Shareholder loan	28,892	20,560
Restated net debt (1)	**2,086,825**	**2,101,141**
Equity	2,264,276	1,980,045
Foreign currency translation reserve – Group share[(b)]	623,585	608,335
Reserves – changes in fair value of financial instruments[(b)]	9,279	(3,893)
Equity restated (2)	**2,897,140**	**2,584,487**
Ratio of banking covenant restated (1)/(2)	72%	81%

(a) Included in net debt as at 31 December 2018.

(b) Including minority interests.

7.1.6 FINANCIAL INCOME/(LOSS)

	2018	2019
FINANCIAL INCOME		
Income from investment securities	14,768	14,425
Income from disposals of investment securities	(479)	16
Total	**14,289**	**14,441**
Interest expenses[(a)]	**(189,490)**	**(188,232)**
Net interest expenses	**(175,201)**	**(173,791)**
OTHER FINANCIAL INCOME AND EXPENSES		
Income from securities, loans and receivables	1,989	3,581
Exchange (losses) and gains and changes in premiums/discounts	(40,303)	(36,044)
Provision allowances, net of reversals	(532)	1,542
Other financial income and expenses	4,493	6,452
Total	**(34,353)**	**(24,469)**
Interest expenses on leases	**-**	**(34,704)**
OTHER DISCOUNTING EXPENSES		
Interest expense discounts on pensions	(5,356)	(9,193)
Financial income from discounted assets and liabilities	(4,721)	(1,914)
Total	**(10,077)**	**(11,107)**
FINANCIAL INCOME/(LOSS)	**(219,631)**	**(244,071)**

(a) Interest expenses on finance leases were recognized as "interest expenses" in 2018, and then included in the interest expenses on leases from 1 January 2019.

7.1.7 RECONCILIATION OF FINANCIAL LIABILITIES WITH THE CASH FLOW STATEMENT

	31/12/2018	Translation difference	Proceeds drawn from new borrowings	Repayments of borrowings	Current/ non-current reclassifica-tions and other	31/12/2019
Non-current financial liabilities	1,796,637	3,281	9,936	(3,455)	(59,338)	1,747,061
Current financial liabilities	1,000,872	1,932	2,613,726	(1,542,556)	3,347	2,077,321
Financial liabilities (1)	**2,797,509**	**5,213**	**2,623,662**	**(1,546,011)**	**(55,991)**	**3,824,382**
Impact of hedging instruments and others (2)	-	-	**8,221**	**-**	-	-
TOTAL (1) + (2)	-	-	**2,631,883**	**(1,546,011)**	-	-
Change in financial liabilities in the statement of cash flows	-	-	2,631,883	(1,546,011)	-	-

	31/12/2017	Translation difference	Proceeds drawn from new borrowings	Repayments of borrowings	Current/ non-current reclassifica-tions and other	31/12/2018
Non-current financial liabilities	1,817,119	(10,052)	403,324	(1,160)	(412,594)	1,796,637
Current financial liabilities	746,220	(22,212)	945,827	(1,069,144)	400,181	1,000,872
Financial liabilities (1)	**2,563,339**	**(32,264)**	**1,349,151**	**(1,070,304)**	**(12,413)**	**2,797,509**
Impact of hedging instruments and others (2)	-	-	**(3,180)**	**(11,116)**	-	-
TOTAL (1) + (2)	-	-	**1,345,971**	**(1,081,420)**	-	-
Change in financial liabilities in the statement of cash flows	-	-	1,345,971	(1,081,420)	-	-

Net cash inflows and repayments of financial liabilities primarily correspond to drawings and repayments of commercial paper and short-term credit facilities.

7.1.8 FINANCIAL OFF-STATEMENT COMMITMENTS

Financial off-statement commitments received amounted to €61 million as at 31 December 2019, compared with €64 million as at 31 December 2018. They mainly correspond to guarantees received.

	2018	2019	< 1 year	1 to 5 years	> 5 years
Market guarantees and letters of credit given	90,296	107,475	64,207	42,119	1,149
Other securities, mortgages and pledges given	1,401	782	197	584	1
TOTAL	**91,697**	**108,257**	**64,404**	**42,703**	**1,150**

7.2 Other financial liabilities

Other financial liabilities consist primarily of lease debts and derivatives (the accounting principles for their recognition are presented in Note 7.5.3).

The lease debt, on the effective date of the agreement, is recognized in an amount equal to the current value of lease payments over the term of the agreement. The amounts taken into account for lease payments in debt measurement are:

- fixed lease payments (including fixed lease payments in substance);
- variable lease payments based on a rate or an index, using the rate or index on the effective date of the agreement;
- payments to be made by the lessee under a residual value guarantee;
- penalties to be paid in the event of the exercising of an option for termination or non-renewal of the lease, if the term of the lease was determined on the assumption that the lessee would exercise it.

Discount rates are calculated individually over the ultimate term of the lease.

Changes in lease debt are as follows:

- it is increased by interest expenses determined by applying the discount rate to the debt, at the start of the period;
- and reduced by the amount of the payments made.

	31/12/2018			31/12/2019		
	Total	Non-current	Current	Total	Non-current	Current
Lease debt	-	-	-	133,684	103,560	30,124
Derivatives	31,831		31,831	17,995		17,995
TOTAL	**31,831**	**-**	**31,831**	**151,679**	**103,560**	**48,119**

In 2010, Vallourec Soluções Tubulares do Brasil entered into a finance lease with a nominal value of BRL 570 million (€126.2 million) relating to equipment needed to operate the plant at Jeceaba. As at 31 December 2019, the residual amount outstanding on this finance lease was BRL 216 million (€47.8 million).

MATURITY SCHEDULE

	> 1 year	> 2 years	> 3 years	> 4 years	5 years and more	Total
Lease debt	21,829	19,169	16,638	14,028	31,896	103,560

7.3 Other financial assets

	31/12/2018			31/12/2019		
	Total	Non-current	Current	Total	Non-current	Current
Loans	3,558	2,930	628	3,311	2,866	445
Other financial assets	39,985	39,092	893	35,943	35,106	837
Derivatives	3,347		3,347	5,847		5,847
Other current financial	2,252	2,158	95	5,254	5,162	92
TOTAL	**49,142**	**44,180**	**4,963**	**50,355**	**43,134**	**7,221**

7.4 Shareholder loan

Vallourec Soluções Tubulares do Brasil benefits from a shareholder loan granted by NSSMC. In 2019, it was amortized for the amount of €10 million. This loan will be progressively amortized until 2022, and at the next maturity in August 2020 it will be BRL 44 million (around €10 million).

	31/12/2018	31/12/2019
Shareholder loan	28,892	20,560

7.5 Financial instruments

7.5.1 FINANCIAL ASSET AND LIABILITY ACCOUNTING MODEL

Financial assets include:

- non-current financial assets: other equity interests and associated receivables, construction participation loans and guarantees; and
- current financial assets, including accounts receivable and other trade receivables, short-term derivative instruments and cash and cash equivalents (investment securities).

➔ Initial measurement

Non-derivative financial assets are initially measured at fair value on the transaction date, including transaction costs, except for assets measured at fair value through profit or loss.

In most cases, the fair value on the transaction date is the historical cost, (*i.e.* the acquisition cost of the asset).

➔ Classification and measurement at the end of the reporting period

Financial assets (excluding hedging derivatives) are classified according to IFRS 9 in one of the following three categories:

- financial assets at amortized cost;
- financial assets measured at fair value through other comprehensive income;
- financial assets measured at fair value through profit or loss.

The classification is determined according to the following two parameters:

- the economic model followed by the Group to manage financial assets;
- features of the contractual cash flows of financial assets.

➔ Financial assets at amortized cost

These financial assets meet the following two conditions:

- the asset is held within a business model whose objective is to hold assets in order to collect contractual cash flows; and
- the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding.

In the Group, this category includes:

- receivables associated with participating interests, long-term loans and construction participation loans;
- accounts receivable and other trade receivables.

The amortized cost of short-term receivables such as trade receivables is usually equal to their historical cost.

Loans to employees are measured using the effective interest rate method applied to estimated future cash flows until the maturity dates of the loans.

➔ Financial assets measured at fair value through other comprehensive income

This concerns the following financial assets:

1. The instruments resulting in cash flows that correspond solely to payments of principal and interest on the remaining capital due (SPPI instruments) and for which ownership falls within a mixed business model of collection and sales.

This line item essentially concerns bonds and futures.

When a financial asset is removed from the balance sheet, the cumulative loss or gain that was previously recorded under other comprehensive income (loss) is reclassified under equity in the income statement.

The interest calculated according to the amortized cost method and impairments is recorded under income (loss).

2. Equity instruments are recorded at fair value under other comprehensive income.

Changes in fair value are recorded directly in equity and may not be reclassified. The interest calculated according to the amortized cost method and impairments is recorded under income (loss).

In the Group, the main assets in this category are investments in equity instruments. In general, these are:

- unlisted shares whose fair value cannot be reliably estimated. They are recorded at cost and undergo impairment testing when the consolidated financial statements are prepared;
- listed shares measured at their fair value at the reporting date. This fair value is determined based on the stock market price at the reporting date.

➔ Financial assets measured at fair value through profit or loss

This category of assets includes financial assets that are not measured at amortized cost, or that are measured at fair value under other comprehensive income.

These are primarily certain cash assets (investment securities, cash and cash equivalents, etc.) and asset derivatives that have not been expressly designated as hedging instruments (security deposits and guarantees).

These cash assets are measured at fair value at the reporting date, and changes in fair value are recognized in financial income/(loss). They are therefore not tested for impairment. Fair value is determined mainly by reference to market quotations.

➔ Impairment assessment model for financial assets

Starting from the initial recording, assets measured at amortized cost and assets measured at their fair value through other comprehensive income (debt instruments) are impaired according to the credit losses expected over the life of the asset. At each closing date, it is appropriate to assess whether the credit risk associated with a financial instrument has increased materially since the initial recording. The entity must base its assessment on the change in credit risk over the expected term of the financial instrument.

Vallourec uses several criteria to determine whether the credit risk has increased: rating of the counterparty, assessment of the level of risk.

The amounts recognized in the statement of financial position are based on the measurement methods used for each financial instrument.

2019	Amortized cost	Fair value through profit or loss	Fair value through comprehensive income	Fair value derivatives	Total	Fair value
ASSETS						
Trade & other receivables	616,739	-	-	-	616,739	616,739
Other current and non current financial assets	39,146	-	5,362	5,847	50,355	50,355
Other current and non current assets	325,187	-	-	-	325,187	325,187
Cash and cash equivalents	-	1,793,843	-	-	1,793,843	1,793,843
Total financial asset	**981,072**	**1,793,843**	**5,362**	**5,847**	**2,786,124**	**2,786,124**
Total non financial asset					**4,519,312**	**4,519,312**
TOTAL ASSETS					7,305,436	7,305,436
LIABILITIES						
Borrowings	3,824,382	-	-	-	3,824,382	3,893,382
Trade payables	579,739	-	-	-	579,739	579,739
Other current and non current financial liabilities	133,684	-	-	17,995	151,679	151,679
Other current and non current liabilities	346,166	-	-	-	346,166	346,166
Total financial liabilities	**4,883,971**	**-**	**-**	**17,995**	**4,901,966**	**4,970,966**
Total non financial liabilities					**2,403,470**	**2,403,470**
TOTAL EQUITY AND LIABILITIES					7,305,436	7,374,436

2018	Amortized cost	Fair value through profit or loss	Fair value through comprehensive income	Fair value derivatives	Total	Fair value
ASSETS						
Trade & other receivables	600,155	-	-	-	600,155	600,155
Other current and non current financial assets	40,153	-	5,642	3,347	49,142	49,142
Other current and non current assets	326,234	-	-	-	326,234	326,234
Cash and cash equivalents	-	739,576	-	-	739,576	739,576
Total financial asset	**966,542**	**739,576**	**5,642**	**3,347**	**1,715,107**	**1,715,107**
Total non financial asset					**4,697,937**	**4,697,937**
TOTAL ASSETS					6,413,045	6,413,045
LIABILITIES						
Borrowings	2,797,509	-	-	-	2,797,509	2,857,909
Trade payables	582,272	-	-	-	582,272	582,272
Other current and non current financial liabilities	-	-	-	31,831	31,831	31,831
Other current and non current liabilities	301,717	-	-	-	301,717	301,717
Total financial liabilities	**3,681,498**	**-**	**-**	**31,831**	**3,713,329**	**3,773,729**
Total non financial liabilities					**2,699,716**	**2,699,716**
TOTAL EQUITY AND LIABILITIES					6,413,045	6,473,445

7.5.2 FAIR VALUE LEVELS

Financial instruments measured at fair value are classified by category on the basis of their measurement method. Fair value is measured:

- level 1: according to prices quoted on an active market;
- level 2: on the basis of observable methods and data and with reference to the financial markets (yield curve, forward prices, etc.);
- level 3: on the basis of an internal model with unobservable inputs.

	31/12/2018			31/12/2019		
	Accounting value	Fair value	Level	Accounting value	Fair value	Level
ASSETS						
Other current and non current financial assets (Other equity interests)	5,642	5,642	2	5,362	5,362	2
Other current and non current financial assets (Derivatives)	3,347	3,347	2	5,847	5,847	2
Cash and cash equivalents	739,576	739,576	1	1,793,843	1,793,843	1
LIABILITIES						
Other current and non current financial liabilities (Derivatives)	31,831	31,831	2	17,995	17,995	2

7.5.3 HEDGING ACCOUNTING

The measurement and recognition of financial instruments are governed by IFRS 9.

➔ Group exposure to foreign exchange risk on commercial transactions

In addition to the hedging of certain financial liabilities, the Group enters into hedging contracts mainly to manage its exposure to foreign exchange risks arising from the orders and sales of certain subsidiaries in currencies other than their functional currency. In particular, a significant share of Vallourec's revenue is invoiced by European companies in US dollars. Exchange rate fluctuations between the euro and the dollar may therefore affect the Group's operating margin.

The Group manages its exposure to foreign exchange risk by setting up hedges based on regularly updated forecasts of customer orders. Operating receivables and incomes that will be generated by the orders are thus hedged by financial instruments, mainly forward currency sales.

To a lesser extent, the Group also enters into forward currency purchases to hedge its foreign currency purchase commitments.

➔ Measurement and presentation of derivatives

Changes in the value of derivatives with respect to their date of implementation are measured at each reporting date.

The fair value of forward currency contracts is calculated on the basis of market data and conditions. Since they hedge commercial transactions, these derivatives are presented on the statement of financial position under current assets and current liabilities.

➔ Hedge accounting

Hedging of commercial transactions falls within the category of cash flow hedges.

The Group applies hedge accounting in strict compliance with the criteria of IFRS 9:

- documentation of the hedging relationship: nature of the underlying hedged item, term of the hedge, hedging instrument used, spot rate of the hedge, forward points, etc.; and
- in the case of cash flow hedges, carrying out an effectiveness test on implementation of the derivative and updating the test at least at each quarter-end.

Hedge accounting within the Group is as follows:

At the reporting date, changes in the hedging instrument with respect to its date of implementation are measured at fair value and recognized on the statement of financial position as derivative assets or liabilities. The following are shown separately:

- the change in the currency impact of the hedging instrument (difference between the spot rate on the date of implementation of the hedge and the spot rate on the measurement date, *i.e.* the reporting date):
  - if the hedge is effective, and as long as the revenue (or purchase) hedged is not recognized, changes in the currency impact are recognized under other comprehensive income, in accordance with the principles of cash-flow hedge accounting,
  - if the hedging instrument is not effective (a rare occurrence, given the procedures introduced by the Group), the change in the currency impact of the derivative is recognized in financial income or loss;
- the change in the rate impact (premium/discount). The Group has chosen to recognize this change in financial income or loss, since this component is not included in the hedging relationship.

The revenue (purchase) corresponding to the sales forecasts (purchase orders) hedged is recognized at the spot rate on the date of implementation of the hedging contract. The account receivable (account payable) is initially recognized at the same spot rate.

At the end of each reporting period, hedged foreign currency accounts receivable and accounts payable are measured and recognized at the exchange rate applicable on the reporting date. The difference between that rate and the rate used on initial recognition (spot rate on the date of implementation of the hedge) or the rate applicable on the last reporting date constitutes an exchange gain or loss recognized in financial profit or loss for the period.

Once the hedged item (foreign currency receivable or payable) is recorded on the statement of financial position, the change in the currency impact of the hedging instrument previously recognized in equity is recorded in financial income or loss. Changes in the value of the hedging instrument and the receivable or debt covered then have a symmetrical impact on financial income or loss.

From a net liability position of €28.5 million as at 31 December 2018, hedging assets moved to a net liability position of €12.1 million as at 31 December 2019.

Fluctuations in the euro against the US dollar in 2019 account for most of the +€12.4 million change in the currency impact of hedges of forecast sales and purchases in foreign currencies.

Financial instruments of a speculative nature remain exceptional and arise when a hedging relationship is ineffective under the terms of IFRS 9. Their changes in value do not have a material impact on foreign exchange gains or losses.

	Accounting treatment	Reserves	31/12/2019[a]	31/12/2018[a]
Currency forward contracts on commercial transactions	*Cash flow hedge*	12,490	2,126	(11,495)
Currency forward contracts on commercial transactions	*Fair value hedge*	8	(15,177)	(18,413)
Currency forward contracts on financial transactions	*Fair value hedge*	-	497	380
Hedging instruments set up under employee share ownership plans	*Fair value hedge*	778	406	1,044
Subtotal derivatives		**13,277**	**(12,148)**	**(28,484)**
Of which derivatives – assets			*5,847*	*3,347*
Of which derivatives – liabilities			*17,995*	*31,831*
Receivables (payables) used for commercial hedges	*Cash flow hedge*	(531)	1,747	2,278
Receivables (payables) used for commercial hedges	*Fair value hedge*	-	(1,129)	(1,644)
TOTAL		**12,746**	**(11,530)**	**(27,850)**

(a) Assets and liabilities offset in this table: + = asset, () = liability.

The change in the fair value of financial instruments hedging foreign exchange risk, which affected equity as at 31 December 2018, was -€11.5 million. In 2019, around 85% of the negative change in fair value attached to the order book and commercial tenders at the end of 2018 was transferred from equity to other comprehensive income, under “Group translation gain/loss”. This amount represents the impact of the changes in value of foreign exchange hedges for the order book and commercial tenders as at 31 December 2018, which were fully or partially unwound or converted into receivables during 2019.

This corresponds mainly to the hedges of receivables in US dollars, which represented nearly all the hedges with an impact on equity as at 31 December 2019.

	Accounting treatment	Reserves	31/12/2018[a]	31/12/2017[a]
Currency forward contracts on commercial transactions	*Cash flow hedge*	(19,025)	(11,495)	9,302
Currency forward contracts on commercial transactions	*Fair value hedge*	2	(18,413)	3,879
Currency forward contracts on financial transactions	*Fair value hedge*	33	380	4,555
Hedging instruments set up under employee share ownership plans	*Fair value hedge*	-	1,044	1,821
Subtotal derivatives		**(18,990)**	**(28,484)**	**19,557**
Of which derivatives – assets			*3,347*	*32,451*
Of which derivatives – liabilities			*31,831*	*12,894*
Receivables (payables) used for commercial hedges	*Cash flow hedge*	4,362	2,278	(2,084)
Receivables (payables) used for commercial hedges	*Fair value hedge*	-	(1,644)	(2,842)
TOTAL		**(14,628)**	**(27,850)**	**14,631**

(a) Assets and liabilities offset in this table: + = asset, () = liability.

The change in the fair value of financial instruments hedging foreign exchange risk, which affected equity as at 31 December 2017, was €9.3 million. In 2018, around 82% of the positive change in fair value attached to the order book and commercial tenders at the end of 2017 was transferred from equity to other comprehensive income, under “Group translation gain/loss”. This amount represents the impact of the changes in value of foreign exchange hedges for the order book and commercial tenders as at 31 December 2017, which were fully or partially unwound or converted into receivables during 2018.

This corresponds mainly to the hedges of receivables in US dollars, which represented nearly all the hedges with an impact on equity as at 31 December 2018.

7.5.4 FINANCIAL RISK MANAGEMENT

Market risk is comprised of interest rate, foreign exchange (conversion and transactions), liquidity, credit and equity risk.

Foreign currency translation risk

The assets, liabilities, revenues and expenses of the Group's subsidiaries are expressed in various currencies. The Group's financial statements are presented in euros. The assets, liabilities, revenues and expenses denominated in currencies other than the euro have to be translated into euros at the applicable rate so that they can be consolidated.

If the euro rises (or falls) against another currency, the value in euros of the various assets, liabilities, revenues and expenses initially recognized in that other currency will fall (or rise). Therefore, changes in the value of the euro may have an impact on the value in euros of the assets, liabilities, revenues and costs not denominated in euros, even if the value of these items in their original currency has not changed.

In 2019, net income, Group share was generated to a significant extent by subsidiaries that prepare their financial statements in currencies other than the euro (mainly in US dollars and Brazilian reals). A 10% change in exchange rates would have had an upward or downward impact on net income, Group share of around €4.5 million.

In addition, the Group's sensitivity to long-term foreign exchange rate risk is reflected in the changes that have occurred in recent years in the foreign currency translation reserves booked to equity (-€636.7 million as at 31 December 2019), which, in recent years, have been linked mainly to movements in the US dollar and Brazilian real.

The conversion reserves are detailed in Note 6.1.

Liquidity risk

The Group's financial resources are composed of bank financing and market financing.

The majority of long-term and medium-term bank financing has been put in place in Europe via Vallourec SA and to a lesser extent via the subsidiaries in Brazil.

Vallourec SA's credit facilities (€2,128 million) do not benefit from any securities or guarantees.

Market financing is arranged exclusively by Vallourec SA.

As at 31 December 2019, the Group was compliant with its commitments and the terms and conditions for obtaining and maintaining all of the above facilities. Together, the above resources were sufficient to cover the Group's cash requirements as at 31 December 2019.

As at 31 December 2019, the Group had confirmed bank credit facilities of €2,128 million, including €426 million unused, and cash of €1,794 million. The Group therefore had liquid assets of €2,220 million at its disposal.

As mentioned in Note 7.1.5., credit facilities of €194 million are due to expire in February 2020, €100 million in July 2020, and €1,724 million in February 2021. Drawn credit lines will therefore need to be repaid by these deadlines.

In this regard, the Group announced on 19 February 2020 (Note 11.2) that it was launching a capital increase of €800 million.

Bpifrance and Nippon Steel, Vallourec's leading shareholders, pledged to subscribe to the capital increase with i) Bpifrance subscribing pro rata to its share of the capital and ii) Nippon Steel subscribing for an amount that would allow it to hold approximately 10% of Vallourec's capital on completion of the capital increase.

Vallourec has received a commitment from a banking syndicate to guarantee subscription for the amount of the capital increase, subject to the usual conditions.

The Group also announced that it had entered into an agreement with several banks for the provision of a confirmed medium-term bank facility of €800 million, conditional on the completion of the capital increase. This syndicated credit line will replace all the bank facilities expiring in February 2021.

Completion of these transactions for a total cumulative amount of €1,600 million, plus the amount of available cash in the statement of financial position of €1,794 million and an EIB credit facility of €110 million maturing in 2027 will give the Group the means to meet its liquidity needs for the next 12 months. Should the transaction not be completed, the Group would explore other means of financing.

Transaction risk

The Group is subject to foreign exchange risks owing to its business exposure linked to sales and purchase transactions entered into by some of its subsidiaries in currencies other than their functional currency.

The main foreign currency involved is the US dollar (USD): a significant portion of the Vallourec Group's transactions (approximately 37% of Group revenue in 2019) is invoiced in US dollars by companies whose functional currency is not the US dollar.

Exchange rate fluctuations between the euro, the Brazilian real (BRL) and the US dollar may therefore affect the Group's operating margin. Their impact is, however, very difficult to quantify for two reasons:

1. there is an adjustment effect on selling prices denominated in US dollars related to market conditions in the various sectors of activity in which Vallourec operates;
2. certain sales and purchases, even though they are denominated in euros or Brazilian reals, are influenced by the level of the US dollar. They are therefore indirectly and at some time in the future affected by movements in the US currency.

The Group actively manages its exposure to foreign exchange risk to reduce the sensitivity of its net profits to currency fluctuations by setting up hedges once the order is placed and sometimes once a quotation is given.

Orders, receivables, payables and operating cash flows, are thus hedged with financial instruments, mainly forward purchases and sales.

Order cancellations could therefore result in the cancellation of hedges in place, leading to the recognition in the consolidated income statement of gains and losses with regard to these canceled hedges.

We estimate that a 10% rise or fall in the currencies used in all hedges implemented by the Group would result in an €84 million decrease or increase in the currency impact recognized in consolidated equity as at 31 December 2019. Most of these amounts would be due to changes in the US dollar against the euro, and to a lesser extent, the Brazilian real against the US dollar.

To be eligible for hedge accounting as defined under IFRS 9, the Vallourec Group has developed cash management and invoicing systems to facilitate the traceability of hedged transactions throughout the duration of the hedging instruments.

As at 31 December 2019, the following amounts were outstanding under forward foreign exchange contracts to hedge purchases and sales denominated in foreign currencies:

Hedging contracts with regard to commercial transactions – Exchange rate risk	2018	2019
Forward exchange contract: forward sales	1,158,870	1,118,676
Forward exchange contract: forward purchases	30,339	37,729
TOTAL	**1,189,209**	**1,156,405**

Contract maturities as at 31 December 2019

Contracts on commercial transactions	Total	< 1 year	1 to 5 years	> 5 years
Forward exchange contract: forward sales	1,118,676	1,103,091	15,585	-
Forward exchange contract: forward purchases	37,729	37,729	-	-
TOTAL	**1,156,405**	**1,140,820**	**15,585**	**-**

Forward sales (€1,119 million of the €1,156 million total) correspond mainly to sales of US dollars. These contracts were transacted at an average forward EUR/USD rate of 1.16 and an average forward USD/BRL rate of 4.09.

In 2019, as in 2018, the hedges entered into generally covered an average period of about 10 months and mainly hedged highly probable future transactions and foreign currency receivables.

In addition to hedges on commercial transactions, the Vallourec Group has implemented hedging contracts for financial loans and receivables denominated in foreign currencies:

- forward sales for USD 24.1 million (€21.7 million);
- forward sales of GBP 22.6 million (EUR 26.5 million).

These instruments are intended to hedge either the debt denominated in USD, or the foreign currency loans established by the financial holding company Vallourec Tubes in the currency of the subsidiaries receiving them. The forward purchases and sales mature at various times in 2020, as and when the hedged loans and borrowings mature.

Other than its foreign-currency-denominated borrowings, the Vallourec Group does not hedge any of the other foreign currency assets and liabilities in its consolidated statement of financial position (foreign currency translation risks).

Interest rate risk

Management of medium- and long-term financing within the euro zone is centralized at Vallourec SA and the sub-holding company Vallourec Tubes.

The allocation of debt between fixed and variable rates is presented in Note 7.1.4.

The amount of loans with fixed rates on the dates granted primarily consists of bonds and commercial paper issued by Vallourec SA, as described in Note 7.1.

Debt contracted at a rate higher than 6% relates to bond issues of €550 million and €400 million.

Debt at a fixed rate of less than 3% on the date granted relates mainly to commercial paper and to the €500 million bond issue.

The Group is only slightly exposed to interest rate risk on its variable-rate debt. As at 31 December 2019, financial debt exposed to changes in variable interest rates was €5.2 million (about 0.1% of total gross debt).

Given the Group's interest rate hedge accounting policy, the impact of a 1% rise on short-term rates in the eurozone, on Brazilian and Chinese rates and on UK and US money market rates would result in a €0.05 million increase in the Group's annual financial expenses, based on an assumption of complete stability of the financial liabilities and constant exchange rates, and after taking into account the effects of any hedging instruments. This impact does not take into account the interest rate risk on commercial paper with a maturity of more than one year or on short-term cash investments (with a maturity of no more than three months).

Credit risks

The Vallourec Group is subject to credit risk on financial assets for which no impairment provision has been made and whose non-recovery could affect the Company's results and financial position.

The Group has identified four main types of receivables that have these characteristics:

- 1% building loans granted to Group employees;
- security deposits paid in connection with tax disputes and the tax receivables due to the Group in Brazil;
- trade and other receivables;
- derivatives that have a positive fair value.

1. 1% building loans granted to the Group's employees: these loans do not expose the Group to any credit risk since the full amount of the loan is written off as soon as there is any delay in the collection of the amounts due. It should be noted that these loans are valued using the effective interest rate method applied to the expected cash flows until the maturity date of these loans (contractual interest rates may be lower).

2. Security deposits and tax receivables due to the Group in Brazil: there is no specific risk in respect of these receivables, even if the outcome of the disputes is unfavorable, since the risk has already been assessed and a provision recognized in respect of these receivables, and the funds have already been paid in full or in part.
3. As concerns the derivatives that have a positive fair value, the Group only deals with highly-rated counterparties. The credit risk is considered to be insignificant.
4. The Group's policy on the impairment of trade and other receivables is to recognize a provision when indications of impairment are identified. The impairment is equal to the difference between the carrying amount of the asset and the present value of expected future cash flows, taking into account the position of the counterparty.

- The Group considers that, as at 31 December 2019, there is no reason to assume that there is any risk in respect of receivables for which no provision has been made and which are less than 90 days overdue. Trade receivables more than 90 days past due and not impaired amounted to €12.4 million as at 31 December 2019, or 2% of the Group's total net trade receivables.

The Vallourec Group considers that the risk is limited given its existing customer risk management procedures, which include:

- the use of credit insurance and documentary credits;
- the long-standing nature of the Group's commercial relations with major customers;
- the commercial collection policy.

The Vallourec Group remains subject to country risk, which could impact the payment of some of its receivables.

In addition, as at 31 December 2019, trade receivables not yet due amounted to €502.5 million, or 82% of total net trade receivables.

The maturities of these trade receivables are as follows (in € thousand):

As at 31/12/2019	0 to 30 days	30 to 60 days	60 to 90 days	90 to 180 days	> 180 days	Total
Trade receivables outstanding	393,085	57,152	17,090	25,812	9,404	502,543

Equity risk

Treasury shares held by the Group are recognized at their acquisition cost as a deduction from equity. Proceeds from the sale of these shares are booked directly as an increase in equity so that gains or losses on disposal do not affect consolidated income.

Treasury shares held by the Vallourec Group as at 31 December 2019 include shares allocated to allocation operations for certain members of the staff, executive management or corporate officers of the Group.

In this context, Vallourec SA holds:

- 155 treasury shares acquired in 2011 under the share buyback plan of 7 June 2011, after definitive allocation of 27,534 shares in 2012, 86,377 shares in 2013, 91,929 shares in 2014, 108,600 shares in 2015, 30,524 shares in 2016, 54,871 shares in 2017, and 10 shares in 2018 under the various performance share plans;
- 1,099 treasury shares acquired in 2014 after definitive allocation of 128,689 shares in 2017, 81,558 shares in 2018 and 88,654 shares in 2019 under the various performance share plans;
- 522,249 treasury shares acquired in 2019 after the definitive allocation of 92,751 shares in 2019 under the various performance share plans.

The Management Board, in consultation with the Supervisory Board, has decided to allocate these treasury shares to cover the Group's performance share and employee share ownership plans.

To the best of its knowledge, the Group had no other exposure to equity risk as at 31 December 2019.

Note 8 Employee benefit commitments

The Group participates in the funding of supplementary retirement plans and other long-term employee benefits, in accordance with constructive or legal requirements. The Group offers these benefits by means of either defined contribution or defined benefit plans.

In the case of defined contribution plans, the Group's only obligation is the payment of premiums. Contributions paid to the plans are recognized as expenses for the period. If applicable, provisions are recognized for outstanding contributions at the reporting date.

Provisions are recognized for retirement commitments and similar obligations arising from defined benefit plans and are measured based on an actuarial calculation performed at least once a year by independent actuaries. The projected unit credit method is applied as follows: each period of service creates an additional unit of benefit entitlement, and each of these units is measured separately to determine the Group's employee benefit obligations.

The calculations take into account the specific features of the various plans and assumptions for the retirement date, career advancement, salary increases, as well as the probability of the employee still being employed by the Group at retirement age (turnover rates, mortality tables, etc.). The obligation is discounted based on the interest rates of long-term bonds of prime issuers.

Retirement commitments and similar obligations mainly relate to the Group's French subsidiaries and its subsidiaries in Germany, the United Kingdom, the United States and Brazil.

Other employee benefits and similar for which the Group recognizes provisions are:

- in the case of French and foreign subsidiaries, benefits in connection with long-service awards;
- in the case of certain subsidiaries in the United States and Brazil, coverage of medical expenses.

The obligation is presented on the statement of financial position, net of plan assets measured at fair value (if applicable).

	Germany		France		United Kingdom		Others		Total	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Retirement benefits	247,092	270,764	31,096	34,865	106,328	115,065	89,949	83,903	474,465	504,597
Early retirement commitments	57,762	57,729	-	-	-	-	-	-	57,762	57,729
Long-service awards and medical benefits	16,528	17,386	1,438	1,611	-	-	3,230	22,256	21,196	41,253
Present value of the obligation	**321,382**	**345,879**	**32,534**	**36,476**	**106,328**	**115,065**	**93,179**	**106,159**	**553,423**	**603,578**
Fair value of plan assets	(176,331)	(193,392)	(5,116)	(5,518)	(120,572)	(130,317)	(37,045)	(46,564)	(339,064)	(375,791)
NET LIABILITY	**145,051**	**152,487**	**27,418**	**30,958**	**(14,244)**	**(15,253)**	**56,134**	**59,595**	**214,359**	**227,787**

Changes in the obligation	Germany 2018	Germany 2019	France 2018	France 2019	United Kingdom 2018	United Kingdom 2019	Others 2018	Others 2019	Total 2018	Total 2019
As at 1 January	**328,112**	**321,382**	**37,637**	**32,534**	**117,940**	**106,328**	**92,776**	**93,179**	**576,465**	**553,423**
Current service cost	13,920	12,599	1,254	1,288	966	641	3,582	3,031	19,722	17,560
Interest expenses of the obligation	4,858	5,193	511	660	2,742	2,978	5,186	5,614	13,297	14,445
Employee contributions	-	-	-	-	151	-	42	28	193	28
Remeasurements:										
Experience-related adjustments	1,602	5,033	57	(427)	9,593	(2,420)	2,172	750	13,424	2,936
Actuarial gains and losses arising from changes in demographic assumptions	(3,046)	-	-	453	1,555	(1,450)	(242)	(4)	(1,733)	(1,001)
Actuarial gains and losses arising from changes in financial assumptions	(4,337)	28,561	(253)	2,594	(4,511)	14,962	(6,216)	14,716	(15,317)	60,833
Acquisitions/disposals	-		(2,558)		-		-		(2,558)	
Benefits payments	(26,013)	(31,799)	(3,593)	(598)	(20,099)	(11,536)	(4,462)	(4,365)	(54,167)	(48,298)
Plan amendments	(2,992)	-	-	-	1,065	-	-	(8,505)	(1,927)	(8,505)
Foreign exchange differences	-	-	-	-	(845)	5,562	(453)	921	(1,298)	6,483
Others[(a)]	9,278	4,910	(521)	(28)	(2,229)	-	794	795	7,322	5,676
AS AT 31 DECEMBER	**321,382**	**345,879**	**32,534**	**36,476**	**106,328**	**115,065**	**93,179**	**106,159**	**553,423**	**603,578**

(a) Primarily consists of the restructurings in Germany (increase in early retirement plan).

The changes in assets associated with these benefits are as follows:

	Germany 2018	Germany 2019	France 2018	France 2019	United Kingdom 2018	United Kingdom 2019	Others 2018	Others 2019	Total 2018	Total 2019
Value of assets	**179,974**	**176,331**	**8,106**	**5,116**	**143,486**	**120,572**	**36,334**	**37,045**	**367,900**	**339,063**
Actual return on assets	(8,243)	15,561	168	413	(4,423)	12,416	(2,156)	6,865	(14,654)	35,255
Contributions	4,600	1,500	-	-	2,538	2,563	3,009	4,080	10,147	8,144
Benefits paid	-	-	(2,960)	(11)	(20,099)	(11,536)	(1,582)	(2,040)	(24,641)	(13,587)
Acquisitions, disposals, liquidations	-	-	(198)	-	-	-	-	-	(198)	-
Foreign exchange differences	-	-	-	-	(930)	6,302	1,440	614	510	6,916
VALUE OF ASSETS	**176,331**	**193,392**	**5,116**	**5,518**	**120,572**	**130,317**	**37,045**	**46,564**	**339,064**	**375,791**

EXPENSES FOR THE FISCAL YEAR

	Germany		France		United Kingdom		Others		Total	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Current service cost	13,920	12,599	1,254	1,288	966	641	3,582	3,031	19,722	17,560
Interest expenses	4,858	5,193	511	660	2,742	2,978	5,186	5,614	13,297	14,445
Long-term return on plan assets	(2,804)	(2,997)	(126)	(51)	(3,502)	(3,403)	(1,453)	(1,731)	(7,885)	(8,182)
Net actuarial losses/(gains) for the year	(571)	7,401	(8)	141	-	-	(149)	498	(728)	8,040
Cost of past services	(2,992)	-	-	-	1,065	-	-	(8,505)	(1,927)	(8,505)
Gains/(Losses) from reduction or liquidation	9,278	4,909	(1,474)	-	(2,230)	-	(741)	-	4,833	4,909
NET EXPENSE	**21,689**	**27,105**	**157**	**2,038**	**(959)**	**216**	**6,425**	**(1,092)**	**27,312**	**28,267**
ACTUAL RETURN ON PLAN ASSETS	**(8,243)**	**15,561**	**168**	**413**	**(4,423)**	**12,416**	**(2,156)**	**6,865**	**(14,654)**	**35,255**

Movements during the year in net liabilities recognized on the statement of financial position were as follows:

	Germany		France		United Kingdom		Others		Total	
	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019
Net Liability/(Asset) at opening	**148,138**	**145,051**	**29,531**	**27,418**	**(25,547)**	**(14,244)**	**56,442**	**56,134**	**208,565**	**214,359**
Total expense for the fiscal year	21,689	27,105	157	2,038	(959)	216	6,425	(1,092)	27,312	28,267
Amount recognized in Other comprehensive income – Remeasurement	5,836	13,630	(159)	2,117	14,562	2,078	(351)	10,522	19,887	28,347
Benefits or contributions to funds	(30,613)	(33,299)	(165)	(587)	(2,386)	(2,563)	(5,849)	(6,379)	(39,013)	(42,828)
Foreign exchange differences	-	-	-	-	86	(740)	(1,634)	307	(1,549)	(433)
Changes in scope and other	-	-	(1,946)	(28)	-	-	1,101	103	(843)	75
NET LIABILITY/(ASSET) AT CLOSING	**145,051**	**152,487**	**27,418**	**30,958**	**(14,244)**	**(15,253)**	**56,134**	**59,595**	**214,359**	**227,787**

The main actuarial assumptions used for the measurement of post-employment benefit obligations, taking account of the plans' durations, are as follows:

Main actuarial assumptions	Germany	France	United Kingdom	Others
AS AT 31/12/2018				
Discount rate	1.70%	1.70%	2.80%	from 4 % to 9.09%
Expected return on plan assets	1.70%	1.70%	2.80%	from 4 % to 9.09%
Salary increase	2.00%	1.14%	N/A	from 3% to 10%
AS AT 31/12/2019				
Discount rate	0.75%	0.75%	2.00%	from 3.25% to 7.81%
Expected return on plan assets	0.75%	0.75%	2.00%	from 3.25% to 7%
Salary increase	2.00%	1.07%	N/A	from 4% to 10%

Commitments are valued by the Group's independent actuaries. The assumptions used take account of the specific characteristics of the plans and companies concerned.

Experience gains and losses in 2019 generated €2.9 million in losses for the Group (against €13.4 million in gains in 2018).

In 2020, the Group expects to pay €43.2 million in benefits under defined benefit plans, including €30.8 million in Germany, €3.5 million in the United Kingdom, €4.8 million in France and €2.1 million in Brazil.

Plans that are fully or partially outsourced represented a total obligation of €517 million as at 31 December 2019 for assets of €376 million.

In the euro zone, the discount rate is based on the iBoxx index (AA-rated corporate bonds with a maturity of 10 or more years, estimated on the date the obligations are valued). This index uses a basket of bonds of financial and non-financial companies. The rates have not been restated to reflect credit risk not factored into the selected bond baskets.

Actual returns on plan assets were higher than the estimate of €27 million. In 2019, a general decrease in discount rates resulted in an overall increase in liabilities, generating actuarial losses for the year of €60.8 million.

The Group has continued the restructuring efforts it began in previous years, in particular making commitments to staff in Germany, and to a lesser extent France and Brazil.

France

Commitments in France correspond to retirement benefits, supplemental pension plans and long-service award-type benefits.

On 31 December 2019, a sensitivity analysis of the discount rate was performed: a 1% increase of this rate would result in a drop of about €3.3 million in these commitments.

On 14 September 2005, a supplementary pension plan with its own plan assets was set up for executive management. The plan is partially outsourced to an insurance company. Since it is a defined benefit plan, it is valued on an actuarial basis and recognized in accordance with revised IAS 19 in the case of active employees.

The plan was closed and the rights frozen.

As at 31 December 2019, the obligation represents €9.4 million for assets of €5.5 million.

Germany

The Group's employees in Germany benefit from a variety of mechanisms (retirement benefits, deferred compensation, long-service awards and early retirement), which constitute long-term obligations for the Group.

On 31 December 2019, a sensitivity analysis of the discount rate was performed: a 1% increase of this rate would result in a drop of about €29.9 million in these commitments.

United Kingdom

The Group helps fund a defined benefit pension plan for Group employees. The obligations are outsourced and managed by leading institutions in the financial markets.

On 31 December 2019, a sensitivity analysis of the discount rate was performed: a 1% increase of this rate would result in a drop of about €22.5 million in these commitments.

Brazil

In Brazil, the Group is participating in funding retirement benefits, long-service awards and a retirement healthcare expenses plan (closed).

Retirement benefits are partially outsourced in a fund with total assets of €2.3 million in 2019 (vs. €1.7 million in 2018). The Group paid a €0.5 million contribution this year (€0.6 million in 2018).

Mexico/Indonesia/Saudi Arabia

Commitments in Mexico, Indonesia and Saudi Arabia remain insignificant for the Group.

United States

The assumption for increased medical benefits is regressive: from 6.75% to 4.5% in 2030, then stable.

Other countries

Provisions are made for obligations in other countries in accordance with local standards. They are not considered material at Group level.

Expenses incurred during the year include the additional rights acquired for an additional year of service, the change in existing rights at the beginning of the year due to discounting, past service costs recorded in the period, the expected return on plan assets, the effects of plan reductions or liquidations, and the amortization of actuarial gains and losses. The portion relating to the discounting of rights is recognized in financial income/(loss), and the return on plan assets is recorded in investment income.

Plan assets are broken down as follows:

	United Kingdom		United States		Germany	
	31/12/2018	31/12/2019	31/12/2018	31/12/2019	31/12/2018	31/12/2019
	In share	In share	In share	In share	In share	In share
Equities	47.24%	21.00%	49.60%	54.52%	22.24%	18.08%
Bonds	0.00%	0.00%	42.00%	37.52%	77.76%	79.34%
Real Estate	8.52%	0.00%	0.00%	0.00%	0.00%	0.00%
Others	44.24%	79.00%	8.40%	7.96%	0.00%	2.58%

The "Other" item of the United Kingdom relates to Cash & Index linked Gilts.

In France, 100% of the assets are placed in the general assets of an insurance company.

SENSITIVITY ANALYSIS

Calculating the obligation of a defined benefit plan is sensitive to the above assumptions.

A change of 1% in the respective assumptions would have the following impacts on the defined benefit obligation at the reporting date:

In € million	1% increase	1% decrease
Discount rate	(68)	85
Salary increase rate	8	(7)
Guaranteed rate of pension increase	41	(32)

The Group also set up defined contribution schemes amounting to €17.1 million as at 31 December 2019, compared to €17.9 million as at 31 December 2018. This is primarily the employer share of pension and life-insurance contributions at a rate of 60% for Senior Management, managers and technical and supervisory staff, and 40% for workers.

Note 9 Provisions for contingencies and liabilities

A provision is recognized when, at the reporting date, the Group has a present obligation (legal or constructive) as a result of a past event and it is probable that an outflow of resources embodying future economic benefits will be required to settle the obligation.

Provisions are discounted to present values if the time impact is material (for example, in the event of provisions for environmental risks or site clean-up costs). The increase in the provisions associated with the passage of time is recognized as a financial expense.

In the case of restructuring, a provision may be recognized only if, at the reporting date, the Company has announced the restructuring and drawn up a detailed plan or started to implement the plan.

Provisions are booked with regard to disputes (technical, guarantees, tax audits, etc.) if the Group has an obligation to a third party at the reporting date. They are determined based on the best estimate of the expense likely to be required to settle the obligation.

	31/12/2018			31/12/2019		
	Total	Non-current	Current	Total	Non-current	Current
Disputes and commercial commitments	22,555	1,088	21,467	18,264	277	17,987
Unfilled orders – losses on completion	28,098	88	28,010	34,060	759	33,301
Reorganization measures	62,655	7,046	55,609	52,378	9,602	42,776
Tax risks (income and other taxes, inspections, etc.)	15,293	15,284	9	13,810	13,810	-
Others	48,275	17,072	31,203	47,066	20,131	26,935
TOTAL	**176,876**	**40,578**	**136,298**	**165,578**	**44,579**	**120,999**
As at 1 January	**199,351**	**50,552**	**148,799**	**176,876**	**40,578**	**136,298**
Provisions for the period	135,174	6,045	129,129	91,467	2,457	89,009
Provisions used	(131,612)	(8,824)	(122,788)	(92,427)	(4,742)	(87,685)
Other reversals	(7,669)	(1,254)	(6,415)	(5,228)	(2,153)	(3,075)
Impact of changes in exchange rates	(7,960)	(3,061)	(4,899)	(898)	(489)	(409)
Reclassification and other changes	(10,408)	(2,880)	(7,528)	(4,211)	8,928	(13,139)
AS AT 31 DECEMBER	**176,876**	**40,578**	**136,298**	**165,578**	**44,579**	**120,999**

PROVISIONS FOR DISPUTES, COMMERCIAL COMMITMENTS AND LOSSES ON UNFILLED ORDERS

Provisions are booked with regard to disputes if the Group has an obligation to a third party at the reporting date. They are determined based on the best estimate of the expense likely to be required to settle the obligation.

PROVISIONS FOR ADAPTATION AND RESTRUCTURING MEASURES

Provisions have been made for the costs of social plans and adaptation measures when these measures have been the subject of a detailed plan and an announcement before the closing date of the accounts or the start of their implementation. These costs mainly relate to Europe. They include the following costs:

- redundancy and end-of-contract compensation paid to personnel no longer required by the company;
- costs of maintaining personnel after the shutdown of operations and until the site closure (compensation for unworked notice periods, for example);
- contract termination compensation paid to suppliers;
- outstanding rents payable after the shutdown of operations until the end of the rental agreement.

PROVISION FOR TAX RISKS

This provision mainly relates to risks in connection with tax disputes in Brazil, some of which are covered by security deposits (see Note 2.8).

OTHER CURRENT PROVISIONS

This item comprises various provisions with regard to customer discounts, late payment penalties and other risks identified at the reporting date, with none being individually material.

For 2019 and 2018, actual annual greenhouse gas emissions were lower than the allowance granted by the French government, so no provisions were booked in this regard.

CONTINGENT LIABILITIES

In a press release on 8 December 2018 the Eramet Group indicated that "as part of an internal review of quality processes within its alloys division, conducted under the impetus of the new management set up, Eramet has observed non-compliance in the quality management system within this division".

Vallourec obtains supplies of specialist steels from Aubert and Duval for the manufacture of tubes for steam generators destined for nuclear power plants. Each case of non-compliance identified to date has been analyzed in depth by the technical expert teams at Vallourec.

No situation posing a risk for nuclear safety has appeared up to now throughout the course of the investigations we have carried out with our customers and the Eramet Group. The mechanical resistance of the Vallourec tubes has not been called into question.

Analyses and discussions are continuing with both our customers and the Eramet Group about the consequences of these case of non-compliance.

Note 10 Scope

The Group consists of the holding company Vallourec S.A. and its subsidiaries consolidated in accordance with the principles described in Note 1.2.3.

	31/12/2018	31/12/2019
Fully consolidated companies	58	55
Joint ventures	3	3
Associates	2	2
TOTAL	**63**	**60**

There are no significant unconsolidated subsidiaries or interests.

In 2019, the Group has not had a significant change of scope.

The list of consolidated companies is as follows:

	Activities	% interest	Country
FULLY CONSOLIDATED COMPANIES			
Europe			
Serimax Angola Ltd	Services	80.0	United Kingdom
Serimax Field Joint Coating Ltd	Services	80.0	United Kingdom
Serimax Holdings S.A.S.	Services	80.0	France
Serimax Ltd	Services	80.0	United Kingdom
Serimax S.A.S.	Services	80.0	France
Valinox Nucléaire S.A.S.	Manufacturing and Sales of products, Services	100.0	France
Vallourec Bearing Tubes	Manufacturing and Sales of products, Services	100.0	France
Vallourec Deutschland GmbH	Manufacturing and Sales of products, Services	100.0	Germany
Vallourec Oil & Gas France S.A.S.	Manufacturing and Sales of products, Services	100.0	France
Vallourec Oil & Gas Nederland B.V.	Sales of products, Services	100.0	Netherlands
Vallourec Oil & Gas UK Ltd	Manufacturing and Sales of products, Services	100.0	United Kingdom
Vallourec One S.A.S.	Holding	100.0	France
Vallourec S.A.	Holding	100.0	France
Vallourec Services S.A.	Holding	100.0	France
Vallourec Tubes France S.A.S.	Manufacturing and Sales of products, Services	100.0	France
Vallourec Tubes S.A.S.	Holding	100.0	France
North America			
Serimax North America LLC	Services	80.0	United States
Vallourec Canada Inc.	Manufacturing and Sales of products, Services	100.0	Canada
Vallourec Holdings Inc.	Holding	100.0	United States
Vallourec Industries Inc.	Holding	100.0	United States
Vallourec Oil and Gas Mexico SA de CV	Manufacturing and Sales of products, Services	100.0	Mexico
Vallourec Star, LP	Manufacturing and Sales of products, Services	80.5	United States
Vallourec Tube-Alloy LP	Manufacturing and Sales of products, Services	100.0	United States
Vallourec USA Corporation	Sales of products, Services	100.0	United States
VAM USA	Manufacturing and Sales of products, Services	51.0	United States
South America			
Serimax Do Brasil Serviços de Soldagem e Fabricaçao Ltda	Services	80.0	Brazil
Tubos Soldados Atlântico	Manufacturing and Sales of products, Services	100.0	Brazil
Vallourec Florestal Ltda	Manufacturing and Sales of products, Services	100.0	Brazil
Vallourec Mineraçao Ltda	Manufacturing and Sales of products, Services	100.0	Brazil
Vallourec Soluções Tubulares do Brasil	Manufacturing and Sales of products, Services	84.6	Brazil
Vallourec Transportes e Serviços do Brasil Ltda	Services	100.0	Brazil
Vallourec Tubos do Brasil S.A.	Manufacturing and Sales of products, Services	100.0	Brazil
Vallourec Uruguay S.A.	Sales of products, Services	100.0	Uruguay
Asia			
Kestrel Wave Investment Ltd	Holding	100.0	Hong Kong
P.T. Citra Tubindo Tbk	Manufacturing and Sales of products, Services	81.72	Indonesia
Serimax South East Asia Pte Ltd	Services	80.0	Singapore
Serimax Welding Services Malaysia sdn bhd	Services	80.0	Malaysia
Valinox Nucléaire Tubes Guangzhou Co. Ltd	Manufacturing and Sales of products, Services	100.0	China
Vallourec Al Qahtani Tubes Llc	Sales of products, Services	75.0	Saudi Arabia
Vallourec Asia Pacific Corp Pte Ltd	Manufacturing and Sales of products, Services	100.0	Singapore

Vallourec Beijing Co. Ltd	Manufacturing and Sales of products, Services	100.0	China
Vallourec Changzhou Co. Ltd	Manufacturing and Sales of products, Services	100.0	China
Vallourec Middle East FZE	Sales of products, Services	100.0	United Arab Emirates
Vallourec Oil & Gas (China) Co., Ltd	Sales of products, Services	100.0	China
Vallourec Saudi Arabia Ltd	Manufacturing	80.0	Saudi Arabia
Vallourec Tianda (Anhui) Co., Ltd.	Manufacturing and Sales of products, Services	99.7	China
VAM Changzhou Oil & Gas Premium Equipments	Manufacturing and Sales of products, Services	100.0	China
VAM Far East	Services	51.0	Singapore
Rest of the world			
Serimax Australia Pty Ltd	Services	80.0	Australia
Serimax OOO	Services	80.0	Russia
Vallourec Nigeria Ltd	Manufacturing and Sales of products, Services	100.0	Nigeria
Vallourec Oil and Gas Nigeria Ltd	Sales of products, Services	100.0	Nigeria
Vallourec Oil & Gas Kenya Limited	Sales of products, Services	100.0	Kenya
Vallourec Russia	Sales of products, Services	100.0	Russia
VAM Field Services Angola	Sales of products, Services	100.0	Angola
JOINT VENTURES			
Vallourec Umbilicals S.A.S.	Manufacturing and Sales of products, Services	51.0	France
Vallourec Niko Tube Holding GmbH	Holding	50.1	Germany
Vallourec Niko Tube Llc	Manufacturing	50.1	Ukraine
ASSOCIATES			
Hüttenwerke Krupp Mannesmann (HKM)	Manufacturing	20.0	Germany
Ascoval	In liquidation	40.0	France

Note 11 Other information and subsequent events

11.1 Fees paid to Statutory Auditors and members of their networks

	KPMG		Deloitte	
	Amount (excl. tax)		Amount (excl. tax)	
	2018	2019	2018	2019
CERTIFICATION OF PARENT COMPANY AND CONSOLIDATED FINANCIAL STATEMENTS				
Issuer	242	246	242	246
%	*16%*	*15%*	*20%*	*18%*
Fully consolidated subsidiaries	1,206	1,027	888	764
%	*77%*	*62%*	*75%*	*57%*
Sub-total	**1,448**	**1,273**	**1,130**	**1,010**
OTHER SERVICES DIRECTLY ASSOCIATED WITH THE STATUTORY AUDIT[(a)]				
Issuer	106	279	35	205
%	*7%*	*17%*	*3%*	*15%*
Fully consolidated subsidiaries	5	111	21	117
%	*0%*	*7%*	*2%*	*9%*
Sub-total	**111**	**390**	**56**	**322**
TOTAL	**1,559**	**1,663**	**1,186**	**1,332**

(a) The services provided cover the other services directly associated with the statutory audit that are required by the legal and regulatory texts, as well as those services provided at the Group's request. For Deloitte & Associés, for the 2019 fiscal year, they primarily correspond to the completion of procedures conducted under the framework of (i) 30 September 2019 financial statements certification, (ii) R&D costs review for Vallourec Oil and Gas France and (iii) the certification of the carbon certificates. For KPMG, for the 2019 fiscal year, they primarily correspond to the completion of procedures conducted under the framework of (i) 30 September 2019 financial statements certification, (ii) the engagement of an independent third-party entity in relation to the CSR information of the management report and (iii) compliance reviews of tax returns for subsidiaries outside the European Union.

11.2 Subsequent events

The press release of 19 February 2020 announced plans for the launch of a capital increase and the refinancing of credit facilities to secure Vallourec's recovery and implement its strategy:

Vallourec intends to strengthen its balance sheet and liquidity position through a capital increase with preferential subscription rights maintained and by refinancing its credit facilities. The proceeds of the issue will be used to reduce its net financial debt.

CAPITAL INCREASE WITH PREFERENTIAL SUBSCRIPTION RIGHTS MAINTAINED

Vallourec announced plans to launch a capital increase for an amount of approximately €800 million, maintaining shareholders' preferential subscription rights. This will significantly reduce the Group's debt, decrease its financial expenses compared with 2019 and provide the increased flexibility needed for the successful implementation of its strategy.

Bpifrance and Nippon Steel, Vallourec's leading shareholders, pledged to subscribe to the capital increase with i) Bpifrance subscribing *pro rata* to its share of the capital and ii) Nippon Steel subscribing for an amount that would allow it to hold approximately 10% of Vallourec's capital on completion of the capital increase[(1)].

Vallourec has received a commitment from a banking syndicate to guarantee subscription for the amount of the capital increase, subject to the usual conditions.

The resolutions on the capital increase will be submitted for approval at the Shareholders' Meeting on 6 April 2020. Bpifrance and Nippon Steel have pledged to vote in favor of the resolutions on the capital increase.

It is expected that the capital increase will be launched during the second quarter of 2020, subject to market conditions and approval of the prospectus by the French securities regulator (*Autorité des Marchés Financiers*).

REFINANCING OF CREDIT FACILITIES

Vallourec also announced the refinancing of its credit facilities, in the amount of €800 million, for which it obtained a commitment from its partner banks, conditional on the completion of the capital increase.

This new refinancing will provide Vallourec with a long-term source of liquidity due to the four-year maturity, ending 2024, and an option to extend for one year. The new credit facility will include a Covenant, as defined in Note 7.1.5, that Vallourec must maintain below a maximum of 100%, as is the case for its current credit facilities.

(1) The total amount that may be invested by Nippon Steel, subject to the usual conditions, may not exceed €35 million and €120 million for Bpifrance.

Note 12 New format cross-reference table of the notes to the financial statements

Previous notes	Reference	New notes	Reference
Intangible assets and goodwill	Note 1	Goodwill	Note 4.1
		Intangible assets	Note 4.3
Property, plant and equipment	Note 2.1	Property, plant and equipment	Note 4.4
Biological assets	Note 2.2	Biological assets	Note 4.5
Impairment of intangible assets and property, plant and equipment	Note 2.3	Impairment tests	Note 4.2
Equity affiliates	Note 3	Investments in equity affiliates	Note 5
Other non-current assets	Note 4	Other assets and liabilities	Note 2.8.3
		Other financial assets	Note 7.3
Deferred taxes	Note 5	Deferred tax assets and liabilities	Note 3.2
Inventories and work in progress	Note 6	Inventories and work in progress	Note 2.8.1
Trade and other receivables	Note 7	Trade and other receivables	Note 2.8.2
Impact of IAS 32 and IFRS 9 on equity and net income	Note 8.1	Hedge accounting	Note 7.5.3
Information on the nature and extent of market risk and how it is managed by the Group	Note 8.2	Financial risk management	Note 7.5.4
Classification and measurement of assets and liabilities	Note 8.2	Financial assets and liabilities accounting model/ Fair value level	Note 7.5.1 / 7.5.2
Other current assets	Note 9	Other assets and liabilities	Note 2.8.3
		Other financial assets	Note 7.3
Cash and cash equivalents	Note 10	Net financial debt	Note 7.1
Assets held for sale and discontinued operations	Note 11	N/A for 2019	
Change in Working Capital Requirements	Note 12	Reconciliation of Working Capital Requirements	Note 2.8.4
Change in financial liabilities	Note 12	Reconciliation of financial liabilities with cash flow statement	Note 7.1.7
Equity	Note 13	Equity – Group share	Note 6.1
Earnings per share	Note 14	Earnings per share	Note 6.4
Non-controlling interests	Note 15	Non-controlling interests	Note 6.2
Bank loans and other borrowings	Note 16	Net financial debt	Note 7.1
Provisions	Note 17	Provisions for risks, charges and contingent liabilities	Note 9
Other long-term liabilities	Note 18	Other assets and liabilities	Note 2.8.3
		Other financial liabilities	Note 7.2
Retirement provisions	Note 19	Employee benefit commitments	Note 8
Other employee benefits (options and performance shares)	Note 19	Share-based payments (options and performance shares)	Note 6.3
Other current liabilities	Note 20	Other assets and liabilities	Note 2.8.3
		Other financial liabilities	Note 7.2
Transactions with equity affiliates	Note 21	Transactions with related parties	Note 5.3
Compensation of the management and supervisory boards	Note 21	Compensation of the management and supervisory boards	Note 5.4
Shareholder loan	Note 22	Shareholder loan	Note 7.4
Revenue	Note 23	Revenue	Note 2.2
Cost of sales	Note 24	EBITDA	Note 2.3
Selling, general and administrative expenses	Note 25	EBITDA	Note 2.3
Other	Note 26	EBITDA	Note 2.3
Fees paid to Statutory Auditors and members of their networks	Note 27	Fees paid to Statutory Auditors and members of their networks	Note 11.1
Depreciation and amortization	Note 28	Depreciation and amortization	Note 2.4

Previous notes	Reference	New notes	Reference
Impairment of assets and goodwill, asset disposals, restructuring costs and non-recurring items	Note 29	Impairment of assets and goodwill	Note 2.5
		Asset disposals, restructuring costs and non-recurring items	Note 2.6
Financial income/(loss)	Note 30	Financial income/(loss)	Note 7.1.6
Reconciliation of theoretical and actual tax expense	Note 31	Reconciliation of theoretical and actual tax expense	Note 3.1
Segment information	Note 32	Segment information	Note 2.1
Share in net income/(loss) of equity affiliates	Note 33	Non-significant information not included	
Contingent liabilities and commitments	Note 34	Operational off-statement commitments	Note 4.7
		Financial off-statement commitments	Note 7.1.8
Subsequent events	Note 35	Subsequent events	Note 11.2

6.2 Statutory Auditors' Report on the Consolidated Financial Statements

For the year ended 31 December 2019

To the Shareholders of Vallourec,

Opinion

In compliance with the engagement entrusted to us by your Annual Meeting of Shareholders, we have audited the accompanying consolidated financial statements of Vallourec (hereinafter, "the Company") for the year ended 31 December 2019.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at 31 December 2019 and of the results of its operations for the year then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

The audit opinion expressed above is consistent with our report to the Financial and Audit Committee.

Basis for Opinion

Audit Framework

We conducted our audit in accordance with professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the Statutory Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report.

Independence

We conducted our audit engagement in compliance with independence rules applicable to us, for the period from 1 January 2019 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5(1) of Regulation (EU) No 537/2014 or in the French Code of Ethics (Code de déontologie) for statutory auditors.

Observation

Without qualifying our opinion, we draw your attention to Note 1.1.1 to the consolidated financial statements, which describes the impact of the first-time adoption of IFRS 16 «Leases», as adopted by the European Union and applicable for financial years beginning on or after 1 January 2019.

Justification of Assessments – Key Audit Matters

In accordance with the requirements of Articles L.823-9 and R.823-7 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period, as well as how we addressed those risks.

These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the consolidated financial statements.

Assessment of liquidity risk
Notes 7.1.5 "Credit facilities and covenants", 7.5.4 "Financial risk management – Liquidity risk" and 11.2 "Subsequent events" to the consolidated financial statements

Key Audit Matter	Audit Approach
The paragraph "Liquidity risk" in Note 7.5.4 "Financial risk management" states that, at 31 December 2019, the Company had €2,128 million in confirmed credit lines, €1,702 million of which had been drawn down at 31 December 2019. Cash and cash equivalents amounted to €1,794 million at 31 December 2019. Note 7.1.5 specifies that €294 million in credit lines mature in 2020 (€194 million in February 2020 and €100 million in July 2020) and €1,724 million in February 2021. The amounts drawn down will have to be repaid at maturity. As mentioned in Note 11.2, on 19 February 2020, the Group announced: (i) A plan to launch a €800 million capital increase with retention of preferential subscription rights with subscription commitments received from its reference shareholders Bpifrance and Nippon Steel, and from a banking syndicate for the unsubscribed balance, provided that market and usual conditions apply, and (ii) An agreement to set up a €800 million confirmed credit line maturing in 2024, with the option to extend it by one year, to refinance existing credit lines, conditional on the capital increase. Management board considers that performing these transactions will enable the Group to strengthen its financial structure and liquidity position over the next 12 months. In the event that the transactions are not carried out, the Group will examine other financing options. We considered that assessing liquidity risk was a key audit matter, given the upcoming maturities of existing credit lines.	As part of our audit, we assessed the Group's liquidity requirements with regard to current resources, and planned capital increases and refinancing of existing credit lines. Consequently, we obtained an understanding of documentation related to (i) the €800 million capital increase and (ii) the set-up of the €800 million medium-term credit line , including: • Subscription commitments from shareholders Bpifrance and Nippon Steel, • The commitment from the banking syndicate to subscribe the remaining balance of the capital increase as well as conditions relating to the commitment, and • The commitment to set up a €800 million medium-term credit line, conditional on the capital increase. Our audit work also consisted in obtaining cash flow forecasts and gaining an understanding of (i) the procedures implemented to prepare them and (ii) the main assumptions used in preparing them. We assessed their consistency with the forecast data from the latest strategic plans, prepared under the supervision of Executive Management and approved by the Supervisory Board. We also interviewed Executive Management on the events and circumstances subsequent to the reporting date which could call into question the planned transactions. We also verified the appropriateness of disclosures on: • The description of credit lines and covenants in Note 7.1.5 to the consolidated financial statements, • Liquidity risk in the relevant paragraph of Note 7.5.4 to the consolidated financial statements, and • Information related to the capital increase and set-up of the medium-term credit line in Note 11.2 to the consolidated financial statements.

Valuation of goodwill, intangible and tangible assets
Notes 2.5 "Impairment of assets and goodwill" and 4.2 "Impairment tests" to the consolidated financial statements.

Key Audit Matter	Audit approach
As at 31 December 2019, the carrying amount of goodwill, intangible and tangible assets amounts to €364 million, €63 million and €2,642 million respectively, representing 42% of consolidated total assets. As described in Note 4.2.1 to the consolidated financial statements, impairment tests were carried-out on the cash generating units (CGUs) to which goodwill had been allocated, meaning "Vallourec Europe", "Vallourec North America" and "Vallourec do Brasil", as well as on certain individual assets with an indication of impairment, notably Valinox Nucléaire China. Impairment testing methods and assumptions are described in Note 4.2 to the consolidated financial statements. As indicated in Note 2.5 to the consolidated financial statements, these tests resulted in the recognition of a €30 million impairment loss in 2019 on individual assets. We believe that the measurement of the recoverable value of goodwill, intangible and tangible assets is a key audit matter, given the materiality of these assets on the consolidated financial statements of the Group, and also given the fact that determining their recoverable value requires Management to make judgments and use estimates to forecast the discounted future cash flows used in the tests. It should be noted that the CGUs "Vallourec Europe" and "Vallourec North America" receive particular attention because of past achievements, expected growth and the sensitivity of exchange rate assumptions.	During our work, we gained an understanding of (i) the process used to prepare and approve the estimates and assumptions made by Management for the impairment tests, (ii) the procedures for approving the results of these tests by the governance entities, and we (iii) assessed the appropriateness of the model applied to determine the recoverable value of the CGUs and individual assets tested. We have obtained the cash flow and operating forecasts prepared by the Company for each CGU and individual asset tested, and have assessed their consistency with the forward-looking data from the latest strategic plans, prepared under the supervision of Executive Management and approved by the Supervisory Board. With the assistance of our valuation experts, we have assessed the appropriateness of the various assumptions underlying the cash flow forecasts, particularly with respect to the Group's internal data and external industry and macroeconomic data analyses, including (i) prices and volumes assumptions by regions that depend notably on investments in exploration and production of oil and natural gas, and (ii) exchange rates, growth rates and discount rates. We also assessed the consistency of cash flow forecasts with past performance, market outlook, and the forward-looking data presented to the Company's Supervisory Board. Lastly, we performed our own sensitivity analyses and verified the appropriateness of the information presented in Note 4.2 to consolidated financial statements.

Specific verifications

As required by French law and regulations and in accordance with professional standards applicable in France, we have also verified the information pertaining to the Group presented in the management report of the Management Board.

We have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

We attest that the consolidated non-financial performance report required under Article L. 225-102-1 of the French Commercial Code (Code de commerce) is included in the information on the Group provided in the management report. In accordance with the provisions of Article L. 823-10 of the French Commercial Code, we have not verified the fair presentation and the consistency with the consolidated financial statements of the information provided in the non-financial performance report, for which a report is issued by an independent third party.

Report on other Legal and Regulatory Requirements

Appointment of the Statutory Auditors

We were appointed as Statutory Auditors of the company Vallourec at the Annual General Meeting held on 1 June 2006 for both audit firms.

As at 31 December 2019, KPMG S.A. was in the 14th year of an uninterrupted engagement and Deloitte & Associés in the 18th year of an uninterrupted engagement given the succession of mandates between legal entities of the Deloitte network.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the European Union, and for such internal control as Management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, Management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The Financial and Audit Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risk management systems and where applicable, the internal audit, regarding accounting and financial reporting procedures.

The consolidated financial statements have been approved by the Management Board.

Statutory Auditors’ Responsibilities for the Audit of the Consolidated Financial Statements

Objectives and audit approach

Our role is to issue a report on the consolidated financial statements. Our objective is to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As specified in Article L.823-10-1 of the French Commercial Code (Code de commerce), our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the statutory auditor exercises professional judgment throughout the audit and furthermore:

- Identifies and assesses the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for the audit opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management in the consolidated financial statements;
- Assesses the appropriateness of Management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company’s ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the statutory auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the consolidated financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein;
- Evaluates the overall presentation of the consolidated financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation;
- Obtains sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. The statutory auditor is responsible for the direction, supervision and performance of the audit of the consolidated financial statements and for the opinion on these consolidated financial statements.

Report to the Financial and Audit Committee

We submit a report to the Financial and Audit Committee, which includes a description of the scope of the audit and the audit programme implemented, as well as the results of our audit. We also report, if any, significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Financial and Audit Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the consolidated financial statements of the current period and which are therefore key audit matters that we are required to describe in this audit report.

We also provide the Financial and Audit Committee with the statement required under Article 6 of Regulation (EU) N° 537/2014 confirming our independence within the meaning of the rules applicable in France as set out in Articles L.822-10 to L.822-14 of the French Commercial Code (Code de commerce) and in the French Code of Ethics (Code de déontologie) for statutory auditors. Where appropriate, we discuss with the Financial and Audit Committee any risks that may bear on our independence, and the related safeguards.

Paris La Défense, 28 February 2020

The Statutory Auditors

KPMG S.A.	Deloitte & Associés
Alexandra Saastamoinen	Véronique Laurent

6.3 Parent company financial statements: Vallourec SA

6.3.1 Statement of financial position

Assets

In € thousand	31/12/2018	31/12/2019
NON-CURRENT ASSETS		
Intangible assets	414	414
Property, plant and equipment	88	88
Equity interests	3,856,429	3,856,429
Receivables, loans and other financial assets	1,700,000	1,700,000
Total I	**5,556,931**	**5,556,931**
CURRENT ASSETS		
Operating receivables	1,710	2,710
Other receivables	913,436	2,112,345
Investment securities	7,034	6,158
Cash and cash equivalents	131	37
Prepaid expenses	7,427	6,155
Deferred expenses	18,200	13,626
Total II	**947,938**	**2,141,031**
TOTAL ASSETS (I + II)	**6,504,869**	**7,697,962**

Liabilities

In € thousand	31/12/2018	31/12/2019
EQUITY		
Capital	915,976	915,976
Additional paid-in capital	1,421,586	1,421,586
Revaluation reserve	634	634
Reserves	85,886	85,886
Retained earnings	1,745,588	1,710,870
Operating income (loss)	(34,718)	(63,648)
Total I	**4,134,952**	**4,071,304**
Provisions for contingencies and liabilities	3,065	3,298
Financial liabilities	2,341,546	3,607,966
Operating liabilities	5,045	5,871
Other liabilities	20,261	9,523
Total II	**2,369,917**	**3,626,658**
TOTAL EQUITY AND LIABILITIES (I + II)	**6,504,869**	**7,697,962**

6.3.2 Income statement

In € thousand	31/12/2018	31/12/2019
Revenue	2,335	5,381
Provision reversals and expenses transferred	10,287	2,118
Other income	-	31
External services	(15,427)	(10,073)
Taxes and similar	(434)	(367)
Personnel expenses	(3,148)	(4,093)
Others	(2,739)	(3,135)
Amortization, depreciation and provisions	(5,726)	(6,815)
Operating income (loss)	**(14,852)**	**(16,953)**
Financial income	**78,584**	**116,557**
From equity interests	428	-
Other long-term securities and receivables	75,839	112,035
Other interest and similar income	57	14
Provision reversals and financial expenses transferred	10	-
Foreign exchange gains	2,250	4,508
Financial expenses	**(135,622)**	**(163,819)**
Interest and similar expenses	(133,193)	(159,331)
Foreign exchange losses	(2,429)	(4,488)
Financial income/(loss)	**(57,038)**	**(47,262)**
Net income from continuing operations before tax	**(71,890)**	**(64,215)**
Exceptional income	2	-
Exceptional income/(loss)	**2**	**-**
Income tax	37,170	567
NET INCOME/(LOSS)	**(34,718)**	**(63,648)**

6.3.3 Notes to the parent company financial statements for the year ended 31 December 2019

In € thousand unless stated otherwise.

Notes to the statement of financial position (before allocation) for the year ended 31 December 2019, which totals €7,698 million, and to the income statement, which shows a loss of €63.6 million.

The fiscal year runs for 12 months, from 1 January to 31 December.

Vallourec SA prepares consolidated financial statements.

A – Significant events, measurement methods and comparability of financial statements

The presentation and measurement methods used in the preparation of the financial statements for the year under review are the same as those used for the previous year.

Impairment of equity interests is recorded under financial income.

B – Accounting principles

The parent company financial statements are prepared in accordance with French GAAP (ANC Regulation No. 2014-03) and the fundamental accounting concepts (independence of fiscal years, non-compensation, historic cost, intangibility of the opening balance sheet, going concern, true and fair view, conservatism and consistency of accounting methods).

Property, plant and equipment

In accordance with ANC Regulation No. 2014-03, the Company uses the component approach, which relies on technical analyses to individually account for significant parts of an item of property, plant and equipment, owing to their uses and utilization rates.

Measurement of property, plant and equipment includes:

- the acquisition or production cost, except for assets acquired before 31 December 1976, which were remeasured. The latter are stated at their transfer value;
- discounts, rebates and other payment deductions;
- costs directly attributable to asset implementation;
- any dismantling costs;
- financial expenses related to the asset's acquisition are excluded.

Depreciation of property, plant and equipment is calculated on a straight-line or accelerated basis over the expected useful life of the asset.

Tax depreciation is calculated using the diminishing value method over the shortest period between the useful life and the duration of use, except for components depreciated over their actual lives.

Equity interests

The gross value of equity interests comprises their purchase cost, excluding associated expenses, and the amount of any capital increases.

Securities acquired in foreign currencies are recorded at their acquisition price translated into euros at the rate applicable on the date of the transaction.

At each year-end, the Company compares the net carrying amount of the equity interests at their value in use and establishes a provision in financial income/(loss) when their value in use is less than the net carrying amount.

The value in use is determined based on the expected cash flows, which are estimated based on the Group's strategic plan for the first five years, with a projection over the next three years and a terminal value.

Treasury shares

Treasury shares acquired and available to be allocated to employees are classified as investment securities.

Pursuant to CRC Regulation No. 2008-15 dated 4 December 2008 relating to the accounting treatment of share purchase or subscription plans and performance share plans for employees, shares allocated for these plans are not impaired based on market value due to the obligation to allocate such shares to employees and the provision recognized as a liability (see below in the section relating to provisions for contingencies and liabilities).

Receivables and payables

Receivables and payables are measured at their nominal value.

Trade receivables are impaired when there is a risk of non-recovery.

Impairment ratios are applied to each receivable based on probabilities of recovery.

CICE (French Competitiveness and Employment Tax Credit)

The French Competitiveness and Employment Tax Credit (CICE) changed on 1 January 2019, becoming a reduction in ongoing social security contributions with immediate effect.

Investment securities

Investment securities are measured at acquisition cost plus accrued income for the period, or at market value if lower.

Treasury shares acquired and available to be allocated to employees are classified as investment securities.

Translation of transactions in foreign currencies and financial instruments

Receivables, cash and cash equivalents and payables in foreign currencies are stated on the statement of financial position using the exchange rate applicable on the reporting date.

Transactions denominated in foreign currencies backed by qualified hedges are recorded at the spot rate.

The aggregate value of the change in time value (*i.e.* the change between the forward price of the hedge on the reporting date and the initial spot rate) is recognized at each reporting date on the statement of financial position – Derivative instruments. The change in the premium/discount between the beginning and the end of the period impacts income/(loss). Since 1 January 2017, these changes have been recorded under operating income (see ANC Regulation 2015-05). They previously appeared under financial income/(loss).

The change in time value (premium/discount) is recognized separately from revenue.

In application of ANC Regulation 2015-05, the change in values of the isolated open-position operations are recorded in the balance sheet as a counterpart for suspense accounts:

- in assets for changes that correspond to an unrealized loss;
- in liabilities for changes that correspond to an unrealized gain.

Unrealized gains are not included in the income statement. When an operation results in an unrealized loss, a provision to financial income is made in the amount of this unrealized capital loss.

Provisions for contingencies and liabilities

RETIREMENT PENSIONS

Pensions are paid by an external organization and the Company therefore has no obligations in this respect.

RETIREMENT BENEFITS

Commitments in respect of benefits paid to retiring employees are measured based on an actuarial calculation and provisioned as a liability in the statement of financial position.

As at 31 December 2019 the discount rate was based on the iBoxx € Corporates AA 10+ index. This index uses a basket of bonds of financial and non-financial companies. They are based on the assumption that all employees leaving the Group will do so on a voluntary basis.

Actuarial gains or losses are amortized using the corridor rule over the average remaining working lives of employees.

The actuarial assumptions used vary depending on the specific arrangements of the Company's retirement plan(s) and collective agreement(s).

The following assumptions are used:

- discount rate of 0.75% (including inflation);
- inflation rate of 1.20%;
- staff turnover rate variable according to age and category;
- generational mortality table TPGF2005/TPGH2005.

PROVISIONS ON SHARES EARMARKED FOR EMPLOYEE SHARE ALLOCATIONS

Pursuant to CRC Regulation No. 2008-15 dated 4 December 2008 relating to the accounting treatment of share purchase or subscription plans and performance share plans for employees, the Company recognizes a provision for a contingent liability as soon as an outflow of resources becomes probable. This provision is measured based on the product of:

- the acquisition cost of the shares or their net carrying amount (when they were already owned) on the date they were allocated to the share allocation plan, less the price likely to be paid by the beneficiaries; and
- the number of shares that are expected to be allocated given the provisions of the allocation scheme (satisfaction of conditions regarding continuous service and performance) as assessed on the reporting date.

A provision for contingencies and liabilities has been recognized at each reporting date since these plans were put in place on a *pro rata* basis, equal to the costs relating to the allocations of performance shares to employees, executive management and corporate officers of Vallourec and its subsidiaries.

OTHER PROVISIONS

All disputes (technical, tax) and risks have been recognized as provisions for the estimated probable risk at the reporting date.

Exceptional income and expenses

In general, exceptional income and expenses comprise amounts of an extraordinary nature, *i.e.* those that fall outside the scope of the Company's continuing operations.

C – Notes to the statement of financial position

1. Movements in non-current assets

Non-current assets	31/12/2018	Acquisition	Disposal	31/12/2019	Revaluation reserve	Related parties
Intangible assets	**414**	**-**	-	**414**	**-**	**-**
Trademarks	414	-	-	414	-	-
Property, plant and equipment	**88**	**-**	-	**88**	**-**	**-**
Land	88	-	-	88	-	-
Equity interests	**3,856,429**	**-**	-	**3,856,429**	**-**	**-**
Equity interests	3,856,429	-	-	3,856,429	-	-
Receivables, loans, other investments	**1,700,000**	**-**	-	**1,700,000**	**-**	**-**
Loans	1,700,000	-	-	1,700,000	-	-
TOTALS	**5,556,931**	**-**	**-**	**5,556,931**	**-**	**-**

RECEIVABLES, LOANS AND OTHER FINANCIAL ASSETS

Loans

Vallourec SA arranged a €1.7 billion loan for subsidiary Vallourec Tubes to finance its long-term requirements. The loan is being repaid at 6.50%, maturing on 31 December 2021.

2. Investment securities

Investment securities include:

Mutual and investment funds

	31/12/2018	31/12/2019	Revaluation reserve	Related parties	Measurement as at 31/12/2019
Time deposit account	5,000	5,000	5,000	-	-
Mutual and investment funds	-	-	-	-	-
TOTAL	**5,000**	**5,000**	**5,000**	**-**	**-**

Vallourec SA participates in euro and US dollar cash management centralization with its main European companies and centralized currency hedging transactions in respect of its US dollar sales within Vallourec Tubes.

Cash is invested in risk-free UCITS money market funds. Vallourec SA only enters into financial transactions with leading financial institutions.

Treasury shares

	31/12/2018	Acquisition	Allowances	31/12/2019
Treasury shares	2,034	1,326	(2,202)	1,158
Impairment provision	-	-	-	-
TOTAL	**2,034**	**1,326**	**(2,202)**	**1,158**

Treasury shares recorded in investment securities are allocated to members of staff, executive management or corporate officers of the Group under the performance share allocation plan, and free share allocation plans for employees of the Group.

In this context, Vallourec SA holds:

- 155 treasury shares acquired in 2011 under the share buyback plan of 7 June 2011, after definitive allocation of 27,534 shares in 2012, 86,377 shares in 2013, 91,929 shares in 2014, 108,600 shares in 2015, 30,524 shares in 2016, 54,871 shares in 2017, and 10 shares in 2018 under the various performance share plans;
- 1,099 treasury shares acquired in 2014 after definitive allocation of 128,689 shares in 2017, 81,558 shares in 2018 and 88,654 shares in 2019 under the various performance share plans;
- 522,249 treasury shares acquired in 2019 after the definitive allocation of 92,751 shares in 2019 under the various performance share plans.

As at 31 December 2019, Vallourec holds 523,503 treasury shares, all allocated to a performance plan.

3. Statement of receivables and payables

Receivables	Gross value	Of which accrued receivables	Related parties	Gross value < 1 year	Gross value > 1 year
Receivables, loans and other financial assets	**1,700,000**	**-**	**1,700,000**	**-**	**1,700,000**
Opérating receivables	**2,710**	**-**	**2,377**	**2,710**	**-**
Trade & other receivables	2,377	-	2,377	2,377	-
Other operating receivables	333	-	-	333	-
Other receivables	**2,112,345**	**-**	**2,103,508**	**2,112,345**	**-**
Government – Corporate income tax	8,837	-	-	8,837	-
Intercompany cash advance	2,103,508	-	2,103,508	2,103,508	-
TOTAL	**3,815,055**	**-**	**3,805,885**	**2,115,055**	**1,700,000**

Loans granted during the year: none.

Loans repaid during the year: €400 million repaid on 2 August 2019.

Receivables represented by commercial paper: none.

Payables	Gross value	Of which expenses payable	Related parties	< 1 year	> 1 year	> 5 years
Financial liabilities	**3,607,966**	**41,463**	**-**	**1,852,966**	**1,700,000**	**55,000**
Non-convertible bond issues	1,505,000	-	-	-	1,450,000	55,000
Convertible bond issues	250,000	-	-	-	250,000	-
Bank loans and borrowings	41,463	41,463	-	41,463	-	-
Commercial paper	110,000	-	-	110,000	-	-
Other loans and borrowings	1,701,503	-	-	1,701,503	-	-
Operating liabilities	**5,871**	**1,530**	**2,297**	**5,871**	**-**	**-**
Trade payables	3,582	1,262	2,297	3,582	-	-
Tax & social security liabilities	2,289	268	-	2,289	-	-
Other liabilities	**9,523**	**1,510**	**7,971**	**9,523**	**-**	**-**
Other non-operating liabilities	9,523	1,510	7,971	9,523	-	-
TOTALS	**3,623,360**	**44,503**	**10,268**	**1,868,360**	**1,700,000**	**55,000**

BORROWINGS

Bond issues

Bond issues *(In € million)*	Nominal amount	Due date	Rate	Market value as at 31 December 2019	Amount in statement of financial position as at 31 December 2019
Bond issues – August 2012	55	Aug. 2027	4.125%	64	54
Bond issues – September 2014	500	Sept. 2024	2.250%	532	499
OCEANE – September 2017	250	Oct. 2022	4.125%, 37.5% conversion premium and 6.89 strike	-	233
Bond issues – October 2017 [(a)]	550	Oct. 2022	6.625%	558	545
Bond issues – April 2018 [(a)]	400	Oct. 2023	6.375%	409	396
TOTAL	**1,755**				**1,727**

(a) Bonds callable pursuant to the contractual terms as from 15 October 2020.

These bond issues were intended to diversify and increase the amount and extend the maturity of the financial resources available to the Group.

These bond issues specifically include a change-of-control clause that would trigger the mandatory early repayment of the bonds at the request of each bondholder in the event of a change of control of the Company (in favor of a person or a group of people acting in concert) leading to a downgrade of Vallourec's financial rating.

In addition, these bonds may be subject to a request for prepayment should any of the common default scenarios for this type of transaction arise. Early redemption may also be requested in some cases by either the Company or the bondholder, particularly in respect of a change in Vallourec's position or tax status.

Bank loans & debts

Confirmed credit lines *(In € million)*	Amount	Initial due date	Extension due date	Drawdown amount as at 31 December 2019
Line of €1.1 billion – February 2014	1,078	Feb. 2019	Feb. 2020 for €44m Feb. 2021 for €1,034m	1,021
Bilateral of €90 million – June 2015	90	Feb. 2019	Feb. 2021 for €90m	89
Line of €400 million – September 2015	400	July 2019	July 2020 for €100m Feb. 2021 for €300m	296
Line of € 450 million – May 2016	450	Feb. 2020	Feb. 2020 for €150m Feb. 2021 for €300m	296
Bilateral of €110 million – May 2018 – EIB available to finance the Group's Research and Development, and Digitization projects	110	Apr. 2027	-	-
TOTAL	**2,128**			**1,702**

Each of these bank facilities requires the Group to maintain its consolidated net debt-to-equity ratio ("bank covenant") at less than or equal to 100%, calculated as at 31 December each year. As defined in the bank loan agreements, the banking covenant ratio is the ratio of the Group's consolidated net debt (including the financial lease debt and the shareholder's loan in Brazil) to the Group's equity, restated for gains and losses on derivatives and for foreign currency translation reserves (gains and losses of consolidated subsidiaries in foreign currency).

As at 31 December 2019, the restated indebtedness ratio ("banking covenant") as defined in the bank loan agreements was 81%. The implementation of IFRS 16 has no impact on the banking covenant ratio.

Banking covenant	31/12/2018	31/12/2019
Net debt (excluding financial lease debt)	1,998,776	2,030,539
Financial lease debt[(a)]	59,157	50,042
Net debt	**2,057,933**	**2,080,581**
Shareholder loan	28,892	20,560
Restated net debt (1)	**2,086,825**	**2,101,141**
Equity	2,264,276	1,980,045
Foreign currency translation reserve – Group share[(b)]	623,585	608,335
Reserves – changes in fair value of financial instruments[(b)]	9,279	(3,893)
Equity restated (2)	**2,897,140**	**2,584,487**
Ratio of banking covenant restated (1)/(2)	72%	81%

(a) Included in net debt as at 31 December 2018.

(b) Including minority interests.

Liquidity risk

In addition to bank financing, the Group has sought to diversify its funding sources by using market financing. For example, Vallourec SA launched a commercial paper program on 12 October 2011 to meet its short-term needs. The program has a €1 billion ceiling.

As at 31 December 2019, Vallourec SA had an outstanding debt of €110.0 million for maturities of up to one year. This commercial paper program was rated B by Standard & Poor's.

As at 31 December 2019, Vallourec had confirmed bank credit facilities of €2,128 million, including €426 million unused, and cash of €2,111 million (inclusive of cash advances). Vallourec SA therefore had liquid assets of €2,537 million at its disposal.

As mentioned above, credit facilities of €194 million are due to expire in February 2020, €100 million in July 2020, and €1,724 million in February 2021. Drawn credit lines will therefore need to be repaid by these deadlines.

In this regard, Vallourec announced on 19 February 2020 (in paragraph E-5) that it was launching a capital increase of €800 million. Bpifrance and Nippon Steel, Vallourec's leading shareholders, pledged to subscribe to the capital increase with i) Bpifrance subscribing pro rata to its share of the capital and ii) Nippon Steel subscribing for an amount that would allow it to hold approximately 10% of Vallourec's capital on completion of the capital increase.

Vallourec has received a commitment from a banking syndicate to guarantee subscription for the amount of the capital increase, subject to the usual conditions.

The Group also announced that it had entered into an agreement with several banks for the provision of a confirmed medium-term bank facility of €800 million, conditional on the completion of the capital increase. This syndicated credit line will replace all the bank facilities expiring in February 2021.

Completion of these transactions for a total cumulative amount of €1,600 million, plus the amount of available cash (including cash advances) in the statement of financial position of €2,111 million and an EIB credit line of €110 million maturing in 2027 will give Vallourec the means to meet its liquidity needs for the next 12 months. Should the transaction not be completed, Vallourec would explore other means of financing.

4. Bond issue costs

In accordance with the method recommended by the French National Accounting Board *(Conseil National de la Comptabilité)*, bond issue costs are spread in a straight line over the life of the bonds concerned.

	31/12/2018	Increase	Decrease	31/12/2019
Bond issue costs	18,200	-	(4,574)	13,626

5. Equity

Changes in equity were as follows:

	Number of shares	Capital	Net income/ (loss) for the period	Additional paid-in capital and reserves	Equity
Position as at 31/12/2017	**457,987,760**	**915,976**	**(39,056)**	**3,292,750**	**4,169,670**
Allocation of 2017 net income/(loss)	-	-	39,056	(39,056)	-
Capital increase	-	-	-	-	-
Revaluation reserve	-	-	-	-	-
Dividend paid	-	-	-	-	-
2018 net income/(loss)	-	-	(34,718)	-	(34,718)
Change	-	-	4,338	(39,056)	(34,718)
Position as at 31/12/2018	**457,987,760**	**915,976**	**(34,718)**	**3,253,694**	**4,134,952**
Allocation of 2018 net income/(loss)	-	-	34,718	(34,718)	-
Capital increase	-	-	-	-	-
Revaluation reserve	-	-	-	-	-
Dividend paid	-	-	-	-	-
2019 net income/(loss)	-	-	(63,648)	-	(63,648)
Change	-	-	(28,930)	(34,718)	(63,648)
POSITION AS AT 31/12/2019	**457,987,760**	**915,976**	**(63,648)**	**3,218,976**	**4,071,304**

Vallourec SA's issued capital is comprised of 457,987,760 ordinary shares with a nominal value of €2 per share, fully paid-up as at 31 December 2019.

Equity fell by €63.6 million and was €4,071 million as at 31 December 2019, compared with €4,135 million as at 31 December 2018.

6. Employee share ownership

SHARE SUBSCRIPTION PLANS

Characteristics of the plans

The Vallourec Management Board authorized share subscription plans from 2009 to 2019 for some executive management and corporate officers of the Group.

The characteristics of these plans are as follows (figures for the 2009 plan are restated to reflect the 2:1 stock split on 9 July 2010 and the subsequent doubling of the number of shares):

	2009 Plan	2010 Plan	2011 Plan	2012 Plan	2013 Plan
Allocation date	01/09/2009	01/09/2010	01/09/2011	31/08/2012	02/09/2013
Maturity date	01/09/2013	01/09/2014	01/09/2015	01/03/2017	03/03/2018
Expiration date	01/09/2019	01/09/2020	01/09/2021	30/08/2020	01/09/2021
Exercise price in euros	31.0	42.7	36.4	22.2	27.7
Number of options granted	964,107	853,641	1,140,431	883,602	1,003,746

	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan
Allocation date	15/04/2014	15/04/2015	18/05/2016	18/05/2017	15/06/2018	17/06/2019
Maturity date	15/04/2018	15/04/2019	18/05/2020	18/05/2021	15/06/2022	17/06/2023
Expiration date	15/04/2022	15/04/2023	18/05/2024	18/05/2025	15/06/2026	17/06/2027
Exercise price in euros	23.13	13.57	3.90	6.02	5.50	2.20
Number of options granted	622,261	683,413	537,895	292,500	354,220	354,220

Change in number of unexpired options

For all of these plans, the change in the number of unexpired options is as follows:

In number of options	2018	2019
Options outstanding as at 1 January	**4,013,201**	**3,674,986**
Options exercised	-	-
Options lapsed	-	(487,437)
Options canceled	(692,435)	(361,430)
Options distributed	354,220	354,220
OPTIONS OUTSTANDING AS AT 31 DECEMBER	**3,674,986**	**3,180,339**
Options available for exercise	2,110,179	1,771,883

The reported figures correspond to the number of options, with a performance factor of 1 for plans that were vesting, and to the actual number of shares allocated for plans that had matured.

As at 31 December 2019, the average exercise price was €17.93.

PERFORMANCE SHARE ALLOCATION PLANS

Characteristics of the plans

The Vallourec Management Board authorized performance share allocation plans from 2014 to 2019 for some employees and corporate officers of the Group.

The characteristics of these plans are as follows:

Performance share allocation plans	2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan
Allocation date	16/12/2014	15/04/2015	18/05/2016	18/05/2017	15/06/2018	17/06/2019
Vesting period	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)	3 years (French residents) or 4 years (non-French residents)
Holding period	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)	2 years (French residents) or none (non-French residents)
Performance conditions	Yes[a]	Yes[b]	Yes[c]	Yes[d]	Yes[e]	Yes[f]
Theoretical number of shares allocated	661,861	388,583	610,001	820,275	842,630	836,630

(a) *Definitive allocation of shares in 2017 for French residents and members of the Management Board, and in 2018 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2014, 2015 and 2016. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the final allocation will depend on the following four criteria, assessed for 2014, 2015 and 2016: the rate of return on capital employed (ROCE), compared with the ROCE in the budget; consolidated revenue on a like-for-like basis, as compared with the revenue in the budget; the relative stock market performance of the Vallourec share on the regulated NYSE Euronext market in Paris, as compared with a benchmark panel; and the relative EBITDA performance as compared with the same panel as for the previous criterion. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.*

(b) *Definitive allocation of shares in 2018 for French residents and members of the Management Board, and in 2019 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2015, 2016 and 2017. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the definitive allocation will depend on the following two criteria, assessed for 2015, 2016 and 2017: the rate of return on capital employed on a consolidated basis (ROCE), compared with the ROCE in the strategic plan, and the Total Shareholder Return (TSR) for 2015, 2016 and 2017. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.*

(c) *Definitive allocation of shares in 2019 for French residents and members of the Management Board, and in 2020 for non-French residents. For all beneficiaries (excluding Management Board members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Executive Committee, the definitive allocation will depend on the following two criteria, assessed for 2016, 2017 and 2018: the rate of return on capital employed on a consolidated basis (ROCE), compared with the ROCE in the strategic plan, and the Total Shareholder Return (TSR) for 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33. The number of shares allocated, as shown in the above table, corresponds to the application of a performance factor of 1.*

(d) *For all beneficiaries (excluding members of the Management Board and the Executive Committee), this will depend on cost reduction in 2017, 2018 and 2019, in comparison with the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2017, 2018 and 2019. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.4. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2017, 2018 and 2019 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2017 and 2019 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.*

(e) *For all beneficiaries (excluding members of the Management Board and Executive Committee), this will depend on cost reduction in 2018, 2019 and 2020, in comparison to the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2018, 2019 and 2020. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2018, 2019 and 2020 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2018 and 2020 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.*

(f) *For all beneficiaries (excluding members of the Management Board and the Executive Committee), this will depend on cost reduction in 2019, 2020 and 2021, in comparison with the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2019, 2020 and 2021. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria: reducing costs in 2019, 2020 and 2021 in comparison to the Group's planned performance in the medium-term plan over the same period and the growth of the EBITDA margin between 2019 and 2021 in comparison to a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.*

International performance share allocations plans	2-4-6 plan 2014
Allocation date	15/04/2014
Vesting period	3 years (French residents) or 4 years (non-French residents)
Holding period	2 years (French residents) or none (non-French residents)
Performance conditions	Ratio of EBITDA to revenue (2014, 2015 and 2016)
Theoretical number of shares allocated	208,100

Free share allocation plans (without performance condition)	Value 13 Plan	Value 14 Plan	Value 15 Plan	Value 16 Plan	Value 17 Plan
Allocation date	10/12/2013	16/12/2014	15/12/2015	14/12/2016	14/12/2017
Vesting period	4.6 years	4.6 years	4.6 years	4.6 years	4.6 years
Theoretical number of shares allocated	6,445	6,336	2,744	3,344	3,409

Change in number of shares

For all of these plans, the change in the number of shares being vested is as follows:

In number of shares	2018	2019
Number of shares being vested as at 1 January	**2,208,468**	**2,251,685**
Shares delivered over the year	(83,238)	(178,126)
Shares canceled	(716,175)	(304,200)
Shares allocated over the year	842,630	836,630
NUMBER OF SHARES BEING VESTED AS AT 31 DECEMBER	**2,251,685**	**2,605,989**

The reported figures correspond to the number of shares, with a performance factor of 1 for plans that were vesting, and to the actual number of shares allocated for plans that had matured.

7. Provisions for contingencies and liabilities

The change in provisions for contingencies and liabilities is shown below:

	31/12/2018	Allowances	Reversals used	31/12/2019
Provisions for foreign exchange losses	-	-	-	-
Retirement provisions	202	20	-	222
Provisions for supplementary pension commitments	-	205	(130)	75
Provisions for performance share expenses	2,863	2,017	(1,879)	3,001
TOTAL	**3,065**	**2,242**	**(2,009)**	**3,298**
• Recognized in operating profit	-	2,242	(2,009)	-
• Recognized in financial profit	-	-	-	-
• Recognized in exceptional income	-	-	-	-

Disputes are provisioned according to the estimated probable cost at the reporting date of each year, in application of CRC Regulation No. 2000-06 on liabilities.

The balance of the provision for expenses relating to the performance share plans (2014, 2015, 2016, 2017, 2018 and 2019 plans) totaled €3 million.

RETIREMENT PROVISIONS

Total retirement commitments, net of plan assets, totaled €0.2 million as at 31 December 2019, compared with €0.2 million as at 31 December 2018.

PROVISIONS FOR SUPPLEMENTARY PENSION COMMITMENTS

Total supplementary pension commitments, net of plan assets, totaled €0.7 million as at 31 December 2019.

Actuarial losses and past service costs not recognized totaled €0.7 million. The commitments not recognized in the balance sheet correspond to changes or to the failure to achieve assumptions, for which the effect is amortized over time using the corridor method.

INFORMATION ON INTEREST RATE RISK

Vallourec SA uses swaps, where required, to hedge its variable-rate borrowing at a fixed interest rate. As at 31 December 2019, Vallourec SA had no variable-rate borrowing.

INFORMATION ON FOREIGN EXCHANGE RISK

As at 31 December 2019, Vallourec SA was not exposed to foreign exchange risk.

D – Notes to the income statement

1. Operating income/(loss)

REVENUE

Revenues of €5.4 million mainly correspond to the Group's reinvoicing of services to its subsidiary Vallourec Tubes for €4 million, and of the costs of employee performance share allocation plans to Group subsidiaries.

OPERATING EXPENSES

Operating expenses of €24.5 million consist mainly of fees, personnel costs, and the impact of free share allocation programs, and commissions, loan issue fees and allocations to provisions.

2. Financial income and expenses concerning affiliated companies

Financial expenses: none.

Financial income: €112 million.

3. Financial income/(loss)

Financial income was a loss totaling €47.3 million.

	31/12/2018	31/12/2019
Financial income[(a)]	75,896	112,049
Interest expenses	(133,193)	(159,331)
Net interest expenses	**(57,297)**	**(47,282)**
Change in provisions	10	-
Other financial income and expenses	249	20
FINANCIAL INCOME/(LOSS)	**(57,038)**	**(47,262)**

(a) Of which €112.0 million corresponding to interest on loans with Vallourec Tubes SAS.

4. Exceptional income/(loss)

None.

E – Other information

1. Composition of average headcount

The Company employed five people as of late 2019, including two corporate officers (members of the Management Board).

2. Taxation

TAX CONSOLIDATION

Since 1 January 1988, the Company has been a member of a tax consolidation group formed under the provisions of Article 223-A of the French General Tax Code.

This agreement has been renewed automatically for five-year periods since 1999.

In 2019, the scope of the tax consolidation group included: Vallourec SA, Vallourec Bearing Tubes, Vallourec Université France, Valinox Nucléaire, Vallourec Tubes, Vallourec Tubes France, Vallourec Oil and Gas France, Vallourec One, Vallourec Services, Val27, and Val28.

The tax consolidation agreement requires subsidiaries of the tax group to record a tax expense equivalent to the amount they would have borne in the absence of tax consolidation.

Any income resulting from tax consolidation recorded by Vallourec SA corresponds mainly to the charge to income of the losses generated by Vallourec SA itself and tax loss carryforwards used by Vallourec SA.

The Vallourec consolidation tax group reported a loss in 2019 and its tax loss carryforward was €1,833.7 million at the end of 2019.

Increase and decrease in future tax liabilities

Nature of temporary differences	Amount (base) as at 31/12/2019
Increase	**-**
Decrease	**1,383**
Provision for retirement commitments	298
Provision for employee share ownership arrangements	1,070
Provision for paid leave	15
Provision for Tax on Tourism Vehicles	-

As at 31 December 2019, the amount of tax loss carryforwards specific to the Company stood at €204.7 million.

Breakdown of income tax between income (loss) from recurring operations and non-recurring income (loss)

	Pre-tax income	Tax due	Net income
Recurring	(64,215)	-	(64,215)
Non-recurring	-	-	-
Sub-total	**(64,215)**	**-**	**(64,215)**
Expense specific to Vallourec (tax credit)	-	(567)	(567)
Income relating to tax consolidation	-	-	-
TOTAL VALLOUREC	**(64,215)**	**(567)**	**(63,648)**

3. Compensation of members of administrative and management bodies

ADMINISTRATIVE BODIES

Attendance fees and other compensation received during the year amounted to €0.9 million.

MANAGEMENT BODIES

This information is not provided as it is not relevant in relation to the assets and liabilities, financial position and net income of Vallourec SA.

4. Off-statement of financial position commitments

Off-statement of financial position commitments are as follows:

- retirement benefits: €36 thousand (actuarial loss);
- supplementary retirement payment: €0.7 million (actuarial loss);
- long-term vehicle leases: €13 thousand.

The Company has not issued any form of collateral against its liabilities.

5. Subsequent events

The press release of 19 February 2020 announced plans for the launch of a capital increase and the refinancing of credit facilities to secure Vallourec's recovery and implement its strategy: Vallourec intends to strengthen its balance sheet and liquidity position through a capital increase with preferential subscription rights maintained and by refinancing its credit facilities. The proceeds of the issue will be used to reduce its net financial debt.

CAPITAL INCREASE WITH PREFERENTIAL SUBSCRIPTION RIGHTS MAINTAINED

Vallourec announced plans to launch a capital increase for an amount of approximately €800 million, maintaining shareholders' preferential subscription rights. This will significantly reduce the company's debt, decrease its financial expenses compared with 2019 and provide the increased flexibility needed for the successful implementation of its strategy.

Bpifrance and Nippon Steel, Vallourec's leading shareholders, pledged to subscribe to the capital increase with i) Bpifrance subscribing pro rata to its share of the capital and ii) Nippon Steel subscribing for an amount that would allow it to hold approximately 10% of Vallourec's capital on completion of the capital increase[(1)].

Vallourec has received a commitment from a banking syndicate to guarantee subscription for the amount of the capital increase, subject to the usual conditions.

The resolutions on the capital increase will be submitted for approval at the Shareholders' Meeting on 6 April 2020. Bpifrance and Nippon Steel have pledged to vote in favor of the resolutions on the capital increase.

It is expected that the capital increase will be launched during the second quarter of 2020, subject to market conditions and approval of the prospectus by the French securities regulator (*Autorité des Marchés Financiers*).

REFINANCING OF CREDIT FACILITIES

Vallourec also announced the refinancing of its credit facilities, in the amount of €800 million, for which it obtained a commitment from its partner banks, conditional on the completion of the capital increase.

This new refinancing will provide Vallourec with a long-term source of liquidity due to the four-year maturity, ending 2024, and an option to extend for one year. The new credit facility will include a Covenant, as defined in Note 3, that Vallourec must maintain below a maximum of 100%, as is the case for its current credit facilities.

6. Vallourec subsidiaries and directly-held equity interests as at 31 December 2019

In € thousand Companies	Capital	Other equity before allocation of income (loss)	Percentage of capital held *(%)*	Accounting value of the securities held: Gross	Accounting value of the securities held: Net	Loans and advances granted by the Company and not yet repaid	Total securities and guarantees given by the Company	Sales excluding taxes for the last fiscal year	Income (loss) for the last fiscal year	Dividends received by the Company during the year
A) SUBSIDIARIES AND EQUITY INTERESTS WITH A CARRYING AMOUNT IN EXCESS OF 1% OF VALLOUREC'S CAPITAL										
I. Subsidiaries (at least 50%-owned)										
French company										
Vallourec Tubes 27, avenue du Général-Leclerc 92100 Boulogne-Billancourt	1,503,949	728,818	100%	3,856,429	3,856,429	3,803,508	-	71,211	46,899	163,256

(1) *The total amount that may be invested by Nippon Steel, subject to the usual conditions, may not exceed €35 million and €120 million for Bpifrance.*

7. Financial results for the last five years

In €, except number of shares and number of employees	2015	2016	2017	2018	2019
CAPITAL					
Share capital	**271,376,864**	**902,476,010**	**915,975,520**	**915,975,520**	**915,975,520**
Number of ordinary shares in issue	135,688,432	451,238,005	457,987,760	457,987,760	457,987,760
Number of preference dividend shares (without voting rights) in issue	-	-	-	-	-
Maximum number of new shares to be issued:					
• by converting bonds	-	-	36,284,470	-	-
• by exercise of subscription rights	2,860,088	5,002,867	4,013,201	3,674,986	3,180,339
• by bond redemption	-	-	-	-	-
Revenue, excluding taxes	3,768,771	5,758,082	5,050,327	2,335,242	5,381,501
Income (loss) before tax, employee profit-sharing, depreciation and amortization, and provisions	86,095,267	(43,370,419)	(70,741,338)	(70,504,334)	(59,277,273)
Income tax	(1,031,743)	(8,838,867)	336,751	37,169,694	566,787
Employee profit-sharing for the year	-	-	-	-	-
Income (loss) after tax, employee profit-sharing, depreciation and amortization, and provisions	61,538,102	(17,841,399)	(39,056,082)	(34,718,136)	(63,647,530)
Distributed earnings	**-**	**-**	**-**	**-**	**-**
EARNINGS PER SHARE					
Income after taxes and employee profit-sharing but before amortization and provisions	0.64	(0.08)	(0.16)	(0.07)	(0.13)
Income (loss) after tax, employee profit-sharing, depreciation and amortization, and provisions	0.45	(0.04)	(0.09)	(0.08)	(0.14)
Dividend allotted to each existing share	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
WORKFORCE					
Average number of employees during the fiscal year	7	7	5	5	5
Amount of payroll costs for the year	2,917,511	2,378,067	2,708,256	2,309,412	2,313,936
Payroll-related costs (social security, employee benefits, etc.)	1,251,897	1,969,216	1,138,027	1,069,659	1,312,316

6.4 Statutory Auditors' Report on the Financial Statements

For the year ended 31 December 2019

To the Shareholders of Vallourec,

Opinion

In compliance with the engagement entrusted to us by your Annual General Shareholders' Meeting, we have audited the accompanying financial statements of Vallourec (hereafter, "the Company") for the year ended 31 December 2019.

In our opinion, the financial statements give a true and fair view of the assets and liabilities and of the financial position of the Company as at 31 December 2019 and of the results of its operations for the year then ended in accordance with French generally accepted accounting principles.

The audit opinion expressed above is consistent with our report to the Financial and Audit Committee.

Basis for opinion

Audit framework

We conducted our audit in accordance with the professional standards applicable in France. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our responsibilities under those standards are further described in the Statutory Auditors' Responsibilities for the Audit of the Financial Statements section of our report.

Independence

We conducted our audit engagement in compliance with independence rules applicable to us, for the period from 1 January 2019 to the date of our report and specifically we did not provide any prohibited non-audit services referred to in Article 5(1) of Regulation (EU) No. 537/2014 or in the French Code of ethics (Code de déontologie) for Statutory Auditors.

Justification of assessments – Key Audit Matters

In accordance with the requirements of Articles L.823-9 and R.823-7 of the French Commercial Code (Code de commerce) relating to the justification of our assessments, we inform you of the key audit matters relating to risks of material misstatement that, in our professional judgment, were of most significance in our audit of the financial statements of the current period, as well as how we addressed those risks.

These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on specific items of the financial statements.

Assessment of liquidity risk

Notes C.3 "Statement of receivables and payables –Borrowings" and E.5 "Subsequent events" to the financial statements

Key Audit Matter	Audit Approach
The paragraph "Liquidity risk" in Note C.3 states that, as at 31 December 2019, the Company had €2,128 million in confirmed credit lines, €1,702 million of which had been drawn down at 31 December 2019. At 31 December 2019, (i) cash and cash equivalents and (ii) cash advances amounted in aggregate to €2,111 million. Note C.3 specifies that €294 million in credit lines mature in 2020 (€194 million in February 2020 and €100 million in July 2020) and €1,724 million in February 2021. The amounts drawn down will have to be repaid at maturity. As mentioned in Note E.5, on 19 February 2020, the Group announced: (i) A plan to launch a €800 million capital increase with retention of preferential subscription rights, with subscription commitments received from its reference shareholders Bpifrance and Nippon Steel, and from a banking syndicate for the unsubscribed balance, provided that market and usual conditions apply, and (ii) An agreement to set-up a €800 million confirmed credit line maturing in 2024, with the option to extend it by one year, to refinance existing credit lines, conditional on a capital increase. Management board considers that performing these transactions will enable the Company to strengthen its financial structure and liquidity position over the next 12 months. In the event that the transactions are not carried out, the Company will examine other financing options. We considered that assessing liquidity risk was a key audit matter, given the upcoming maturities of existing credit lines.	As part of our audit, we assessed the Company's liquidity requirements with regard to current resources, and planned capital increases and refinancing of existing credit lines. Consequently, we obtained an understanding of documentation related to (i) the €800 million capital increase and (ii) the set-up of the €800 million medium-term credit line, including: • Subscription commitments from shareholders Bpifrance and Nippon Steel, • The commitment from the banking syndicate to subscribe the remaining balance of the capital increase, as well as conditions relating to the commitment, and • The commitment to set up a €800 million medium-term credit line, conditional on the capital increase. Our audit work also consisted in obtaining cash flow forecasts and gaining an understanding of (i) the procedures implemented to prepare them and (ii) the main assumptions used in preparing them. We assessed their consistency with the forecast data from the latest strategic plans, prepared under the supervision of Executive Management and approved by the Supervisory Board. We also interviewed Executive Management on the events or circumstances subsequent to the reporting date which would be likely to call into question the forecasts and planned transactions. We also verified the appropriateness of disclosures on: • The description of credit lines and covenants in Note C.3, • Liquidity risk in the relevant paragraph of Note C.3 to the financial statements, and • Information related to the capital increase and set-up of the medium-term credit line in Note E.5 to the financial statements.

Measurement of equity interests

Notes B "Accounting policies – Equity interests", C.1 "Movements in non-current assets" and E.6 "Vallourec Subsidiaries and directly-held equity interests" to the financial statements

Key Audit Matter	Audit Approach
Equity interests on the balance sheet amounted to €3,856.4 million at 31 December 2019, and represent the most significant balance sheet item. They correspond to shares in Vallourec Tubes, the sub-holding of the Vallourec Group. As described in the Note "Equity interests" to the financial statements, the Company recognizes a provision for impairment when the value in use of equity interests falls below their net carrying amount. Value in use is based on expected cash flows, assessed based on the Group's strategic plan for the first five years, extrapolated over the following three years and a terminal value. This method requires the use of estimates and judgment by Management to determine the assumptions underlying cash flows. Given the value of equity interests and the sensitivity of the valuation model to the assumptions used in determining cash flows, we considered that measurement of Vallourec Tubes equity interests is a key audit matter.	Our work consisted in gaining an understanding of (i) the process for preparing and approving the estimates and assumptions used by Management to estimate the value in use of Vallourec Tubes equity interests, (ii) the procedures for approving the results by the governance entities, and (iii) we assessed the appropriateness of the model applied. We obtained the cash flow and operating forecasts for the Vallourec Group prepared by the Company, and verified their consistency with the forward-looking data from the latest strategic plans, prepared under the supervision of Executive Management and approved by the Supervisory Board. With the assistance of our valuation experts, we assessed, with regard to the Group's internal and external industry and macroeconomic data, the appropriateness of the various underlying assumptions used in preparing cash flow forecasts, including (i) prices and volumes assumptions by region that depend notably on investments in exploration and production of oil and natural gas, and (ii) exchange rates, growth rates and discount rates. We also assessed the consistency of cash flow forecasts with past performance, market outlook, and forecast data presented to the Company's Supervisory Board. Lastly, we (i) performed our own sensitivity analyses and (ii) verified that the value resulting from the cash flow forecasts has been adjusted of Vallourec Group's net debt.

Specific verifications

We have also performed, in accordance with professional standards applicable in France, the specific verifications required by French laws and regulations.

Information provided in the Management Report and the other documents with respect to the financial position and the financial statements provided to shareholders

We have no matters to report as to the fair presentation and consistency with the financial statements of the information provided in the Management Report and the other documents on the financial position and the financial statements provided to the Shareholders.

We attest to the fair presentation and consistency with the financial statements of the information relating to payment terms, required under Article D.441-4 of the French Commercial Code.

Corporate governance report

We attest that the Supervisory Board's report on corporate governance contains the information required by Articles L.225-37-3 and L.225-37-4 of the French Commercial Code.

With have verified the consistency with the financial statements of the information provided in accordance with Article L. 225-37-3 of the French Commercial Code relating to the remuneration and benefits paid or granted to executive officers and any other commitments made in their favour, and with the underlying information used to prepare these financial statements and, where applicable, the information obtained by your Company from controlled companies in the consolidation scope. Based on our work, we attest to the accuracy and fair presentation of this information.

We verified the consistency of the disclosures on matters your Company considered likely to have an effect on a public tender or exchange offer, provided in accordance with Article L. 225-37-5 of the French Commercial Code, with the documents from which they were derived and which were provided to us. Based on our work, we have no matters to report regarding these disclosures.

Other information

In accordance with French law, we have verified that the required information regarding the identity of shareholders and holders of voting rights has been properly disclosed in the management report.

Report on other legal and regulatory requirements

Appointment of the Statutory Auditors

We were appointed Statutory Auditors of Vallourec at the Annual General Shareholders' Meeting held on 1 June 2006 for both audit firms.

As at 31 December 2019, KPMG S.A. was in the 14_{th} year of an uninterrupted engagement and Deloitte & Associés in the 18_{th} year of an uninterrupted engagement, given the succession of mandates between legal entities of the Deloitte network.

Responsibilities of Management and those charged with governance for the financial statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with French accounting principles and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is expected to liquidate the Company or to cease operations.

The Financial and Audit Committee is responsible for monitoring the financial reporting process and the effectiveness of internal control and risk management systems and where applicable, internal audit, regarding accounting and financial reporting procedures.

The financial statements were approved by the Management Board.

Statutory Auditors' responsibilities for the audit of the financial statements

Objectives and audit approach

Our role is to issue a report on the financial statements. Our objective is to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with professional standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As specified in Article L.823-10-1 of the French Commercial Code, our statutory audit does not include assurance on the viability of the Company or the quality of management of the affairs of the Company.

As part of an audit conducted in accordance with professional standards applicable in France, the Statutory Auditor exercises professional judgment throughout the audit and furthermore:

- Identifies and assesses the risks of material misstatement of the financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence considered to be sufficient and appropriate to provide a basis for his opinion.

The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;

- Obtains an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the internal control;
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management in the financial statements;
- Assesses the appropriateness of management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company’s ability to continue as a going concern. This assessment is based on the audit evidence obtained up to the date of his audit report. However, future events or conditions may cause the Company to cease to continue as a going concern. If the Statutory Auditor concludes that a material uncertainty exists, there is a requirement to draw attention in the audit report to the related disclosures in the financial statements or, if such disclosures are not provided or inadequate, to modify the opinion expressed therein;
- Evaluates the overall presentation of the financial statements and assesses whether these statements represent the underlying transactions and events in a manner that achieves fair presentation.

Report to the Audit Committee

We submit a report to the Financial and Audit Committee including a description of the audit scope and the audit programme implemented, as well as the results of our audit. We also report any significant deficiencies in internal control regarding the accounting and financial reporting procedures that we have identified.

Our report to the Financial and Audit Committee includes the risks of material misstatement that, in our professional judgment, were of most significance in the audit of the financial statements of the current period and which are therefore key audit matters. We describe these matters in this audit report.

We also provide the Financial and Audit Committee with the statement required under Article 6 of Regulation (EU) No. 537/2014, confirming our independence within the meaning of the rules applicable in France as set out in Articles L.822-10 to L.822-14 of the French Commercial Code and the French Code of Ethics applicable to Statutory Auditors. Where appropriate, we discuss with the Financial and Audit Committee the risks that may bear on our independence, and the related safeguards.

Paris La Défense, 28 February 2020

The Statutory Auditors,

KPMG S.A.	**Deloitte & Associés**
Alexandra Saastamoinen	Véronique Laurent

CHAPTER 7
Corporate governance

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7.1 Composition and operation of the Management and Supervisory Boards

The Ordinary and Extraordinary Shareholders' Meeting held on 14 June 1994 approved the adoption of a dual management structure with a Supervisory Board and a Management Board.

This structure is based on the separation of the management functions, which are the responsibility of the Management Board, from the supervision of that management, which is the responsibility of the Supervisory Board, the representative body of the shareholders:

- the Management Board, which is a collegial body, is responsible for managing the Group using the powers conferred on it by statutory and regulatory provisions and the Group's bylaws; and
- the Supervisory Board is responsible for ongoing management control; it receives the information needed to perform its role.

7.1.1 Composition of the Management and Supervisory Boards

7.1.1.1 Management bodies

THE MANAGEMENT BOARD

At the date of this Universal Registration Document, the Management Board is comprised of the following two members:

Mr. Édouard GUINOTTE
Chairman of the Management Board
49 years old

Date of first appointment
15 March 2020

End of term
15 March 2024

Mr. Olivier MALLET
Member of the Management Board
63 years old

Date of first appointment
30 September 2008

End of term
2023 OSM

Mr. Édouard GUINOTTE

Born on 10 December 1970 (49 years old) – French nationality

Chairman of the Management Board

First appointment: 15 March 2020
End of term: March 15, 2024
Vallourec shares held: 5,043

Expertise and managerial experience

- Graduate of the *École des mines de Paris* and the INSEAD Management Program
- Joined Vallourec in 1995 as head of logistics and production at Vallourec Composants Automobile
  - From 1998 to 2000, he was Group Controller and then became Director of an operating entity in Mexico for three years
  - In 2004, he returned to the Automotive Division as Marketing Director
  - In 2007, he became Strategy and Development Director of the Group's Oil & Gas business, where he led in particular the plans to acquire the first 20% of Tianda, and the acquisition of Vallourec Saudi Arabia
  - From 2011 to 2014, he was President of Vallourec USA based in Houston, leading the commercial policy allowing Vallourec to double its sales in the United States following the start-up of the new Youngstown plant, and then became Vice-President of the Group in charge of Trade and Development OCTG in the Eastern Hemisphere region
  - Since 2017, he has been Senior Vice President and member of the Group's Executive Committee in charge of the Middle East and Asia
- Chairman of the Management Board of Vallourec since 15 March 2020

Positions held by Mr. Édouard GUINOTTE

Positions currently held

- Chairman of the Management Board of Vallourec SA[a]* (since 2020)
- Chairman and Director of Vallourec Tubes SAS[a] (since 2020)
- Chairman of Vallourec Tubes France SAS[a] (since 2020)
- Chairman of Vallourec Oil & Gas France SAS[a] (since 2020)
- Director of Vallourec Services SA[a] (since 2020)
- Chairman of the Board of Directors of Vallourec SoluçõesTubulares do Brasil SA[a] (since 2020)
- Commissioner of PT Citra TubindoTbk (since 2017)

Positions expired within the last five years

- Director of VAM Holding Hong Kong[1] (until 2019)
- Director of VAM Field Services (Beijing) Co. Ltd.[2] (until 2019)
- Director of Vallourec Al Qahtani LLC (until 2020)
- Director of Vallourec (China) Co. Ltd. (until 2020)
- Director of Vallourec Middle East FZE (until 2020)
- Director of Vallourec Oil & Gas (China) Co., Ltd. (until 2020)
- Director of Vallourec Saudi Arabia LLC (until 2020)
- Member of the Supervisory Committee of Vallourec Tianda (Anhui) Co. Ltd. (until 2020)
- Director of VAM (Changzhou) Oil & Gas Premium Equipment Co. Ltd.[3] (until 2020)

Mr. Édouard Guinotte does not receive any compensation as a corporate officer of Vallourec's direct or indirect subsidiaries.

(a) *Offices held in relation to the Group.*
(1) *Liquidated in October 2019.*
(2) *Liquidated since 13 December 2019.*
(3) *Dissolved following its merger with Vallourec Tianda (Anhui) Co. Ltd.*
* *Listed company (for positions currently held).*

Mr. Olivier MALLET

Born on 14 July 1956 (63 years old) – French nationality

Member of the Management Board

First appointment: 30 September 2008
Most recent renewal: 15 March 2020
End of term: 2023 OSM
Vallourec shares held: 30,061

Expertise and managerial experience

- Graduate of *École nationale d'administration* – General Inspector of Finance
- Technical advisor within several cabinet offices, including that of the Prime Minister (1988-1993)
- CFO and member of the Executive Committee with responsibility for finance at Thomson Multimedia (1995-2001)
- CFO and member of the Executive Committee of Pechiney (2001-2004)
- Deputy CFO (2004-2006) then Head of the Mining, Chemistry and Enrichment sector of the Areva Group (2006-2008)
- Member of the Management Board of Vallourec since 30 September 2008, Chief Financial Officer and General Counsel

Positions held by Mr. Olivier MALLET

Positions currently held

- Member of the Management Board of Vallourec SA[a] * (since 2008)
- CEO and Director of Vallourec Tubes SAS[a] (since 2008)
- Chairman & CEO and Director of Vallourec Services SA[a] (since 2008)
- Member of the Supervisory Board of Vallourec Deutschland GmbH[a] (Germany) (since 2008)
- Director of Vallourec SoluçõesTubulares do Brasil SA[a] (Brazil) (since 2016)
- Director of Vallourec USA Corporation[a] (United States) (since 2008)
- Director of Vallourec Tube-Alloy, LLC[a] (United States) (since 2008)
- Chairman (since 2009) and Director of Vallourec Industries Inc.[a] (United States) (since 2008)
- Chairman and Director of Vallourec Holdings Inc.[a] (United States) (since 2009)
- Director of Vallourec Drilling Products USA, Inc.[a] (United States) (since 2008)
- Member of the Executive Committee of VAM USA LLC[a] (United States) (since 2009)
- Member of the Executive Committee of Vallourec Star, LP[a] (United States) (since 2008)
- Manager of Vallourec One SARL[a] (since 2017)
- Commissioner of PT Citra TubindoTbk (since 2018)

Positions expired within the last five years

- Director of Vallourec Tubos do Brasil SA[a][1] (Brazil) (until 2017)
- Director of Vallourec Canada Inc.[a] (Canada) (until 2017)
- Director of Vallourec Heat Exchanger Tubes SAS[a] (until 2016)[2]

Mr. Olivier Mallet does not receive any compensation as a corporate officer of Vallourec's direct or indirect subsidiaries.

(a) *Offices held in relation to the Group.*
(1) *Vallourec Tubos do Brasil Ltda following the change in corporate form which occurred on 20 November 2017.*
(2) *This company has been called Neotiss since 29 April 2016.*
* *Listed company (for positions currently held).*

OFFICE OF MEMBER OF THE MANAGEMENT BOARD WHICH ENDED IN 2020

Mr. Philippe CROUZET

Born on 18 October 1956 (63 years old) – French nationality
First appointment: 1 April 2009
Most recent renewal: 29 January 2016
End of term: 15 March 2020
Vallourec shares held: 71,874

Expertise and managerial experience

- Graduate of *École nationale d'administration*
- Former Counsel *(maître des requêtes)* to the *Conseil d'État*
- Twenty-three years' industrial experience with the Saint-Gobain Group
- Chairman of the Management Board of Vallourec (2009–2020)

Positions held by Mr. Philippe CROUZET

Positions currently held

- Director of *Théâtre de la Ville* (Paris) (since 2011)
- Member of the *Association pour la Maison de la culture du Japon à Paris* (since 2018)

Positions expired within the last five years

- Chairman of the Management Board of Vallourec SA[(a)] * (until March 2020)
- Chairman and Director of Vallourec Tubes SAS[(a)] (until March 2020)
- Chairman of Vallourec Tubes France SAS[(a)] (until March 2020)
- Chairman of Vallourec Oil & Gas France SAS[(a)] (until March 2020)
- Director of Vallourec Services SA[(a)] (until March 2020)
- Chairman of the Supervisory Board of Vallourec Deutschland GmbH[(a)] (Germany) (until March 2020)
- Chairman of the Board of Directors of Vallourec SoluçõesTubulares do Brasil SA[(a)] (until March 2020)
- Vice-President of *Institut de l'entreprise* (until December 2019)
- Director, Chairman of the Nuclear Commitment Monitoring Committee, and a member of the Audit Committee of Électricité de France* (until May 2019)
- Director of Vallourec Tubos do Brasil SA[(1)(a)] (Brazil) (until 2017)
- Director of *Théâtre national de l'Opéra-Comique* (until 2017)

Mr. Philippe Crouzet does not receive any compensation as a corporate officer of Vallourec's direct or indirect subsidiaries.

(a) Offices held in relation to the Group.
(1) Vallourec Tubos do Brasil Ltda following the change in corporate form which occurred on 20 November 2017.
** Listed company (for positions currently held).*

EXECUTIVE COMMITTEE

To implement its strategic guidelines and key decisions, the Management Board relies on an Executive Committee, which has 11 members. The Executive Committee examines and drafts proposals to the Management Board regarding all of the actions needed to implement the Group's strategy. It provides daily management for operational and functional activities. It holds meetings once every two weeks, which are chaired by Mr. Édouard Guinotte.

From 1 April 2020, the Executive Committee will be composed of the following members:

MANAGEMENT BOARD

Mr. Édouard GUINOTTE
Chairman of the Management Board

Mr. Olivier MALLET
Chief Financial Officer

EXECUTIVE COMMITTEE

Along with Édouard Guinotte and Olivier Mallet

Mr. Pascal BRAQUEHAIS
Director Middle East/Asia

Mr. Philippe CARLIER
Director Technology & Industry

Mr. Nicolas de COIGNAC
Director of the Acceleration Project

Mr. François CURIE
Director of Human resources

Mr. Rémi DUJON
Group's General Counsel and General Secretary

Mr. Bertrand FRISCHMANN
Director North America

Mr. Didier HORNET
Director Development & Innovation

Mr. Alexandre LYRA
Director South America

Mr. Hubert PARIS
Director Europe/Africa

7.1.1.2 The Supervisory Board

POLICY ON THE COMPOSITION OF THE SUPERVISORY BOARD

The Board policy relating to its composition relies on the following four fundamental objectives:

- selection of competent members;
- a balanced composition, which creates value;
- acting in the best interest of the Company;
- a membership that ensures a seamless exchange of information and that each member can express himself or herself.

1. Selection of competent members

Aware that first-rate quality must lie in that of its members, the Board makes every effort to add members that have performed managerial duties with a high level of responsibility and/or who have recognized expertise in financial, strategic, industrial or legal areas. Furthermore, when they assume office and throughout their terms, members have the chance to benefit from training sessions on specific aspects of the Group, its businesses, its sector of activity and its organization, if they so desire.

2. Balanced composition, which creates value

Like any business player, the Supervisory Board is committed to the process of creating value. Consequently, beyond the challenges of social performance, it endeavors to ensure the diversity of its members, in terms of age, gender, qualifications and professional experience, which it considers to be a key source of creativity and innovation. The Board also takes international diversity into account, to reflect the Group's global presence.

The average age on the Board decreased in 2020 to 57, which the Board members have deemed to be very satisfactory. Diverse genders and experiences bring to the Board distinct sensitivities that contribute favorably to good governance, which itself leads to competitive advantages. At the date of this Universal Registration Document, the

Board is comprised of 13 members, who have varied competencies (financial expertise, experience in general management, organizational transformation, renewable energies, multicultural experience, etc.) gained primarily in an international environment, which is a source of enrichment. The Board will also contain one employee representative and one employee shareholder representative. Furthermore, 50% of these members are female, excluding the employee representative from the analysis in compliance with the law. 23% of the Board members are of foreign nationality (British, Japanese and Spanish). Vivienne Cox, who is British, is the Board Chairman.

Since the Board is well aware of how enriching a diverse body can be, it intends to continue its efforts to diversify its membership.

This diversity policy has been taken into account by the Chairman, the Appointments, Compensation and Governance Committee, and by the Board itself in considering its composition, which has led to proposals to renew terms of office and to appoint new members. Therefore, in its report on the draft resolutions that were submitted for approval at the Shareholders' Meeting of 23 May 2019, the Supervisory Board presented the reasons that led it to propose renewing the terms of Ms. Maria-Pilar Albiac-Murillo, Ms. Pascale Chargrasse, and Mr. Philippe Altuzarra, and to co-opt Ms. Corine de Bilbao.

In 2020, the Supervisory Board will welcome a second employee representative among its members. In order to take into account the Group's international character, the Company decided to appoint this second representative through the European Works Council, thereby ensuring the appointment of an employee from a foreign entity of the Group.

3. Acting in the best interest of the Company

The Board feels that each member is a guardian of the corporate interest and members must accomplish their duties objectively and independently, in order to gain and maintain the trust of all of the shareholders who appointed them.

Consequently, going beyond the qualification of an independent member, the Board intends to propose to the Shareholders' Meeting members with integrity, who have strong ethics that lead them to act with ongoing concern for the corporate interest and the interests of all shareholders, and specifically, to avoid conflicts of interest. To that end, each member is required to inform the Board of any situation involving a conflict of interest, even a potential one, and to refrain from taking part in discussions or voting on any issue at Board meetings where there may be a conflict of interest, and to leave the Board meeting if a subject is discussed that places the member in such a situation.

When one of the members has a conflict of interest, whether actual or potential, regarding a subject matter to be debated by the Board, the Board ensures, by relying on the Appointments, Compensation and Governance Committee, that the information regarding this subject matter is not communicated to that member.

The internal regulations of the Supervisory Board and the Appointments, Compensation and Governance Committee contain specific provisions designed to prevent the risk of conflicts of interest. Therefore, a member cannot accept another position or appointment, or make a significant investment in any company or business in competition with Vallourec or operating upstream or downstream of it, without the Board's prior approval. As an exception, this rule does not apply to legal entities that are members of the Supervisory Board, but if they take new positions or similar appointments, each case will be discussed with the Board in order to eliminate any risk of conflicts of interest. Members of the Board and members of the Management Board must inform the Chairman of the Board before accepting a new appointment in other companies. The Chairman of the Board will give an opinion after consulting with the Appointments, Compensation and Governance Committee.

4. A membership that ensures a seamless exchange of information and that each member can express himself or herself

Although the law allows a Board to contain up to 18 members, the Board wishes to limit its membership in order to ensure there is a satisfying and seamless exchange of information, and to allow each member to express himself or herself, thereby encouraging each person's action and involvement. To that end, the Chairman of the Board encourages the participation of the members and sees to it that each member can express an opinion.

SUPERVISORY BOARD COMMITTEES

The Supervisory Board relies on the work of specialized committees, which play a consulting role and prepare certain Board resolutions. They issue proposals, make recommendations and provide advice in their areas of expertise.

The Supervisory Board is assisted by four specialized Committees:

- the Finance and Audit Committee;
- the Appointments, Compensation and Governance Committee;
- the Strategy Committee; and
- the Corporate Social Responsibility (CSR) Committee.

The Supervisory Board appoints the members of each of the Committees, establishes their powers and determines their compensation.

The term of office of the members of each of the Committees is the same as their term of office as members of the Supervisory Board, unless the composition of the Committee is changed earlier. Subject to this condition, the term of office of a Committee member may be renewed at the same time as the term of office of a member of the Supervisory Board. A Committee's composition may be changed at any time by decision of the Supervisory Board.

COMPOSITION OF THE SUPERVISORY BOARD

13 members

MARIA-PILAR ALBIAC-MURILLO ◇

CÉDRIC DE BAILLIENCOURT ◇

CORINE DE BILBAO ◇

VIRGINIE BANET ◇

BPIFRANCE PARTICIPATIONS, REPRESENTED BY ALEXANDRE OSSOLA ◆

VIVIENNE COX ◇
Chairman of the Supervisory Board

PIERRE PRINGUET ◇
Vice-President and Lead Member of the Supervisory Board

LAURENCE BROSETA ◇

ANTOINE CAHUZAC ◇

PASCALE CHARGRASSE

MICKAËL DOLOU

YUKI IRIYAMA ◆

JEAN-JACQUES MORIN ◇

Finance and Audit Committee
Committee Chairman
Employee Representative

Appointments, Compensation and Governance Committee
Committee Chairman
Employee Shareholder Representative

Strategy Committee
Committee Chairman
◇ Independent member

CSR Committee
Committee Chairman
◆ Non-independent member

INDEPENDENCE RATE*

82 %

AVERAGE AGE

57

GENDER EQUALITY **

50%

6 Board members are women

EMPLOYEE REPRESENTATION

2

incl. 1 member representing employee shareholders, who was elected by the Shareholders' Meeting

and 1 member representing employees who was appointed by the Group Committee

DIVERSITY

3

Board members are of foreign nationality and 4 nationalities are represented on the Board

AVERAGE ATTENDANCE RATE IN 2018

96%

DIVERSITY AND EXPERTISE OF EACH OF THE SUPERVISORY BOARD MEMBERS

	PERSONAL INFORMATION				EXPERIENCE	POSITION ON THE BOARD				PARTICIPATION ON BOARD COMMITTEES			
	Age	Gender	Nationality	Number of shares	Number of positions in listed companies*	Independence	Date of first appointment *(dd-mm-yyyy)*	End of term *(dd-mm-yyyy)*	Seniority on the Board	FAC	ACGC	SC	CSRC
NON-EXECUTIVE CORPORATE OFFICER													
Vivienne Cox	60	♀	British	20,880	3	◇	31-05-2010	2022 OSM	10			●	
BOARD MEMBERS													
Pierre Pringuet	70	♂	French	7,914	4	◇	23-02-2015	2020 OSM	5		●		
Maria-Pilar Albiac-Murillo	66	♀	Spanish	3,000	1	◇	28-05-2015	2023 OSM	5				○
Cédric de Bailliencourt	50	♂	French	7,800	3	◇	25-05-2014	2022 OSM	6				
Corine de Bilbao	53	♀	French	500	1	◇	21-03-2019	2020 OSM	1			○	○
Virginie Banet	54	♀	French	2,000	1	◇	12-02-2020	2022 OSM	<1	○			
Bpifrance Participations, represented by **Alexandre Ossola**	45	♂	French	66,695,708	13	◆	06-04-2016	2020 OSM	4	○		○	
Laurence Broseta	51	♀	French	1,436	2	◇	06-04-2016	2022 OSM	4				●
Antoine Cahuzac	65	♂	French	500	1	◇	18-02-2020	2023 OSM	<1	○	○		
Yuki Iriyama	72	♂	Japanese	500	1	◆	12-05-2017	2021 OSM	3				
Jean-Jacques Morin	59	♂	French	500	2	◇	25-05-2018	2022 OSM	2	●			
BOARD MEMBERS REPRESENTING EMPLOYEE SHAREHOLDERS													
Pascale Chargrasse	59	♀	French	8,327	1	NA	13-12-2010	2023 OSM	9		○		
BOARD MEMBERS REPRESENTING EMPLOYEES													
Mickaël Dolou	44	♂	French	2,524	1	NA	03-10-2017	2021 OSM	2		○		

* *Including Vallourec SA.*

● *Chairman*

○ *Member*

◇ *Independence under the criteria of the AFEP-MEDEF Code as assessed by the Supervisory Board*

◆ *Non-independence under the criteria of the AFEP-MEDEF Code as assessed by the Supervisory Board*

FAC : Finance and Audit Committee

ACGC : Appointments, Compensation and Governance Committee

SC : Strategy Committee

CSRC : Corporate Social Responsibility Committee

	Industry/Oil & Gas	Managerial positions/ operational management within major groups	International experience	Financial/ audit expertise	Governance of listed companies	Social and environmental responsibility
Vivienne Cox	○	○	○		○	○
Pierre Pringuet		○	○		○	
Maria-Pilar Albiac-Murillo	○	○	○			
Cédric de Bailliencourt		○		○	○	
Corine de Bilbao	○	○	○			
Virginie Banet		○	○	○		
Bpifrance Participations, represented by Alexandre Ossola				○	○	
Laurence Broseta	○	○	○			○
Antoine Cahuzac		○	○	○	○	
Pascale Chargrasse	○					
Mickaël Dolou	○		○			
Yuki Iriyama	○	○	○			
Jean-Jacques Morin	○	○	○	○	○	

CHANGES IN THE COMPOSITION OF THE SUPERVISORY BOARD AND OF THE COMMITTEES DURING THE FISCAL YEAR

As at 29 February 2020

	Departures	Appointments	Renewals
Supervisory Board	Alexandra Schaapveld (12/02/2020) Philippe Altuzarra (18/02/2020)	Corine de Bilbao (23/05/2019) Virginie Banet (12/02/2020) Antoine Cahuzac (18/02/2020)	Maria-Pilar Albiac-Murillo (23/05/2019) Philippe Altuzarra (23/05/2019) Pascale Chargrasse (23/05/2019)
Finance and Audit Committee	Alexandra Schaapveld (12/02/2020)	Virginie Banet (12/08/2020) Antoine Cahuzac (18/02/2020)	
Appointments, Compensation and Governance Committee	Laurence Broseta (25/11/2019) Alexandra Schaapveld (12/02/2020)	Antoine Cahuzac (18/02/2020)	Pascale Chargrasse (23/05/2019)
Strategy Committee	Philippe Altuzarra (18/02/2020)	Corine de Bilbao (18/02/2020)	Philippe Altuzarra (23/05/2019)
Corporate Social Responsibility (CSR) Committee	Philippe Altuzarra (18/02/2020)	Corine de Bilbao (18/02/2020)	Maria-Pilar Albiac-Murillo (23/05/2019) Philippe Altuzarra (23/05/2019)

During fiscal year 2019, following the resignation of Mr. José Carlos Grubisich for personal reasons, Ms. Corine de Bilbao was co-opted for the remainder of his term on 21 March 2019. This cooptation was ratified by the 2019 Shareholders' Meeting on 23 May 2019. Ms. Laurence Broseta resigned from her position as a member of the Appointments, Compensation and Governance Committee on 25 November 2019 so that she can dedicate her time to chairing the CSR Committee.

Ms. Alexandra Schaapveld resigned from her position as a member of the Supervisory Board on 12 February 2020 for personal reasons. She has been replaced by Ms. Virginie Banet, who was co-opted for the remainder of this term on 12 February 2020 by the Supervisory Board. This cooptation is being proposed to the 2020 Shareholders' Meeting on 6 April 2020 for ratification. Ms. Banet has been appointed as a member of the Finance and Audit Committee.

Mr. Philippe Altuzarra resigned from his position as a member of the Supervisory Board on 18 February 2020 for personal reasons. He has been replaced by Mr. Antoine Cahuzac, who was co-opted for the remainder of Mr. Altuzarra's term on 18 February 2020 by the Supervisory Board. This cooptation is being proposed to the 2020 Shareholders' Meeting on 6 April 2020 for ratification. Mr. Cahuzac has been appointed as a member of the Finance and Audit Committee, and the Appointments, Compensation and Governance Committee.

Following the departure of Mr. Philippe Altuzarra, Ms. Corine de Bilbao was co-opted as a member of the Strategy Committee and the CSR Committee on 18 February 2020.

Ms. Vivienne COX

Born on 29 May 1959 (60 years old) – British nationality
Chairman of the Supervisory Board
Chairman of the Strategy Committee

Commander of the Most Excellent Order of the British Empire (CBE)

First appointment: 31 May 2010
Renewal: 2014 OSM, 2018 OSM
End of term: 2022 OSM
Vallourec shares held: 20,880

Summary of main areas of expertise and experience

- Graduate of Oxford University and of INSEAD, holding an Honorary Doctorate from the University of Hull and the University of Hertfordshire
- Twenty-eight years' experience with the BP Group
- CEO of BP Gas, Power and Renewables (2004-2009)
- Commissioner of the Airport Commission of the Department of Transport of the British government (since 2012)
- Chairman of the Rosalind Franklin Institute

Main activities performed outside of the Company

- Director of Pearson Plc*
- Director of GlaxoSmithKline Plc*

Positions held by Ms. Vivienne COX

Positions currently held

- Chairman of the Supervisory Board of Vallourec*
- Director of Pearson Plc*, Chairman of the Appointments and Governance Committee, member of the Reputation and Responsibility Committee, member of the Audit Committee, and Senior Independent Director
- Director of GlaxoSmithKline Plc*, member of the Compensation Committee and member of the Social Responsibility Committee
- Director of Stena AB Gothenburg
- Member of the Consulting Board and Chairman of the Compensation Committee of Montrose Associates

Positions expired within the last five years

- Lead Independent Director of the Department for International Development of the British government (until 2017)
- Member of the Appointments Committee of Pearson Plc, and member of the Compensation Committee (until 2017) and Chairman of the Reputation and Responsibility Committee of Pearson Plc (until 2016)
- Manager B of Stena International SARL (Luxembourg) (until 2017)
- Director and member of the Sustainable Development Committee, the Compensation Committee and the Appointments Committee of BG Group Plc (until 2016)
- Director of The Climate Group (until 2015)

* *Listed company (for positions currently held).*

Mr. Pierre PRINGUET

Born on 31 January 1950 (70 years old) – French nationality

Vice-Chairman and Lead Member of the Supervisory Board
Chairman of the Appointments, Compensation and Governance Committee

Officer of the French Legion of Honor
Commander of the Order of Agricultural Merit

First appointment: 23 February 2015
Renewal: 2016 OSM
End of term: 2020 OSM
Vallourec shares held: 7,914

Summary of main areas of expertise and experience

- Graduate of the *École polytechnique* and Engineer for the French Mines Inspectorate *(Corps des mines)*
- Began career in public service, from 1976 to 1987: In charge of an industry and mining engagement with the prefect of the Lorraine region (1976-1978); Head of financial procedures and social relations with the Managing Director of Industry (1979-1982); Chief Engineer of Mines (1981); Technical Consultant to Michel Rocard, Minister of Land Management and Planning, and later the Minister of Agriculture (1981-1985); Director of Agricultural and Food Industries with the French Ministry of Agriculture (1985-1987)
- Since 1987, in the Pernod Ricard Group: Director of Development of the Pernod Ricard Group (1987-1989); Managing Director of Société pour l'Exportation de Grandes Marques (1989-1996); Chairman & CEO of Pernod Ricard Europe (1997-2000); Deputy CEO of Pernod Ricard (2000-2005); Director of Pernod Ricard (since 2004); COO of Pernod Ricard (2005-2008); Managing Director of Pernod Ricard (2008-2015); Vice-Chairman of the Board of Directors of Pernod Ricard (2012-2019)

Main activities performed outside of the Company

- Director of *La Française des Jeux* (FDJ)*
- Director of Iliad*
- Director of Cap Gemini SE*
- Director of Avril Gestion SAS (Avril Group)

Positions held by Mr. Pierre PRINGUET

Positions currently held

- Vice-Chairman and Lead Member of the Supervisory Board of Vallourec*, Chairman of the Appointments, Compensation and Governance Committee
- Director of *La Française des Jeux* (FDJ)*
- Director and member of the Compensation Committee of Iliad*
- Senior Director of Cap Gemini SE*, Chairman of the Ethics and Governance Committee and member of the Compensation Committee
- Director of Avril Gestion SAS (Avril Group)
- Chairman of the Association of Mining Engineers (*Association amicale des ingénieurs des Mines* – AAIM)

Positions expired within the last five years

- Director of Pernod Ricard, member of the Strategy Committee and member of the Compensation Committee (until 2019)
- Vice-Chairman of the Board of Directors of Pernod Ricard (until 2019)
- Chairman of the *Association française des entreprises privées* (AFEP) (until 2017)
- Chairman of the Scotch Whisky Association (until 2017)
- Chairman of AgroParisTech (until 2016)
- CEO of Pernod Ricard (until 2015)
- Chairman of *Comité Sully,* an association for the promotion of the French agrifood industry (until 2015)

* *Listed company (for positions currently held).*

Ms. Maria-Pilar ALBIAC-MURILLO

Born on 21 August 1953 (66 years old) – Spanish nationality
Member of the Supervisory Board
Member of the Corporate Social Responsibility Committee

First appointment: 28 May 2015
Renewal: 2019 OSM
End of term: 2023 OSM
Vallourec shares held: 3,000

Summary of main areas of expertise and experience

- Graduate of the University of Zaragoza (Spain), and the holder of an MBA from Central Michigan University (United States)
- A twenty-six year career at General Motors, sixteen of which were spent in the United States. Fifteen years in Operations, Plant Director in Saginaw, Michigan (1991-1993), Plant Director in Logroño, Spain (1993-1996)
- Chairman and CEO of Saginaw Deutschland GmbH (1996-1999)
- Seven years at Delphi Corporation: Site Manager (Delphi Alabama Operations), Plant Manager, Site Director (Delphi Flint East Operations) and Director of Product Line (Delphi Troy Headquarters)
- Vice-President in charge of operations in Mexico for Remy (2006-2007)
- Eight years at the Airbus Group: Executive Vice-President of Operations and Head of Transformation at Airbus Defence and Space, and A400M Industrialization (2008-2016)
- Head of Product and Innovation to Market Excellence of Philips Innovations Services (2016-2017)

Main activities performed outside of the Company

None

Positions held by Ms. Maria-Pilar ALBIAC-MURILLO

Positions currently held

- Member of the Vallourec Supervisory Board*

Positions expired within the last five years

- Head of Product and Innovation to Market Excellence of Philips Innovations Services (until 2017)
- Executive Vice-President of Operations and Head of Transformation at Airbus Defence and Space, and A400M Industrialization (until 2016)
- Director of Banque Populaire Occitane (until 2016)

* *Listed company (for positions currently held).*

Mr. Cédric DE BAILLENCOURT

Born on 10 July 1969 (50 years old) – French nationality
Member of the Supervisory Board

First appointment: 25 May 2014
Renewal: 2018 OSM
End of term: 2022 OSM
Vallourec shares held: 7,800

Summary of main areas of expertise and experience

- Graduate of the *Institut d'études politiques de Bordeaux*, postgraduate degree in Political and Social Communication
- Twenty-four years with the Bolloré Group as Director of Shareholding (since 1996), CEO (since 2002) and Vice-Chairman of Financière de l'Odet, Vice-Chairman of Bolloré (since 2002), and CFO of the Bolloré Group (since 2008)

Main activities performed outside of the Company

- CFO of Bolloré*
- Member of the Management Board of Vivendi*

Positions held by Mr. Cédric de BAILLIENCOURT

Positions currently held

- Member of the Vallourec Supervisory Board*
- Member of the Management Board of Vivendi*

Offices and positions held in French companies

Offices and positions held at the Bolloré Group

- CFO of Bolloré*
- Vice-Chairman of Financière de l'Odet SE**
- Vice-Chairman of Bolloré SE*
- Vice-Chairman of Compagnie du Cambodge**
- Chairman of the Boards of Directors of Compagnie des Tramways de Rouen, Financière Moncey**, Société des Chemins de Fer et Tramways du Var et du Gard, and Société Industrielle et Financière de l'Artois**
- Chairman of Compagnie des Glénans, Compagnie de Treguennec, Compagnie de Guénolé, Compagnie de Guilvinec, Compagnie de Pleuven, Financière V, Financière de BegMeil, Financière d'Ouessant, Financière du Perguet, Financière de Pont-Aven, Imperial Mediterranean, Compagnie de Pont-l'Abbé, Financière de Quimperlé, Compagnie de Concarneau, Compagnie de l'Argol, Financière de Kerdevot, Financière d'Iroise, Compagnie de Loctudy, and Compagnie de Sauzon
- Manager of Socarfi and Compagnie de Malestroit
- Director of Bolloré SE*, Bolloré Participations SE, Compagnie des Tramways de Rouen, Financière V, Financière Moncey**, Omnium Bolloré, Société Industrielle et Financière de l'Artois**, Financière de l'Odet SE** and Société des Chemins de Fer et Tramways du Var et du Gard
- Permanent representative of Bolloré SE on the Board of Directors of Socotab
- Member of the Supervisory Board of Sofibol and Compagnie du Cambodge**

Other offices and positions

- Member of the Supervisory Board of Vallourec*
- Member of the Management Board of Vivendi SE*
- Permanent representative of Compagnie du Cambodge on the Supervisory Board of Banque Hottinguer (formerly Banque Jean-Philippe Hottinguer & Cie)

Offices and positions held in foreign companies

Offices and positions held at the Bolloré Group

- Chairman of Redlands Farm Holding
- Chairman of the Board of Directors of Plantations des Terres Rouges, PTR Finances, and SFA
- Director of African Investment Company, Financière du Champ de Mars, La Forestière Équatoriale**, BB Group, PTR Finances, Plantations des Terres Rouges, SFA, Sorebol, Technifin, and ParagefiHeliosIberica Luxembourg
- Permanent representative of Pargefi Helios Iberica Luxembourg SA on the Board of Participaciones y gestion financiera SA
- Permanent representative of Bolloré Participations SE on the Board of Nord-Sumatra Investissements

Other offices and positions

- Permanent representative of Bolloré Participations SE on the Boards of Socfinde, Terrasia, Socfin (formerly Socfinal)**, Induservices SA

Positions expired within the last five years

- COO of Financière de l'Odet (until 2019)
- Permanent representative of Bolloré Participations on the Board of Socfinasia (until 2019)
- Permanent representative of Bolloré Participations on the Board of Socfinaf (until 2018)
- Director of *Musée national de la Marine* (until 2018)
- Chairman of Blueboat (formerly Compagnie de Bénodet)[(a)] and Financière de Sainte-Marine[(a)] (until 2018)
- Chairman of the Management Board of Compagnie du Cambodge[(a)] (until 2017)
- Chairman of the Compagnie de Cornouaille[(a)] (until 2017)
- Chairman of Financière de l'Argoat[(a)] (until 2017)
- CEO of Financière de l'Odet[(a)] (until 2017)
- Permanent representative of Bolloré on the Board of Directors of Havas[(a)] (until 2017)
- Chairman of Financière de Briec[(a)] (until 2016)
- Chairman of Financière de Pluguffan[(a)] (until 2016)
- Chairman of Bluestorage (until 2015)
- Chairman of Bluely (formerly Financière de Kerdevot)
- Permanent representative of Bolloré Participations on the Board of Société Bordelaise Africaine (until 2016)
- Permanent representative of Bolloré Participations on the Boards of Immobilière de la Pépinière and Centrages (until 2015)
- Permanent representative of Bolloré Participations on the Board of Agro Products Investments Company (until 2015)

(a) Position held within the Bolloré Group.
** Listed company (for positions currently held).*
*** Listed company for positions currently held (including companies registered in the Free Market and listed abroad).*

Ms. Corine de BILBAO

Born on 16 October 1966 (53 years old) – French nationality

Member of the Supervisory Board
Member of the Strategy Committee
Member of the CSR Committee

First appointment: 21 March 2019
End of term: 2020 OSM
Vallourec shares held: 500

Summary of main areas of expertise and experience

- Graduate of Sciences Po Bordeaux and holder of an MBA in Sourcing and Supply Chain Management from the M.A.I Institute of Purchasing Management
- Sourcing Manager and Service Manager GE Medical Systems, medical imaging equipment sector (1989-2000)
- Twenty years' experience in the energy sector of which eight in Oil & Gas
- European Sourcing Director GE Power Gas Turbines (2000-2003)
- Upstream Sales Director GE Oil & Gas (2003-2008)
- Sales VP Products Areva T&D (2008-2010)
- Head of Services GE Energy (2010-2011), General Manager for Europe then Vice President of Sales of the Subsea Division of General Electric Oil & Gas (2011-2016)
- Chairman of General Electric France (2016-2019)
- Vice-President of AmCham, the American Chamber of Commerce in France (2016-2019)
- Chief Executive Officer of Segula Technologies International, engineering group

Main activities performed outside of the Company

- Chief Executive Officer of Segula Technologies International
- Member of the Advisory Board of ING Bank France

Positions held by Ms. Corine de BILBAO

Positions currently held

- Member of the Supervisory Board of Vallourec*
- CEO of Segula Technologies International
- Member of the Consulting Board of ING Bank France

Positions expired within the last five years

- Chairman of General Electric (GE) International France (until 2019)
- Chairman of General Electric (GE) Industrial France (until 2019)
- Director of GEAST (nuclear JV of GE Alstom) (until 2019)
- Member of the Supervisory Board of Segula Technologies (until 2019)
- Vice-President of AmCham, the American Chamber of Commerce in France (until 2019)

* *Listed company (for positions currently held).*

Ms. Virginie BANET

Born on 18 January 1966 (54 years old) – French nationality
Member of the Supervisory Board
Member of the Finance and Audit Committee

First appointment: 12 February 2020
End of term: 2022 OSM
Vallourec shares held: 2,000

Summary of main areas of expertise and experience

- Graduate of the *Institut d'études politiques de Paris* (IEP), holds a bachelor's degree in Economic Science and member of the French Society of Financial Analysts (SFAF)
- Started her career as a financial analyst at SBS, Warburg then at Deutsche Bank covering Capital goods, and Aerospace and Defense for Europe (1989-2003). She then became an investment banker and Head of M&A Aerospace & Defense, again at Deutsche Bank followed by Airbus (2003-2008)
- Member of the Executive Committee of Lagardère Média, head of investor relations and financial market communications policy (2008-2010)
- Member of the Executive Committee of Natixis, Director of customer relations and advisory services, head of banking teams in France and abroad as well as traditional financing (2011-2014)
- Investment banker at Ondra Partners then at Nomura (2015-2019)
- Since September 2019, Chairman (founder) of Iolite Financial Consulting and Senior Advisor at AlixPartners

Main activities performed outside of the Company

- Chairman of Iolite Financial Consulting
- Senior Advisor at AlixPartners

Positions held by Ms. Virginie BANET

Positions currently held

- Member of the Supervisory Board of Vallourec*
- Chairman of Iolite Financial Consulting
- Senior Advisor at AlixPartners

Positions expired within the last five years

- Investment Banker at Nomura (until 2019)
- Investment Banker at Ondra Partner (until 2015)

* *Listed company (for positions currently held).*

Bpifrance Participations represented by Mr. Alexandre OSSOLA

Member of the Supervisory Board
Member of the Finance and Audit Committee
Member of the Strategy Committee

First appointment: 6 April 2016
End of term: 2020 OSM
Vallourec shares held: 66,695,708

Bpifrance offers companies continuity of financing at each key step in their development and an offer adapted to regional specificities. As part of the Bpifrance equity investment scheme, Bpifrance Participations invests in large companies as well as in middle-market companies, in order to support their development in France and internationally. Bpifrance Participations is a minority shareholder involved in governance, as well as a long-term investor capable of adapting to the company's development cycles.

Positions held by Bpifrance Participations

Positions currently held

- Member of the Supervisory Board of Vallourec*
- Director of Compagnie Daher
- Director of Cybelangel International
- Member of the Supervisory Board of De Dietrich
- Director of Ekinops*
- Director of Eutelsat Communications*
- Director of Farinia
- Director of Gensight Biologics*
- Member of the Supervisory Board of Groupe Grimaud La Corbière
- Director of H4D
- Director of Innate Pharma*
- Director of Isorg
- Director of Groupe Limagrain
- Director of Mader
- Member of the Supervisory Board of Mersen*
- Member of the Supervisory Board of NGE
- Director of Orange*
- Director of Paprec
- Director of Parrot*
- Director of Pixium Vision*
- Director of Prodways Group*
- Director of PSA*
- Director of Scality
- Director of Soitec*
- Director of Technicolor*
- Director of Tinubu Square
- Director of TokheimLuxco
- Director of TokheimLuxco 2
- Director of Valeo*
- Member of the Supervisory Board of Voluntis
- Member of the Supervisory Board of Ynsect
- Member of the Supervisory Board of Younited

Positions expired within the last five years

- Director of AelisFarma (until 2019)
- Director of Avril Pôle Végétal (until 2019)
- Director of Antalis International (until 2018)
- Director of Cegedim (until 2018)
- Director of CGG (until 2018)
- Director of Corwave (until 2019)
- Member of the Supervisory Board of Crystal (until 2019)
- Member of the Supervisory Board of Financière du Millenium (until 2018)
- Director of G2 Mobility (until 2018)
- Director of Horizon Parent Holdings (until 2019)
- Director of In Situ Training (until 2019)
- Member of the Supervisory Board of Novasep (until 2018)
- Director of NTL Holding (until 2019)
- Director of Sequana (until 2018)
- Director of Txcell (until 2018)
- Director of Altia Industry (until 2017)
- Director of Biom'up (until 2017)
- Member of the Supervisory Board of FT1 CI (until 2019)
- Director of Medipôle Partenaires (until 2017)
- Member of the Supervisory Board of Vergnet (until 2017)
- Director of Viadeo (until 2017)
- Member of the Supervisory Board of VIT (until 2017)
- Director of CHM International (until 2016)
- Member of the Supervisory Board of Verimatrix (formerly known as Inside Secure) (until 2016)
- Member of the Supervisory Board of Valneva (until 2019)
- Director of Vexim (until 2015)
- Director of Therachon (until 2019)

* *Listed company (for positions currently held).*

Mr. Alexandre OSSOLA

Born on 26 September 1974 (45 years old) – French nationality
Permanent representative of Bpifrance Participations

First appointment: 8 November 2016
End of term: 2020 OSM

Summary of main areas of expertise and experience

- Twenty-two years' experience in capital investment and mergers-acquisitions
- Started his career in London at Wasserstein Perella (1998) then at Crédit Suisse First Boston
- CVC Capital Partners (2000-2011); Director at the Paris office
- Head of capital risk operations at CDC Climat (2011-2013)
- Director of nuclear and rail funds (2013-2015), then manager of Fonds d'Avenir Automobile and a member of the Mid & Large Cap Management Committee of Bpifrance Participations (2015-2017), manager of MidCap activity of Fonds d'Avenir Automobile and member of the Capital Development Management Committee of Bpifrance Participations (since 2017)

Main activities performed outside of the Company

- Member of the Capital Development Management Committee of Bpifrance
- Manager of MidCap activity of Bpifrance and Fonds d'Avenir Automobile, managed by Bpifrance

Positions held by Mr. Alexandre OSSOLA

Positions currently held

- Permanent representative of Bpifrance Participations, member of the Supervisory Board of Vallourec*
- Member of the Capital Development Management Committee for Bpifrance Participations and Manager of Mid Cap activity of Bpifrance and Fonds Avenir Automobile, managed by Bpifrance
- Non-voting Board member *(censeur)* of the Supervisory Board of Peugeot SA*
- Permanent representative of Bpifrance Investissement, member of the Supervisory Committee of Novares Group SAS (formerly Financière Mecaplast SAS)
- Permanent representative of Bpifrance Investissement, member of the Board of Directors of Trèves SAS
- Permanent representative of Bpifrance Investissement, member of the Supervisory Board of Novarc SA
- Member of the Supervisory Board of Financière Aquila

Positions expired within the last five years

- Member of the Shareholders' Committee of Cameron France Holding (until 2018)
- Permanent representative of Bpifrance Investissement, member of the Supervisory Board of Financière Snop Dunois SA (until 2017)
- Member of the Board of Directors of Climpact (until 2017)
- Member of the Board of Directors of Mecaplast SAM (until 2016)

* *Listed company (for positions currently held).*

Ms. Laurence BROSETA

Born on 22 September 1968 (51 years old) – French nationality
Member of the Supervisory Board
Chairman of the Corporate Social Responsibility Committee

First appointment: 6 April 2016
Renewal: 2018 OSM
End of term: 2022 OSM
Vallourec shares held: 1,436

Summary of main areas of expertise and experience

- Graduate of *École polytechnique,* Telecom Paris and Auditor at *Institut des hautes études de l'entreprise* (IHEE)
- Head of Transport Operations for RATP (1994-1999)
- Lead Engineer for Control & Communication at SYSTRA (joint venture between RATP and SNCF) in London (1999-2001)
- Director of the "Point du Jour" Bus Center (2002-2005)
- Chairman of Bombela, a subsidiary of RATP Dev in Johannesburg, South Africa (2005-2007)
- Director of the International Business Unit and Vice Chairman in charge of international strategy for RATP Dev (2008-2012)
- CEO of Fives Stein (2012-2013)
- CEO France of Transdev (2013-2016), International Director of Transdev (2016-March 2019)

Main activities performed outside of the Company

- Chairman of Antargaz, VP West Europe at UGI International

Positions held by Ms. Laurence BROSETA

Positions currently held

- Member of the Supervisory Board of Vallourec*
- President of Antargaz, VP West Europe of UGI International
- Director of Thales*

Positions expired within the last five years

- International Director, member of the Executive Committee of Transdev (passenger transportation activity in 20 countries) and Director of RATP Dev Asia and of subsidiaries of the Transdev group (until March 2019)
- Director and Vice-President of *Union des Transports Publics* (until 2016)
- Director of Thello (until 2016)

* *Listed company (for positions currently held).*

Mr. Antoine CAHUZAC

Born on 29 October 1954 (65 years old) – French nationality

Member of the Supervisory Board
Member of the Finance and Audit Committee
Member of the Appointments, Compensation and Governance Committee

First appointment: 18 February 2020
End of term: 2023 OSM
Vallourec shares held: 500

Summary of main areas of expertise and experience

- Graduate of the *École polytechnique* and the *École de la météorologie nationale*
- He has spent the majority of his career in banking. Senior Corporate Advisor and Member of the Executive Committee of HSBC France (2008), then Chairman of the Management Board of HSBC Private Bank France (2011)
- Executive Director EDF Group, head of Renewable Energies and Chairman & Chief Executive Officer EDF Energies Nouvelles, member of the Executive Committee of EDF Group (2012-2018)

Main activities performed outside of the Company

- Director of companies

Positions held by Mr. Antoine CAHUZAC

Positions currently held

- Member of the Supervisory Board of Vallourec*
- Director of Hynamics (subsidiary of EDF)
- Director of Fouré Lagadec (subsidiary of the SNEF Group)

Positions expired within the last five years

- Advisor to the Chairman of EDF (until 2018)
- Group Executive Director in charge of Renewable Energies, and Chairman & CEO of EDF Énergies Nouvelles, member of the Executive Committee of the EDF Group (until 2018)

Ms. Pascale CHARGRASSE

Born 10 July 1960 (59 years old) – French nationality

Member of the Supervisory Board representing the employee shareholders
Member of the Appointments, Compensation and Governance Committee

First appointment: 13 December 2010
Renewal: 2015 OSM, 2019 OSM
End of term: 2023 OSM
Vallourec shares held: 8,327

Summary of main areas of expertise and experience

- Graduate of the Orsay Technology Institute with a DUT diploma in Computer Science
- Employee of the Vallourec Group since 1985 and currently Business Development Manager at Valinox Nucléaire, a wholly owned subsidiary of Vallourec
- Member of the Supervisory Board of Vallourec Actions Corporate Mutual Fund (FCPE)
- Union representative on the Group Committee

Main activities performed outside of the Company

None

Positions held by Ms. Pascale CHARGRASSE

Positions currently held

- Member of the Supervisory Board of Vallourec*

Positions expired within the last five years

None

* *Listed company (for positions currently held).*

Mr. Mickaël DOLOU

Born on 1 November 1975 (44 years old) – French nationality
Member of the Supervisory Board representing employees
Member of the Appointments, Compensation and Governance Committee

First appointment: 3 October 2017
End of term: 2021 OSM
Vallourec shares held: 2,524

Summary of main areas of expertise and experience

- Holder of an executive MBA from HEC Paris and a Master's in Law (international affairs)
- Fourteen years at the Serimax Group: Legal Director, and then Regional Director for the South American region, Director of Contractual Offers and Operations and Regional Director in charge of marketing, commercial development and contractual offers

Main activities performed outside of the Company

None

Positions held by Mr. Mickaël DOLOU

Positions currently held

- Member of the Supervisory Board of Vallourec*

Positions expired within the last five years

None

Mr. Yuki IRIYAMA

Born on 19 November 1947 (72 years old) – Japanese nationality
Member of the Supervisory Board

First appointment: 12 May 2017
End of term: 2021 OSM
Vallourec shares held: 500

Summary of main areas of expertise and experience

- Graduate of the University of Tokyo (Faculty of Law, 1970) and of the College of Europe (Bruges) in Belgium in Advanced European Studies in Law (1977)
- Forty-five years at Nippon Steel (NSC), assuming the following operational and managerial positions: Member of the Legal Department (1970-1990), Manager of the Electronics & Information Business Division (1990-1993), General Manager of the Semi-conductor Business Division (1993-1998), General Manager of the Overseas Business Development Division (1999-2002), Director, Member of the Board (2002-2006), Managing Executive Officer (2006-2009), and Executive Advisor (2009-2015)
- Attorney-at-law in Japan since March 2015

Main activities performed outside of the Company

- Of Counsel at the Kajitani Law Offices in Tokyo

Positions held by Mr. Yuki IRIYAMA

Positions currently held

- Member of the Supervisory Board of Vallourec*
- Statutory Auditor at UACJ (United Aluminum Corporation of Japan)

Positions expired within the last five years

None

* *Listed company (for positions currently held).*

Mr. Jean-Jacques MORIN

Born on 29 December 1960 (59 years old) – French nationality
Member of the Supervisory Board
Chairman of the Finance and Audit Committee

First appointment: 25 May 2018
End of term: 2022 OSM
Vallourec shares held: 500

Summary of main areas of expertise and experience

- Engineer, graduate of the *École nationale supérieure de l'aéronautique et de l'espace,* DSCG *(diplôme supérieur de comptabilité et gestion)* – Advanced Diploma in Accounting and Management – and holder of an MBA from Thunderbird School, Arizona State University
- He began his career in Management Consulting and Auditing at the Deloitte offices in France and Canada, where he worked for 13 years in the field of semiconductors, notably at Motorola in France, Switzerland, Germany and the United States
- Sector CFO of Power Service and Transport at Alstom, and later CFO of the Alstom Group (2005-2015)
- In 2015, he joined the Executive Committee of AccorHotels* as CFO, then widened his scope by becoming Deputy CEO in charge of finance, communications, and strategy (since 2018)

Main activities performed outside of the Company

- Deputy CEO in charge of finance, communications, and strategy at AccorHotels*

Positions held by Mr. Jean-Jacques MORIN

Positions currently held

- Member of the Supervisory Board of Vallourec*
- Member of the Supervisory Board and member of the Audit Committee of Orbis*
- Member of the Management Board and member of the Audit Committee of Accor Invest
- Chairman of IBL
- Manager of Sodetis

Positions expired within the last five years

- Member of the Board of Directors of AAPC India Hotel Management Private Ltd (until 2018)

* *Listed company (for positions currently held).*

OFFICES OF MEMBERS OF THE SUPERVISORY BOARD WHICH ENDED IN 2020

Mr. Philippe ALTUZARRA

Born on 3 April 1950 (69 years old) – French nationality

First appointment: 28 May 2015
Renewal: 2019 OSM
End of term: 18 February 2020 (resignation)

Summary of main areas of expertise and experience

- Graduate of Sciences Po Bordeaux and of the *École nationale d'administration*
- He began his career at the Ministry of Finance in 1973: Technical advisor at the Office of the Secretary of State for Defense (1973-1975), Economic Attaché at the French Embassy in London (1975-1978), Civil Administrator, French Trade Directorate (1981-1986), Economic Advisor at the French Embassy in Tokyo (1986-1989)
- Member of the Executive Committee, Deputy CFO of the Havas Group (1989-1993)
- Twenty-one years at Goldman Sachs (1993-2014)

Main activities performed outside of the Company

- Director of Altuzarra LLC
- Member of the Nuclear Commitment Financial Expertise Committee of Électricité de France (EDF)*

Positions held by Mr. Philippe ALTUZARRA

Positions currently held

- Director of Altuzarra LLC
- Member of the Nuclear Commitment Financial Expertise Committee of Électricité de France (EDF)*
- Member of the Consulting Board of EDF* Invest

Positions expired within the last five years

- Member of the Supervisory Board of Vallourec (until February 2020)
- Chairman of the Supervisory Board of La Redoute (until 2018)

Ms. Alexandra SCHAAPVELD

Born on 5 September 1958 (61 years old) – Dutch nationality

First appointment: 31 May 2010
Renewals: 2014 OSM, 2018 OSM
End of term: 12 February 2020 (resignation)

Summary of main areas of expertise and experience

- Graduate of the University of Oxford with a degree in Philosophy, Politics and Economics and of Erasmus University Rotterdam with a Master's in Economics of Development
- Twenty five years' experience with the ABN AMRO Group (Netherlands):
- Head of Sector Expertise for the ABN AMRO Group (2001-2004)
- Director of Investment Banking Division of the ABN AMRO Group (2004-2007)
- Director for Europe of Royal Bank of Scotland (2007-2008)

Main activities performed outside of the Company

- Director of companies

Positions held by Ms. Alexandra SCHAAPVELD

Positions currently held

- Director of Société Générale*
- Member of the Supervisory Board of Bumi Armada Berhad* (Malaysia)
- Member of the Supervisory Board of FMO (Netherlands)

Positions expired within the last five years

- Member of the Supervisory Board of Vallourec (until February 2020)
- Member of the Supervisory Board of Holland Casino (until 2016)

* *Listed company (for positions currently held).*

HONORARY CHAIRMEN

Mr. Jean-Paul PARAYRE

French nationality

Honorary Chairman of Vallourec since 31 May 2013

Expertise and managerial experience

- Graduate of *École polytechnique*
- Chairman of the Management Board of PSA Peugeot-Citroën (1977-1984)
- CEO then Chairman of the Management Board of Dumez (1984-1990)
- Vice-President and CEO of Lyonnaise des Eaux Dumez (1990-1992)
- Vice-President and CEO of Bolloré (1994-1999)
- Chairman and CEO of Saga (1996-1999)
- Chairman of the Supervisory Board of Vallourec (2000-2013)

Mr. Arnaud LEENHARDT

French nationality

Honorary Chairman of Vallourec since 15 June 2000

Expertise and managerial experience

- Graduate of *École polytechnique*
- Forty three years with the Vallourec Group, mainly in Plant and General Management
- Chairman and CEO of Vallourec (1981-1994)
- Chairman of the Supervisory Board of Vallourec (1994-2000)
- Non-voting Board member *(censeur)* of the Supervisory Board of Vallourec (2006-2010)

7.1.2 Operation of the Management and Supervisory Boards

7.1.2.1 Duties, responsibilities and structure of the Management Board

The Management Board is in charge of the Company's management and of running its activities. The Management Board has, with regard to third parties, the broadest powers to act under all circumstances in the name of the Company, within the limit of the corporate purpose, and subject to the powers expressly provided by law to the Supervisory Board and Shareholders' Meetings, and those which require the prior authorization of the Supervisory Board, in application of the bylaws and, where applicable, internal regulations (see paragraph 7.1.2.2 below). It meets once a week.

In compliance with the bylaws, the Management Board is comprised of a minimum of two and a maximum of five members who are appointed for a four-year term and, as the case may be, reappointed by the Supervisory Board. As at 29 February 2020, the Management Board was comprised of two members (see paragraph 7.1.1.1 above).

The members of the Management Board may be dismissed by the Supervisory Board or the Shareholders' Meeting.

The Management Board has adopted internal regulations, available on the Company's website, which consist of an internal document intended to organize its operation and relations with the Supervisory Board. It is not enforceable against third parties.

7.1.2.2 Duties, responsibilities and structure of the Supervisory Board

The Supervisory Board is the Company's control body, management being performed by the Management Board. The Supervisory Board ensures that the strategy applied by the Management Board is suited to the guidelines it has approved.

To that end, the role of the Supervisory Board is twofold:

- to provide ongoing control of the Company's management through the Management Board, by performing the checks and controls it deems appropriate;
- to provide periodic control of the Company's management: once per quarter for the activities report which the Management Board presents to it, and within three months of the close of each fiscal year, at the time of the Management Board's presentation of the annual financial statements, consolidated financial statements and management report intended for the Ordinary and Extraordinary Shareholders' Meeting, as well as during the presentation of the interim financial statements.

In addition to the legal obligations of prior authorizations (sureties, securities and guarantees), the Supervisory Board gives its authorization prior to the Management Board carrying out the following actions:

- completing any capital increases in cash or by capitalization of reserves authorized by a Shareholders' Meeting;
- completing any other issue of transferable securities that could later give access to the capital, authorized by a Shareholders' Meeting;

- proceeding with a buyback by the Company of its own shares;
- granting to executive management and/or Group employees options to subscribe for or purchase the Company's shares, granting shares free of charge or any other benefits of a similar nature under the terms of authorizations granted by the Shareholders' Meeting; and
- establishing any projected merger or partial transfer of assets, entering into or refusing any industrial or commercial agreement with other companies that could affect the Company's future and, more generally, completing any major transaction (such as external operations for the acquisition or disposal of significant investments in organic growth or internal restructuring operations) (i) that could materially alter the business scope or financial structure of the Group or the type of risks it incurs or (ii) which falls outside of the Group's declared strategy.

Where applicable, the prior authorization of the Supervisory Board is required for both Vallourec and the companies it controls under the terms of Article L. 233-16 of the French Commercial Code *(Code de commerce)* (tax consolidation scope).

The Supervisory Board determines the composition of the Management Board, appoints its members and may remove them from office. It may likewise propose to the Shareholders' Meeting that their duties be terminated. Once a year, the Supervisory Board evaluates the performance of the Management Board and leads a discussion as to its future, within the context of its work on the succession plan (see paragraph 7.1.2.5 below).

The Supervisory Board sets the compensation of members of the Management Board as well as the number of share subscription or share purchase options and/or performance shares they are allocated, or any other benefit of a similar nature.

It determines the terms and conditions for receiving attendance fees, and their distribution among the Board members. It likewise determines the compensation of the Chairman and, where applicable, the Vice-Chairman, and the resources allocated to them for performing their duties.

The Chairman of the Supervisory Board sets the agenda for each Supervisory Board meeting, upon consulting with the Chairman of the Management Board.

Once per quarter, the Management Board presents a report to the Supervisory Board which describes as completely as possible the progress of the Group's affairs, as well as any useful information about its financial position, cash flow, commitments and liquidity.

The Management Board consults the Supervisory Board about the dividend to be proposed to the Shareholders' Meeting. At the end of the year, it submits the budget, forecast capital expenditure program and financing plan for the following year together with the strategy plan.

At its meetings, the Supervisory Board can ask the Management Board to supplement its information on particular matters with a presentation at the next meeting.

In the performance of its duties, the Supervisory Board is regularly informed, by the Management Board, through its Chairman, of any significant event concerning the Group's performance. It ensures that the latter keeps it informed of all matters that it deems useful and necessary in the exercise of its supervisory role. In order to ensure the process operates correctly, the Chairman of the Supervisory Board, at the initiative of any member of the Board, gathers this information. The specific information required by each of the Committees of the Supervisory Board for the performance of its duties is gathered by the Chairman of each Committee in collaboration with the Management Board.

In addition to the above provisions, information is provided to the Supervisory Board on an ongoing basis through a frequent, regular dialog between the Chairman of the Supervisory Board and the Chairman of the Management Board.

As an exception to the above, if any member of the Supervisory Board finds himself or herself in a conflict of interest situation, even a potential one, concerning a subject to be debated by the Board, the Chairman of the Supervisory Board ensures, with the support of the Appointments, Compensation and Governance Committee, that information concerning this subject is not communicated to the member in question, without prejudice to the latter's obligations, as described below.

The Vallourec Supervisory Board has adopted, and regularly updates, its internal regulations, which are designed to formalize its operating and organizational rules, and work methods. These regulations are strictly internal and are not intended to and do not replace the Company bylaws or the laws and regulations governing commercial companies. They may be amended or added to at any time as a result of a decision made by the Supervisory Board. They have been regularly revised to ensure that their terms are consistent with the new statutory and regulatory provisions.

The Supervisory Board elects a Chairman and Vice-Chairman from among its members, for a maximum term corresponding to their term of office as a Supervisory Board member. The Chairman and Vice-Chairman may be reelected or removed at any time by the Supervisory Board. They are in particular responsible for convening the Board and directing its deliberations, it being specified that the powers of the Vice-Chairman are exercised if the Chairman is absent or at the Chairman's request, and under the same conditions. The Vice-Chairman alerts the Chairman to observations regarding compliance with the ethics obligations established by the Board's internal regulations.

The Supervisory Board may appoint from among its members (including the Vice-Chairman), a Lead Member for a term not to exceed that of his position as a member of the Supervisory Board. The person may be reappointed, and his/her duties as a Lead Member may be revoked at any time by the Supervisory Board. The Lead Member acts in a precautionary manner to raise awareness about conflicts of interest among the members of the Supervisory Board, and draws said Board's attention to any conflict of interest situation that has been identified, even a potential one. The member likewise is responsible for ensuring compliance with the internal regulations, and for making sure that the members of the Supervisory Board are able to perform their task under optimum conditions, and are provided with a high level of information ahead of the Supervisory Board meetings. The Lead Member assists the Chairman of the Supervisory Board, at the latter's request, in responding to shareholders' requests, and makes himself or herself available to meet with them and note their comments and suggestions, when requested and with the consent of the Supervisory Board Chairman. The member makes an annual report to the Supervisory Board on the performance of his/her assignment, in a formal assessment of the operation of the Supervisory Board.

Under the terms of its ethics obligations, each member of the Supervisory Board is required:

- before accepting office, to acknowledge the general or specific obligations for which he/she is responsible, and in particular the legal or regulatory texts, the recommendations of the AFEP-MEDEF Code and any supplements the Board may have added, along with the Board's internal operating rules;
- to participate, unless specifically prevented, in Board meetings and, where applicable, the meetings of the Committee(s) to which he/she belongs, as well as in the Shareholders' Meetings;
- to request information. To that end, he/she must request, within the appropriate time frames, the information required for him/her to actively participate in the subjects on the Board's agenda and, if applicable, the agenda of the Committee(s) to which he/she belongs;

- to comply with the legal and regulatory obligations arising from his/her position and, in particular, to comply with the law and the recommendations of the AFEP-MEDEF Code relating to the plurality of offices;
- to behave as a representative of all the shareholders and act in the Company's interest at all times;
- to inform the Supervisory Board of any conflict of interest situation, even a potential one, and to refrain from voting on any issue examined by the Board that would result in a conflict of interest;
- to personally be a shareholder of the Company throughout the entire term of their office, under the conditions set by the bylaws and internal regulations of the Board, with a minimum of 500 Vallourec shares[(1)];
- with regard to the confidential information obtained in the course of his/her duties, to consider himself/herself as a person who exercises directorship responsibilities and has access to privileged information and, as such, in particular, to respect the provisions laid down by the Company concerning the periods during which persons with access to privileged information may not buy, sell or take positions in the Company's shares or in any other financial instrument linked to the Vallourec share (options, warrants, etc.), i.e. the thirty (30) calendar days preceding the releases of annual and semiannual results, and fifteen (15) calendar days preceding first quarter and third quarter results, as well as the day of publication and the following day, without prejudice to the current statutory and regulatory provisions on "insider trading";
- to consider himself/herself bound by true professional privilege with regard to all non-public information, regardless of the material (written or verbal) that is collected within the context of his/her duties, during a meeting of the Board or of a Committee (in particular the files of the Board and Committees, discussions, debates and deliberations of the Board and Committees), or between two meetings (ongoing information), and to take all necessary measures to preserve confidentiality, in particular by refraining from communicating this information to a third party when it has not been made public;
- to disclose, under the conditions established by statutory and regulatory provisions, to the French securities regulator *(Autorité des marchés financiers)* and the Company, the transactions carried out with the financial instruments issued by the Company;
- to comply with the *"Code de bonne conduite relatif aux opérations sur titres de Vallourec et aux opérations d'initié"* ("Code of best practice on securities transactions in Vallourec shares and on insider trading"); and
- to comply with the ethical rules of Article 19 of the AFEP-MEDEF Corporate Governance Code.

Once a year, an item on the Supervisory Board's agenda is dedicated to the formal assessment of the operation of the Supervisory Board; the corresponding findings for fiscal year 2019 are presented in Section 7.1.2.5 of this Chapter.

When first appointed, the members of the Supervisory Board receive a guide containing all the documents concerning the Group's governance (the bylaws, the internal regulations, the AFEP-MEDEF Corporate Governance Code, the Code of Best Practices, etc.) and the Group's activities. At the request of members, visits are arranged to plants in France and abroad.

The members also have the opportunity, if they so wish, to learn about specific aspects concerning the Group, its businesses, sector of activity and organization. At the request of members, the Group may also organize internal and external training sessions specific to their role as a member of the Supervisory Board. Internal training is provided by the Group's Legal Director based on the Group's corporate and stock exchange documentation and any particular questions raised by the member before the training meeting. It is supplemented by external training provided by an independent organization specializing in training for Company Directors.

The members of the Supervisory Board are able to meet with the primary senior executives of the Group, including without members of the Management Board being present. In the latter case, said members must have been informed first. In order to ensure the process operates correctly, requests by any member for a meeting with the primary senior executives of the Group are made to the Chairman of the Supervisory Board.

7.1.2.3 Structure of the Supervisory Board Committees

Each Committee has internal regulations, available on the Company's website, which aim to specify the role, composition, and rules of operation of the Committee. These regulations are strictly internal and are not intended to and do not replace the Company bylaws or the laws and regulations governing commercial companies.

For each meeting, a preparatory set of papers is sent out several days in advance. At the meeting, each presentation is made, where applicable, in the presence of one or more members of the Management Board, by the specialist senior executive for the issue concerned and followed by discussion. A report of the meetings is prepared for the members of the Supervisory Board.

To fulfill their role, the Committees may conduct, or arrange to have conducted, any analysis, using external experts if required, which will be charged to the Supervisory Board's operating budget. They may invite any external persons of their choice to their meetings. In the event that outside consulting services are used, the Committee must ensure that the advice in question is independent, objective and competent.

Each year, the Committee evaluates its activities and reports on them to the Supervisory Board.

7.1.2.4 Independence of the members of the Supervisory Board

The annual review of the independence of the members of the Supervisory Board was conducted by the Supervisory Board on 18 February 2020, at the recommendation of the Appointments, Compensation and Governance Committee. The Supervisory Board considered all of the criteria of the AFEP-MEDEF Code to evaluate the independence of its members, namely:

- **Criterion 1: employee corporate officer during the previous five years**

  Not being an employee or executive corporate officer of the Company, nor an employee, executive corporate officer or Director of a company consolidated with it, and not having been in such a position for the preceding five years.

(1) *Starting on the day of their appointment, members of the Supervisory Board must hold at least 50 Vallourec shares. The 450 additional shares must be acquired by 31 December of the year following the year they take office, in order to allow them to use their attendance fees to acquire them. These provisions do not apply to members representing employees (whether or not they are shareholders).*

- **Criterion 2: cross-directorships**

  Not being an executive corporate officer in a company in which the Company directly or indirectly holds a directorship or in which an employee, appointed as such, or an executive corporate officer of the Company (currently or who was in such a position less than five years ago) holds a directorship.

- **Criterion 3: significant business relationships**

  Not being a customer, supplier, investment banker, lending banker, or advisor (or being directly or indirectly linked to these people):

  - of significance for the Company or its Group; or
  - for which the Company or its Group represents a significant portion of activity.

- **Criterion 4: family connection**

  Not having a close family connection with a corporate officer.

- **Criterion 5: Statutory Auditors**

  Not having been Statutory Auditors of the Company during the last five years.

- **Criterion 6: term of office of more than twelve years**

  Not being a member of the Company's Board for more than twelve years, noting that Independent Director status is lost after twelve years.

- **Criterion 7: non-executive corporate officer status**

  A non-executive corporate officer cannot be considered independent if they receive variable compensation in cash, shares, or any other compensation related to the Company's or the Group's performance.

- **Criterion 8: major shareholder status**

  The members representing major shareholders of the Company or of the parent company can be considered independent from the moment these shareholders do not have control over the Company. However, beyond a threshold of 10% of capital or of voting rights, the Board, on the report of the Appointments, Compensation and Governance Committee, systematically questions qualification as an independent member, taking into account the composition of the Company's capital and the existence of potential conflicts of interest.

The Supervisory Board noted that Bpifrance Participations, which held 14.56% of the Company's capital and 15.66% of its theoretical voting rights as at 31 December 2019, is not an independent member of the Supervisory Board.

The Supervisory Board also considered that Mr. Yuki Iriyama, appointed by the Shareholders' Meeting of 12 May 2017, at the proposal of Nippon Steel Corporation (NSC, formerly NSSMC), a strategic partner and major shareholder who, as at 31 December 2019, held 14.56% of the capital and 14.60% of the theoretical voting rights of the Company, in accordance with the terms of a shareholders' agreement, is not an independent member of the Supervisory Board, despite specific measures to prevent access to competitive information and the fact that Mr. Yuki Iriyama sits on the Board in a personal capacity.

The Supervisory Board has debated whether or not to assess the relationship maintained by Board members with Vallourec or its Group, along with the potential conflicts of interest this could generate, as being significant. Within this framework it has conducted a more specific in-depth examination of the following members, upon which it issued the findings below:

- Ms. Pascale Chargrasse, who represents employee shareholders on Vallourec's Supervisory Board, has been an employee of the Group since 1985 and should thus be considered a non-independent member in application of the criteria of the AFEP-MEDEF Code. The Supervisory Board nevertheless noted that the AFEP-MEDEF Code excluded employee shareholders from the analysis of independent members, and thus did not recognize Ms. Pascale Chargrasse when determining the proportion of independent members;
- Mr. Mickaël Dolou, who represents employees on Vallourec's Supervisory Board, has been an employee of the Vallourec Group since 2006 and should thus be considered a non-independent member in application of the criteria of the AFEP-MEDEF Code. The Supervisory Board nevertheless noted that the AFEP-MEDEF Code excluded the member representing employees from the analysis of independent members, and thus did not recognize Mr. Mickaël Dolou when determining the proportion of independent members;
- Ms. Vivienne Cox is Chairman of the Supervisory Board. The balance of dual corporate governance in which the Supervisory Board has a role, and which is essentially based on controlling the action of the Management Board and is governed by a principle of non-interference in management, in principle avoids all risk of a conflict of interest unless one of the other criteria for evaluating independence applies. The Supervisory Board confirmed Ms. Vivienne Cox's independence for the following reasons:
  - Ms. Vivienne Cox joined Vallourec's Supervisory Board in 2010, after having spent her entire career outside of the Group,
  - Ms. Vivienne Cox was never an employee of Vallourec, nor an executive corporate officer of the Group,
  - the companies in which Ms. Vivienne Cox holds a position as a corporate officer have no business relationships with the Vallourec Group, and
  - Ms. Vivienne Cox collects fixed compensation, excluding any variable compensation in cash, shares, or any other compensation related to the Company's or the Group's performance, which could impact the objectivity of her judgment.

The business relationships maintained between (i) the companies (excluding the Group) in which the other members of the Supervisory Board hold offices, on the one hand, and (ii) the Group, on the other, were reviewed but deemed insignificant both in quantitative terms with regard to their amount, which was less than 1% of the Group's revenue, and in qualitative terms assessed with particular regard to the continuity, importance, and the organization of the relationship.

Based on these findings, it appears, at the date of this Universal Registration Document, that all Board members, with the exception of Bpifrance Participations and Mr. Yuki Iriyama, must be considered to have no interest vis-à-vis the Company and that, consequently, the proportion of independent members of the Supervisory Board stands at 82%, in application of the AFEP-MEDEF Code.

In compliance with the recommendations of the French securities regulator *(Autorité des marchés financiers),* the table below presents the position of each of the members of the Supervisory Board, at the date of this Universal Registration Document, with regard to the criteria of independence examined by the Supervisory Board and its Appointments, Compensation and Governance Committee:

Criteria(1)	1: Employee corporate officer during the previous five years	2: Cross-directorships	3: Significant business relationships	4: Family connection	5: Statutory Auditor	6: Term of office of more than 12 years	7: Non-executive corporate officer status	8: Major shareholder status
Vivienne Cox	◇	◇	◇	◇	◇	◇	◇	◇
Pierre Pringuet	◇	◇	◇	◇	◇	◇	◇	◇
Maria-Pilar Albiac-Murillo	◇	◇	◇	◇	◇	◇	◇	◇
Cédric de Bailliencourt	◇	◇	◇	◇	◇	◇	◇	◇
Virginie Banet	◇	◇	◇	◇	◇	◇	◇	◇
Corine de Bilbao	◇	◇	◇	◇	◇	◇	◇	◇
Bpifrance Participations represented by A. Ossola	◇	◇	◇	◇	◇	◇	◇	◆
Laurence Broseta	◇	◇	◇	◇	◇	◇	◇	◇
Antoine Cahuzac	◇	◇	◇	◇	◇	◇	◇	◇
Pascale Chargrasse	◆	◇	◇	◇	◇	◇	◇	◇
Mickaël Dolou	◆	◇	◇	◇	◇	◇	◇	◇
Yuki Iriyama	◇	◇	◇	◇	◇	◇	◇	◆(2)
Jean-Jacques Morin	◇	◇	◇	◇	◇	◇	◇	◇

(1) *In this table,* ◇ *means that the independence criterion has been met and* ◆ *that it has not been met.*

(2) *Mr. Yuki Iriyama was appointed by the Shareholders' Meeting at the proposal of Nippon Steel Corporation (NSC, formerly NSSMC), a strategic partner and major shareholder, in compliance with the terms of a shareholders' agreement.*

7.1.2.5 Conditions for preparation and organization of work of the Supervisory Board

as at 31 December 2019

In order to best ensure that Board members are able to attend meetings, the schedule of meetings for the year is prepared approximately one year in advance.

The actual attendance rate of members at Supervisory Board meetings, calculated as a ratio of the number of members present to the total number of members, was 96% for all of the meetings held in 2019.

The members of the Management Board were present at all of the meetings. The Supervisory Board nevertheless makes sure that a portion of its meetings are held without the Management Board being present, in particular for items on the agenda that directly concern them.

Each meeting is confirmed on average one week in advance by sending a notice of meeting, which is enclosed with the agenda as well as a file containing, except in certain cases, all of the supporting documents relating to the subjects recorded in the Supervisory Board's agenda. This information is sent through a highly secure platform, which is only accessible to the members of the Board using their individual personal identifiers. Where necessary, the Supervisory Board relies on preliminary work carried out by the Committees.

Meetings are chaired by the Supervisory Board Chairman, who ensures, in particular, that each member expresses his/her opinion on important matters. Any conflicts of interest are handled in conformity with the principles indicated in paragraph 7.1.5 of this Universal Registration Document.

The Company's Statutory Auditors attend the Supervisory Board meetings at which the annual and interim financial statements are reviewed.

7.1.2.6 Activities of the Supervisory Board and Committees in 2019

ACTIVITIES OF THE SUPERVISORY BOARD

In 2019, the Board met nine times. The average length of its meetings was approximately four hours and thirty minutes.

As regards the conducting of business, the work of the Supervisory Board primarily concerned:

- an examination of the annual, semiannual and quarterly financial statements, and of the budget;
- an examination of quarterly business reviews of the Management Board;
- safety developments at the industrial sites;
- monitoring of strategic projects;
- developments in markets and competition;
- risk mapping;
- the system to prevent and detect corruption and influence peddling;

- the financing policy;
- the Group's internal control and audit policy;
- the Group's guidelines on Corporate Social Responsibility;
- reviewing the customer portfolio;
- the competitiveness of the Group;
- a mining investment project in Brazil;
- the Group's industrial processes;
- opportunities presented by the energy transition;
- the R&D and Innovation strategy;
- the Group's new program to promote diversity.

In accordance with the areas of improvement identified in the 2016 Supervisory Board evaluation, members of the Executive Committee gained increased access to the Supervisory Board, presenting regional and subject-specific issues to it. The Supervisory Board therefore heard the Directors of the South America and North America Regions present the challenges and strategies of the regions for which they are responsible.

The Supervisory Board moreover traveled to Valenciennes, France, to visit the Aulnoye research site in order to deepen its understanding of the importance of innovation and of the Group's research and development in this region, and to meet the main local supervisors. A Supervisory Board meeting was held on site.

Regarding the Governance plan, the Supervisory Board worked on the following subjects in particular:

- the Management Board succession plan;
- the compensation policy for corporate officers;
- the compensation of members of the Management Board for 2018 and 2019, as well as the report on compensation for the purpose of implementing the Say on Pay mechanism;
- Vallourec's policy on enabling the personnel to share in the Group's net profits;
- policy on the composition of the Supervisory Board;
- the composition of the Supervisory Board and its Committees;
- the independence of the Board members;
- compliance of Group governance with the recommendations of the AFEP-MEDEF Code;
- the policy and action plans on professional equality and more balanced representation of women and men within the management bodies;
- preparation for the Annual Shareholders' Meeting.

DUTIES, RESPONSIBILITIES AND ACTIVITIES OF THE CHAIRMAN OF THE SUPERVISORY BOARD

In addition to her legal duties, the Chairman is specifically tasked with the following:

- speaking with members of the Management Board and Executive Committee about certain significant and strategic events for the Company, in particular when preparing for meetings of the Strategy Committee, which she chairs, and more generally when preparing for meetings of the Supervisory Board;
- participating in certain Board Committees;
- ensuring the Supervisory Board is balanced, by participating in the process of selecting new members and considering renewal of offices that are expiring;
- ensuring proper integration of new members within the Supervisory Board;
- ensuring proper completion of the annual operating evaluation of the Supervisory Board and individually relaying comments regarding each member's actual contribution to the work of the Board to the members concerned;
- ensuring implementation of the areas for improvement identified as part of the annual operating evaluation of the Supervisory Board.

In 2019, the Chairman's activity was specifically devoted to the following points:

- interviews relating to the Management Board succession plan;
- participation in the process of selecting new members of the Supervisory Board and interviews with the new members as part of their integration process;
- interviews with the Management Board on the continued implementation of the Transformation Plan;
- preparation, with the teams concerned, of Strategy Committee meetings;
- participation, as a guest, at all meetings of the Finance and Audit Committee;
- interviews with Supervisory Board members whose term is expiring about their contributions;
- monitoring of the action plan to implement the areas for improvement identified as part of the annual operating evaluation of the Supervisory Board;
- study of the act related to business growth and transformation *(Pacte)*.

MANAGEMENT BOARD SUCCESSION PLAN

The Supervisory Board, assisted by the Appointments, Compensation and Governance Committee, helps prepare for the future by formulating and regularly reviewing the succession plan for members of the Management Board.

The process is primarily handled by the Chairman of the Supervisory Board, who works closely with the Appointments, Compensation and Governance Committee, with the help of an external specialized firm. The Chairman of the Management Board is personally involved in this process. The Supervisory Board is regularly informed of the progress of this work, without the Management Board being present, in an effort to ensure compliance with the Company's strategic issues.

The succession plan envisages several time periods: a short-term plan in case of an unexpected vacancy; a medium-term plan anticipating the end of the officers' terms, and a long-term plan focused on the existing pool of potential candidates, in particular within the Executive Committee. Internal candidates who have been identified as having high potential benefit from specific training and assistance.

The people involved in this process strictly respect confidentiality.

ATTENDANCE OF THE MEMBERS OF THE SUPERVISORY BOARD IN 2019

Attendance	Supervisory Board	Finance and Audit Committee	Appointments, Compensation and Governance Committee	Strategy Committee	CSR Committee
Vivienne Cox (Chairman of the Supervisory Board)	100% (9/9)	–	–	100% (3/3)	
Pierre Pringuet (Lead Member and Vice-Chairman of the Supervisory Board)	100% (9/9)	–	100% (6/6)	–	
Maria-Pilar Albiac-Murillo	78% (7/9)	–	–	–	75% (3/4)
Philippe Altuzarra	100% (9/9)	–	–	100% (3/3)	100% (4/4)
Cédric de Bailliencourt	100% (9/9)	–	–	–	
Corine de Bilbao	100% (7/7)				
Bpifrance Participations, represented by Alexandre Ossola	78% (7/9)	100% (6/6)	–	100% (3/3)	
Laurence Broseta	89% (8/9)	–	100% (5/5)	–	100% (4/4)
Pascale Chargrasse	100% (9/9)	–	100% (6/6)	–	
Mickaël Dolou	100% (9/9)	–	67% (4/6)	–	
Yuki Iriyama	100% (9/9)	–	–	–	
Jean-Jacques Morin	100% (9/9)	100% (6/6)	–	–	
Alexandra Schaapveld	100% (9/9)	100% (6/6)	83% (5/6)	–	
AVERAGE ATTENDANCE RATE	**96%**	**100%**	**90%**	**100%**	**92%**

EVALUATION OF THE SUPERVISORY BOARD

As it does each year, the Supervisory Board conducted a formal evaluation of its operations for fiscal year 2019. The evaluation is managed by the Supervisory Board's Secretary's Office, under the supervision of the Appointments, Compensation and Governance Committee, based on a questionnaire that focuses on topics specific to the Group. The Chairman provides the individual results of questions relating to each member's actual contribution to the Board's work to each of the Board members concerned.

The summary of the Supervisory Board members' responses, which was communicated to the Board members and discussed during the 18 February 2020 meeting, indicates high member satisfaction with the Supervisory Board's operation, both in terms of the composition of the Board (age, nationality, diversity of skills, cultures and experiences), and in terms of the organization and handling of discussions and presentations, and the quality, transparency and ease of discussions within the Board and with the Management Board. The Board members shared their satisfaction about the topics addressed and examined at the meeting, reflecting the current realities, challenges and major issues of the Company. The Board was also satisfied with the consideration of areas of improvement identified during the previous self-evaluation, notably as concerns the quality of presentations and the balanced way in which they are conducted, allowing for longer discussions. For the future, areas of improvement mainly relate to the content of presentations and notably strategy-related subjects in general.

FINANCE AND AUDIT COMMITTEE

as at 31 December 2019

Composition

The Finance and Audit Committee is comprised of a minimum of three members and a maximum of five members, who are chosen from among the members of the Supervisory Board and have specific expertise in finance, accounting or statutory auditing. As at 29 February 2020, it consisted of four members: Mr. Jean-Jacques Morin (Chairman), Ms. Virginie Banet, Bpifrance Participations represented by Mr. Alexandre Ossola, and Mr. Antoine Cahuzac, all independent with the exception of Bpifrance Participations, or a 75% proportion of independent members within the Finance and Audit Committee. The Chairman of the Board and the Lead Member are also invited to, and generally attend, the Finance and Audit Committee meetings.

All these members have particular knowledge of finance or accounting, or statutory auditing, and have the necessary expertise, experience and qualifications to successfully perform their tasks within the Finance and Audit Committee. The Chairman, Mr. Jean-Jacques Morin, has for more than twenty years held positions within major groups (Alstom, AccorHotels) in particular in the areas of finance and management control (for a description of the expertise and experience of members of the Finance and Audit Committee: see Section 7.1.2.2 "The Supervisory Board" above). When they are first appointed, the members are sent detailed information on the Group's specific accounting, financial and operating processes.

Powers

The role of the Finance and Audit Committee is to prepare the necessary information for the Supervisory Board's deliberations, which concern monitoring issues relating to the preparation and control of accounting and financial data, in compliance with Article L. 823-19 of the French Commercial Code *(Code de commerce).* To this end, it issues opinions, proposals and recommendations in its areas of expertise. It acts under the authority of the Supervisory Board, for which it must not be substituted, and regularly informs it of its tasks, the results of the task of certifying the financial statements, how this task contributed to the integrity of the financial information, along with the role it played in this process. It provides immediate notice of any difficulty encountered while performing its tasks.

Within this framework, the Finance and Audit Committee oversees:

- the process of preparation of financial information.

  As needed, it makes recommendations to guarantee the integrity of the process of preparing the financial information.

  In this respect, the Committee is presented with:

  - the retrospective and forward-looking financial data each quarter,
  - risk exposure and significant contingent liabilities and commitments of the Group, and
  - at its request, accounting matters that may have a significant impact on the preparation of the financial statements.

  Draft external financial communications are presented to the Committee for its opinion;

- the effectiveness of the internal control and risk management systems, as well as of the internal audit system, as concerns the procedures relating to the preparation and processing of the accounting and financial information, without compromising its independence.

  In this respect, each year the Committee is presented with:

  - the internal audit plan,
  - the assignment reports and main findings of the audits,
  - a summary of the actions taken in the area of risk management, and
  - a summary of the Statutory Auditors' performance of their duties, in particular the statutory audit of the Company and consolidated financial statements.

  To that end, the Statutory Auditors present the results of their audit to the Committee at each half-year, emphasizing, where applicable, the audit adjustments and significant weaknesses in internal control that were identified during the work, and the accounting options used.

  The Committee gives the Supervisory Board its opinion as to the relevance and consistency of the accounting methods used to prepare the parent company and consolidated financial statements;

- compliance with the conditions for independence of the Statutory Auditors and the rules relating to the cap on their audit fees for services other than certification of the financial statements.

  In this regard, the Committee manages the procedure for selecting the Statutory Auditors, submits a recommendation to the Supervisory Board on the Statutory Auditors proposed for appointment by the Shareholders' Meeting, receives the Statutory Auditors' statement of independence and receives an annual summary of all the services provided to the Vallourec Group by the Statutory Auditors and their networks.

  The Committee is in charge of approving the Statutory Auditors' provision of services other than the certification of financial statements, which are not prohibited services, upon analyzing the risks to the Statutory Auditors' independence and the safeguards applied by the latter to mitigate these risks.

In addition to the above duties, the Supervisory Board or its Chairman may decide to refer any issue requiring the Board's prior approval to the Finance and Audit Committee. Also, the Supervisory Board or its Chairman may request it to examine a specific matter in order to determine the financial implications. More generally, the Finance and Audit Committee reviews the various elements of the Group's financial strategy.

Operation

The Finance and Audit Committee meets at least four times a year to review the interim and annual financial statements before they are presented to the Supervisory Board. Subject to this condition, it defines the frequency of its meetings by agreement with the Chairman of the Supervisory Board. Its usual representative is the member of the Management Board in charge of Finance and, where applicable, employees designated by said member. It likewise meets with the people in charge of finance and accounting, cash and cash equivalents, internal audits, risk management and internal control, as well as with the Statutory Auditors, including, if the Committee so desires, without the members of the Management Board being present. In the latter case, said members must have been informed first.

Activities of the Finance and Audit Committee in 2019

In 2019, the Finance and Audit Committee met six times, with an effective attendance rate of 100%. It had a meeting with the Statutory Auditors, without the members of the Management Board being present. During the fiscal year, the Committee examined the following issues and formulated opinions on them:

- the Group's financial communication projects;
- the quarterly cash and cash equivalents position and the medium and long-term financing plan;
- change in working capital requirements;
- the cash management and financing policy;
- the dividend policy and the proposal to not pay a dividend for fiscal year 2018;
- review of the 2019 assumptions;
- the budget for 2020;
- changes in accounting principles and the accounting policies used for preparing the year-end 2019 financial statements, including a review of the Group's impairment testing methods;

- the internal and external audit plans and their results;
- the organization of risk management and internal control within the Group;
- risk mapping;
- the ethics and compliance policy within the Group and the results of this policy;
- sensitivity to the foreign exchange risk and the policy for hedging transactions;
- the Group's tax practices.

The Statutory Auditors attended all meetings of the Finance and Audit Committee for fiscal year 2019. They presented a report on the work completed as part of their mandate, emphasizing key points from the legal audit results and the accounting options used.

APPOINTMENTS, COMPENSATION AND GOVERNANCE COMMITTEE

4 members

6 meetings

90% attendance rate

as at 31 December 2019

Composition

The Appointments, Compensation and Governance Committee is comprised of a minimum of three members and a maximum of five members. As Ms. Laurence Broseta resigned from her term of office as member of this Committee on 25 November 2019 to focus on her role of Chairman of the CSR Committee, as at 29 February 2020 it was composed of four members: Mr. Pierre Pringuet (Chairman), Ms. Pascale Chargrasse (representing employee shareholders), Mr. Antoine Cahuzac, and Mr. Mickaël Dolou (representing employees). They are all independent [(1)].

The Chairman of the Management Board is associated with the work concerning appointments and governance, except in cases that concern his personal situation.

Powers

The role of the Appointments, Compensation and Governance Committee is to prepare information for the Supervisory Board's deliberations, which concern monitoring issues relating to the appointment and compensation of corporate officers, and to the governance of the Group. To this end, it issues opinions, proposals and recommendations in its areas of expertise. It acts under the authority of the Supervisory Board, to which it reports, and for which it must not be substituted, and informs it of any difficulty encountered while performing its tasks.

The duties of the Appointments, Compensation and Governance Committee are as follows:

Appointments

- Preparing the procedure used to select members of the Supervisory Board and Management Board and determining the criteria to be used.
- Drawing up proposals for appointments and re-appointment.
- Regularly reviewing the composition of the Management Board and establishing a succession plan for members of the Management Board, in order to be able to propose succession solutions to the Board, in particular in the event of an unexpected vacancy.
- Regularly reviewing the composition of the Board and its Committees and making recommendations on changes to its composition when this appears appropriate.

The Committee's proposals for the offices of members of the Board are guided by the interests of the Company and all of its shareholders. They particularly take into account the desired balance of the Board's composition, as concerns the composition and evolution of the Company's shareholders, as well as the diversity of its areas of expertise, gender, and nationalities. The Committee ensures that its proposals to the Board reflect the necessary independence and objectivity.

The Committee completes its research on potential candidates before taking any action with them.

Compensation

- Proposals concerning the amounts and allocation of attendance fees paid to Supervisory Board members, as well as the compensation of members of the Committees.
- Proposals concerning the compensation of the Chairman of the Board.
- Compensation of members of the Management Board: the Committee is responsible for recommending to the Board the structure and level of the compensation paid to each member of the Management Board (fixed portion, variable portion and benefits in kind).
- Performance shares and share subscription or share purchase options for members of the Management Board.
- Policy for allocating performance shares and share purchase or subscription options to managers and executives and/or staff of the Group.

As regards members of the Executive Committee, the Committee is informed of their appointment, the compensation policy and succession plan concerning them.

Governance

- Reviewing the operation of the management bodies, particularly as regards changes in French regulations concerning the governance of listed companies and in light of the recommendations of the AFEP-MEDEF Corporate Governance Code and, where applicable, making proposals to the Board on updating the Company's corporate governance rules.
- Preparing the annual assessment of the Supervisory Board and recommendations resulting from such assessment.
- Reviewing and following up on any situation involving a conflict of interest between a Board member and the Company, which could lead the Board to request an express commitment from the member in such a situation.
- Reviewing requests from Supervisory Board members concerning the assumption of new offices or duties outside the Company.
- Reviewing the independence of Board members with regard to specific criteria which have been made public.

(1) In compliance with the recommendations of the AFEP-MEDEF Code, Ms. Pascale Chargrasse, who represents employee shareholders, and Mr. Mickaël Dolou, who represents employees, are not counted.

Operation

The Appointments, Compensation and Governance Committee meets at least twice a year. Subject to this condition, it defines the frequency of its meetings by agreement with the Chairman of the Supervisory Board.

Activities of the Appointments, Compensation and Governance Committee in 2019

The Appointments, Compensation and Governance Committee met six times in 2019, with an effective attendance rate of 90%.

During the fiscal year, the Committee examined the following issues and formulated opinions on them:

- the compensation of members of the Management Board for 2018, 2019 and 2020, as well as the report on 2018 compensation in view of implementing the Say on Pay mechanism;
- the overall budgets and the number of performance shares and share subscription options allocated to employees and each member of the Management Board, and the requirement for such members to retain a portion of the shares resulting from the exercise of options and of the performance shares allocated;
- the Management Board succession plan, particularly in case of an unforeseeable vacancy (see paragraph 7.1.2.6 above);
- the decisions to be taken by the Supervisory Board regarding the end of the term of Philippe Crouzet;
- the decisions to be taken by the Supervisory Board regarding the appointment of the new Management Board;
- the market review of Management Board compensation;
- the compensation for the Management Board, the Chairman, and the members of the Supervisory Board for 2020;
- the policy on compensation of the main senior executives who are not corporate officers;
- the Group's Human Resources strategy and the results of this strategy, analyzed in particular through the social barometer indicated in paragraph 4.3.3.2 above;
- the policy on the composition of the Supervisory Board;
- the annual evaluation of the operation of the Supervisory Board and Committees;
- the annual evaluation of the independence of the members of the Supervisory Board;
- the compliance of the Group's governance with the recommendations of the AFEP-MEDEF Code;
- the composition of the Supervisory Board and its Committees;
- legal and regulatory developments in governance matters; and
- the annual report of the French securities regulator *(Autorité des marchés financiers)* regarding business governance and executive management compensation, and the annual report of the Higher Committee on Corporate Governance.

STRATEGY COMMITTEE

3 members

3 meetings

100% attendance rate

as at 31 December 2019

Composition

The Strategy Committee is comprised of a minimum of three members and a maximum of five members. As at 29 February 2020, it was comprised of three members: Ms. Vivienne Cox (Chairman), Ms. Corine de Bilbao, and Bpifrance Participations, represented by Mr. Alexandre Ossola, all independent with the exception of Bpifrance Participations, i.e. a proportion of independent members within the Strategy Committee of 66%.

Powers

The Strategy Committee is responsible for preparing the Supervisory Board's deliberations with regard to the Group's strategic directions and long-term future. To this end, it issues opinions, proposals and recommendations in its areas of expertise. It acts under the authority of the Supervisory Board, to which it reports, and for which it must not be substituted, and informs it of any difficulty encountered while performing its tasks.

In the course of its duties, the Strategy Committee reviews:

- each year, the Group strategy plan presented by the Management Board and any changes as well as the assumptions on which it is based;
- any projected merger or partial transfer of assets, any industrial or commercial agreement with other companies that could affect the Company's future and, more generally, any major transaction (such as external acquisition or disposal operations, significant capital expenditure in organic growth or internal restructuring operations) that could materially alter the business scope or financial structure of the Group or the type of risks it incurs. Within this context, the Committee reviews:
  - capital expenditure transactions when they exceed €50 million,
  - acquisition or disposal transactions when they exceed €50 million, and
  - following their implementation, the conditions for implementing and achieving objectives for the transactions that have been authorized by the Supervisory Board.

The Committee may carry out any other regular or occasional duties assigned to it by the Supervisory Board in its area of competence. It may suggest that the Supervisory Board refer to the Committee any particular point which it considers to be necessary or relevant.

Operation

The Committee met three times in 2019 with an average effective attendance rate of 100%.

CORPORATE SOCIAL RESPONSIBILITY (CSR) COMMITTEE

as at 31 December 2019

Composition

The Corporate Social Responsibility (CSR) Committee is comprised of a minimum of three members and a maximum of five members. As at 29 February 2020, it was comprised of three members: Ms. Laurence Broseta (Chairman), Ms. Maria-Pilar Albiac-Murillo, and Ms. Corine de Bilbao. They are all independent.

The members of the Management Board are associated with the work of the Corporate Social Responsibility Committee and may participate at its meetings.

Powers

The role of the Corporate Social Responsibility Committee is to prepare the necessary information for the Supervisory Board's deliberations concerning the examination and monitoring of issues relating to corporate social responsibility and the way in which the Group strives to promote the creation of long-term value while considering the social and environmental challenges of its activities. To this end, it issues opinions, proposals and recommendations in its areas of expertise. It acts under the authority of the Supervisory Board, to which it reports, and for which it must not be substituted, and informs it of any difficulty encountered while performing its tasks.

In the course of its duties, the Corporate Social Responsibility Committee:

- examines the issues, risks and opportunities of the Group in corporate social responsibility matters;
- examines the Group's policies and commitments in corporate social responsibility matters, the implementation of these policies, and the results obtained;
- examines all non-financial information published by the Group;
- conducts a regular review of the Group's non-financial rating.

The Committee may carry out any other regular or occasional duties assigned to it by the Supervisory Board in its area of competence. It may suggest that the Supervisory Board refer to the Committee any particular point which it considers to be necessary or relevant.

Operation

The Corporate Social Responsibility Committee meets at least twice a year. Subject to this condition, it defines the frequency of its meetings by agreement with the Chairman of the Supervisory Board.

The Committee met four times in 2019 with an effective attendance rate of 92%. During the fiscal year, the Committee examined the following issues and formulated opinions on them:

- the presentation of the CSR policy and CSR issues, and the non-financial rating;
- risk mapping and the statement of non-financial performance;
- opportunities provided by the energy transition;
- the establishment of priorities for the CSR Committee, in particular with regard to the objectives of the United Nations;
- the Group's performance indicators and commitments to the objectives of the United Nations;
- the presentation of the Group's performance indicators and objectives in line with the Sustainable Development Goals of the United Nations;
- the presentation of the Group's objectives and commitments in terms of diversity; and
- the proposal of CSR objectives for the variable portion of the Management Board's compensation.

7.1.3 Declarations concerning the members of the Management and Supervisory Boards

To the Company's knowledge:

- no member of the Management Board or Supervisory Board has been convicted of fraud during the past five years;
- no member of the Management Board or Supervisory Board has been involved, during the past five years, with a bankruptcy, receivership or liquidation as a member of an administrative, management or supervisory body;
- no member of the Management Board or Supervisory Board has been charged, during the past five years, with an offense or been the subject of disciplinary action on the part of the statutory or regulatory authorities (including designated professional bodies);
- no member of the Management Board or Supervisory Board has been prevented, during the past five years, by a court from acting as a member of an administrative, management or supervisory body of an issuer, or from being involved in managing or running the business of an issuer; and
- no member of the Management Board or Supervisory Board has a current or potential conflict of interest between his duties to Vallourec and his private interests and/or other duties.

7.1.4 Regulated agreements

Loans and guarantees

No loans or guarantees have been granted by the Company or by a Group company to any member of the Management Board or Supervisory Board.

Service agreements providing for the granting of benefits

To the Company's knowledge, there is no service agreement between any member of the Management Board or Supervisory Board and the Company providing for the granting of benefits.

7.1.5 Management of conflicts of interest

To prevent any risk of a conflict of interest between a member of the Supervisory Board and the Management Board or any of the Group's companies, the Appointments, Compensation and Governance Committee constantly monitors the independence of members with regard to the AFEP-MEDEF Corporate Governance Code criteria; the Supervisory Board includes this as an item on its agenda at least once a year.

Each member is required to inform the Board of any situation involving a conflict of interest, even a potential one, and to refrain from taking part in discussions or voting on any issue at Board meetings where there may be in a conflict of interest, and to leave the Board meeting if a subject exposing the member to such a situation is discussed.

The Lead Member acts in a precautionary manner to raise awareness about conflicts of interest among the members of the Supervisory Board, and draws said Board's attention to any conflict of interest situation that has been identified, even a potential one.

When one of the members has a conflict of interest, whether actual or potential, regarding a subject matter to be debated by the Board, the Board ensures, by relying on the Appointments, Compensation and Governance Committee, that the information regarding this subject matter is not communicated to that member. A member cannot accept another position or appointment, or make a significant investment in any company or business in competition with Vallourec or operating upstream or downstream of it, without the Board's prior approval. As an exception, this rule does not apply to legal entities that are members of the Supervisory Board, but if they take new positions or similar appointments, each case will be discussed with the Board in order to eliminate any risk of conflicts of interest. Members of the Supervisory Board, non-voting Board members *(censeurs)* and members of the Management Board must inform the Chairman of the Supervisory Board before accepting a new appointment in other companies. The Chairman of the Board will give an opinion after consulting with the Appointments, Compensation and Governance Committee.

The information presented in this section is taken from the Internal Regulations of the Supervisory Board, which are available on the Company's website (http://www.vallourec.com).

7.1.6 Declaration on corporate governance

The Supervisory Board has adopted the AFEP-MEDEF Corporate Governance Code, as amended for application to limited liability companies *(société anonyme)* managed by a Supervisory Board and a Management Board. Vallourec complies with all of the recommendations prescribed in the Code under the conditions set out in the summary table.

Compliance with the recommendations of the AFEP-MEDEF Code

The following table summarizes the recommendations of the AFEP-MEDEF Code that Vallourec has chosen not to apply and the detailed explanations for this.

Recommendations of the AFEP-MEDEF Code (June 2018)	Application by Vallourec
Paragraph 10.3 of the AFEP-MEDEF Code recommends “holding a meeting each year without the executive corporate officers in attendance”.	The Supervisory Board has chosen to set aside a time for discussions without the Management Board in attendance at the end of each of its meetings, instead of having a full meeting each year.
Paragraph 22 of the AFEP-MEDEF Code recommends that the Board “shall determine a minimum number of shares that the executive corporate officers must hold in registered form until the end of their terms. This Decision shall be reviewed at least each time their office is renewed. (...) As long as that number has not been reached, the executive corporate officers shall devote a portion of their exercised options or vested shares to that end, as determined by the Board”.	Given the significant number of Vallourec shares already held by Management Board members, and the binding obligations to hold shares received from both the exercise of options and the vesting of performance shares, Vallourec believes that it is not desirable to compel the members of the Management Board to purchase additional shares with their own funds and to build a securities portfolio almost exclusively composed of Vallourec shares.
Paragraph 24.6.2 of the AFEP-MEDEF Code recommends that the supplementary defined-benefit pension schemes of corporate officers satisfy the condition that “the beneficiary be a corporate officer or employee of the Company at the time of claiming their retirement rights under the rules in force”, as well as other rules not applicable to schemes closed to new beneficiaries which can no longer be changed.	The supplementary defined-benefit pension scheme of the members of the Management Board has been closed to new beneficiaries and future rights since the end of 2015 and cannot be changed. The beneficiaries may only benefit from “crystallized” vested rights upon liquidation of their social security pension.
Paragraph 20.1 of the AFEP-MEDEF Code recommends that the method for compensating Supervisory Board Members “[take into] account, according to the terms that [the Supervisory Board] defines, the actual participation of the [members] on the Board and in the Committees, and that it thus [contains] a preponderant variable portion”.	Since 1 January 2014, the structure of the Supervisory Board Chairman’s compensation no longer contains a variable portion taking any variations linked to attendance into account but comprises only a fixed annual compensation. The Supervisory Board considers that this method of compensation is reasonable and consistent to the extent that the Supervisory Board Chairman undertakes responsibilities and procedures which go well beyond merely attending the Supervisory Board and Committee meetings. It should nevertheless be emphasized, for all practical purposes, that in 2019 the Supervisory Board Chairman was present at all meetings of the Supervisory Board, the Strategy Committee, and the Finance and Audit Committee.
Paragraph 21.1 of the AFEP-MEDEF Code stipulates that it “is recommended, when an employee becomes an executive corporate officer of the company, to terminate the employment contract that links the employee to the company or a group of companies. The employee can either terminate the contract or resign”.	Édouard Guinotte, who has been an employee of the Group since 1995 and was appointed as Chairman of the Management Board as of 15 March 2020, continues to benefit from his employment contract, performance of which is suspended. In fact, the Board wishes to prioritize internal succession, which ensures a better transition and guarantees comprehensive knowledge of the Group’s stakeholders, the corporate culture, and the activities and markets in which the Group operates. The Board has ensured that retaining this benefit does not cause any non-compliance with the other provisions of the AFEP-MEDEF CODE, in particular as concerns severance payments. For more information, see section 7.2.1.2.2 of the “Compensation policy for corporate officers”.

In view of the above, Vallourec believes that it complies with the Corporate Governance Regulations currently in force in France.

7.2 Compensation and benefits

Details are provided below of the compensation and benefits of all kinds awarded to Vallourec's corporate officers by the Company and companies controlled by the Company within the meaning of Article L. 233-16 of the French Commercial Code *(Code de commerce),* in accordance with the presentation defined by the AFEP-MEDEF Corporate Governance Code, and the most recent recommendations of the French securities regulator *(Autorité des marchés financiers).* They should be read in light of the compensation policy for corporate officers (see below, paragraph 7.2.1 of this chapter).

7.2.1 Compensation policy for corporate officers

This report was drafted in application of Article L. 225-82-2 of the French Commercial Code, in view of the vote of shareholders at the Shareholders' Meeting of 6 April 2020, on the compensation policy for corporate officers for the 2020 fiscal year.

The compensation policy for corporate officers is determined by the Supervisory Board, at the proposal of its Appointments, Compensation and Governance Committee (the "ACGC"). The Board's aim is for this policy to be seen as fair and balanced by both shareholders and Group employees.

Vallourec operates worldwide on the seamless tube production market, a sector that requires specific expertise developed by only a limited number of talented people. Having people who have high potential and the capacity to face ambitious challenges is essential for ensuring the Group's profitability and for generating value. The compensation policy aims to attain this objective by allowing the Group to attract and retain the most talented people, whose contributions help create more value for shareholders. The Board thus ensures that the compensation policy for corporate officers complies with the Company's corporate interest, contributes to its sustainability, and is in line with its business strategy.

7.2.1.1 Governance regarding the compensation policy for corporate officers

The compensation policy for corporate officers is determined by the Supervisory Board, at the proposal of the ACGC. The definition of this policy takes into account the work accomplished, the net profits obtained and the responsibility assumed, and relies on analyses of the market context, which are in particular based on compensation surveys conducted by outside consultants. It is reviewed annually.

7.2.1.1.1 THE ROLE OF THE APPOINTMENTS, COMPENSATION AND GOVERNANCE COMMITTEE IN TERMS OF THE COMPENSATION AND BENEFITS FOR THE CHAIRMAN AND MEMBERS OF THE MANAGEMENT BOARD AND CHAIRMAN AND MEMBERS OF THE SUPERVISORY BOARD

In terms of compensation for the Chairman and members of the Management Board, the ACGC:

- prepares the annual evaluation of the Chairman and the members of the Management Board;
- proposes to the Supervisory Board the principles of the compensation policy and in particular the criteria for determining its structure and the level of this compensation (fixed and variable annual portion, and medium and long-term instruments), including benefits in kind, and insurance or retirement benefits;
- proposes to the Board the number of performance shares and share subscription or purchase options allocated to the Chairman and to each member of the Management Board;
- drafts proposals for the Board regarding the mechanisms that are linked to the termination of Management Board's Chairman and members duties.

In terms of the compensation for members of the Supervisory Board, the ACGC:

- proposes to the Supervisory Board the breakdown between the fixed portion and the portion based on compensation for attendance by members of the Board and Committees, and the structure of the compensation of the Chairman and Vice-Chairman of the Supervisory Board.

In order to ensure consistency between the compensation and benefits paid to the Chairman and members of the Management Board and those prevailing within the Group, the ACGC examines the policy for allocating performance shares and share purchase or subscription options to managers and executives and/or employees of the Group, and is informed of the compensation policy for members of the Executive Committee and, more generally, of the compensation policy for the Group.

The 2019 Universal Registration Document contains a description of the ACGC's activity over the course of the last fiscal year.

In order to prepare its work on compensation, the ACGC may request outside studies, and in particular compensation surveys, so that it can assess market conditions. It selects and manages the consultants concerned, in order to ensure they are competent, and monitors their independence and objectivity. The fees for these consultants are paid out of the Supervisory Board's budget, which is reviewed annually by the Board. The ACGC itself determines the composition of the reference panels.

The ACGC likewise meets with the heads of the functional departments, in particular the Human Resources Department and the Legal Department, with which it organizes inter-departmental meetings to ensure that its work is consistent with the Group's social and governance policies.

In its deliberations, the ACGC also draws on expectations and observations made by institutional investors with which the Company has discussions on a regular basis, in particular prior to the Annual Shareholders' Meetings.

In preparing its work, the ACGC invites experts in governance and engineering in the area of managerial compensation and benefits to share their know-how and experience at dedicated work meetings, which are also attended by the functional department heads.

Ahead of the actual meetings of the ACGC, the Chairman of the ACGC has discussions with the requested consultants and other members of the ACGC, and holds several work meetings with internal staff supervisors in order to ensure that all of the issues examined by the ACGC are documented in an exhaustive and pertinent manner.

The ACGC also enlists the expertise of the Finance and Audit Committee to determine and assess the pertinence of the quantitative financial criteria and targets for variable monetary compensation and medium- and long-term incentive instruments allocated to the Chairman and to members of the Management Board.

To prevent any risk of a conflict of interest between a member of the Supervisory Board and the Management Board or any of the Group's companies, the ACGC constantly monitors the independence of members with regard to the AFEP-MEDEF Corporate Governance Code criteria; the Supervisory Board includes this as an item on its agenda at least once a year. Each member is required to inform the Board of any situation involving a conflict of interest, even a potential one, and to refrain from taking part in discussions or voting on any issue at Board meetings where there may be in a conflict of interest, and to leave the Board meeting if a subject exposing the member to such a situation is discussed.

The Chairman of the ACGC is also the Lead Member and acts, in that capacity, in a precautionary manner to raise awareness about conflicts of interest among the members of the Supervisory Board, and draws said Board's attention to any conflict of interest situation that has been identified, even a potential one.

The ACGC reports verbally on its work during the Supervisory Board's meetings. A written report of each meeting of the Committee is established by the secretary of the Committee, under the authority of the Chairman of the Committee, and is sent to Committee members. It is included in the Board meeting files after the meeting during which the report is drafted.

7.2.1.1.2 THE ROLE OF THE SUPERVISORY BOARD IN TERMS OF THE COMPENSATION FOR CORPORATE OFFICERS

Compensation and benefits for the Chairman and members of the Management Board

The Supervisory Board, upon the ACGC's recommendations, establishes all components of the short and long-term compensation and benefits for the Chairman and members of the Management Board (fixed portion, variable portion, equity instruments – performance shares and stock options), as well as benefits in kind, and insurance or pension benefits, along with specific departure schemes.

When a report of the ACGC's work on the Management Board Chairman and members compensation and benefits is presented, the Supervisory Board deliberates on the compensation of the Chairman and members of the Management Board when said members are not present.

All potential or acquired elements of compensation and benefits for the Chairman and members of the Management Board are made public after the Board meeting at which they were decided, by adding them to Vallourec's website.

Compensation and benefits for the Chairman and members of the Supervisory Board

The Supervisory Board, upon the ACGC's recommendations, establishes all components of the compensation and benefits for members of the Supervisory Board. It distributes the compensation between its members based on the annual budget authorized by the Ordinary Shareholders' Meeting, and determines the compensation awarded to the Chairman and Vice-Chairman of the Supervisory Board.

When a report of the ACGC's work on the compensation awarded to the Chairman and Vice-Chairman of the Supervisory Board is presented, the Supervisory Board deliberates when said officers are not present.

7.2.1.2 Supervisory Board policy on the compensation for the Chairman and members of the Management Board

7.2.1.2.1 GENERAL PRINCIPLES OF THE BOARD POLICY FOR THE COMPENSATION OF THE CHAIRMAN AND MEMBERS OF THE MANAGEMENT BOARD

The Supervisory Board conducts an overall assessment of the elements of compensation and benefits for the Chairman and members of the Management Board and its decisions are governed by the following principles:

- **recognition of short, medium and long-term performance:** the compensation and benefits structure for the Chairman and members of the Management Board contains a variable monetary portion which is based on performance for the fiscal year ended (short-term performance) and equity instruments which reflect performance over a three-year term regarding performance shares, and a four-year term, regarding stock options (long-term performance) with the aim of aligning interests with those of shareholders; the performance criteria used correspond to the Company's financial and operational objectives;
- **a balance between fixed, short-term variable and medium and long-term variable compensation and benefits:** the ACGC ensures a balance between the three components of the compensation and benefits (fixed portion, annual variable portion and medium- and long-term incentive equity instruments);
- **competitiveness:** the Supervisory Board ensures that compensation is tailored to the market in which Vallourec operates. To that end, the ACGC analyzes the data of a panel of listed companies which are comparable with regard to revenue, staff, international establishment and market capitalization. Within this context, the desired target compensation and benefits for the Chairman and members of the Management Board would be close to the top quartile of the sample;
- **consistent compensation and benefits among all members of the Management Board:** the compensation and benefits of the Chairman and members of the Management Board are set according to their responsibilities within the Group, complying with a ratio of reasonable proportion, in order to encourage the collegial commitment of the Management Board as a whole towards the Group;
- **consistency with the prevailing conditions governing employee compensation and employment within the Group:** a significant portion of the Group's managers and executives benefit from a compensation and benefits structure which, like that of the Chairman and members of the Management Board, contains a fixed portion and a variable portion, along with long-term incentive equity instruments.

7.2.1.2.2 STATUS OF THE CHAIRMAN AND MEMBERS OF THE MANAGEMENT BOARD

The Chairman of the Management Board does not have an employment contract. As an exception, a Group employee appointed Chairman of the Management Board could continue to benefit from their work contract, which would be suspended during their term as Chairman of the Management Board, subject to justification, and provided that this does not cause any non-compliance with the other provisions of the AFEP-MEDEF Code, in particular as concerns termination payments.

The Board wishes to give preference to internal successions, which ensure better transitions and guarantee that there is an excellent understanding of the business and markets in which the Group operates, the Group's stakeholders, and its corporate culture. The possibility of maintaining employment contracts, on a case by case basis, is likely to encourage internal applications from employees with significant seniority.

The Supervisory Board accordingly authorized Mr. Édouard Guinotte, who has been a Group employee since 1995 and is appointed Chairman of the Management Board as of 15 March 2020, to maintain his employment contract, the performance of which is suspended during his term of office as Chairman of the Management Board. The Supervisory Board believes that Mr. Édouard Guinotte's career within the Group, over a period of more than 25 years, could very well continue in a salaried capacity, if necessary in a temporary manner to facilitate a transition, if his term of office as Chairman of the Management Board were not renewed or if he were to be replaced in his role as Chairman of the Management Board. The Supervisory Board has ensured that maintaining his contract does not cause any non-compliance with the other provisions of the AFEP-MEDEF Code, in particular in relation to termination payments. In this respect, Mr. Édouard Guinotte's employment contract does not include any contractual severance pay, non-compete clause or special notice period, and essentially refers to the *Convention collective des cadres et ingénieurs de la métallurgie* (the national collective agreement for executives and engineers in the metal industry) the application of which is mandatory for Vallourec. The total amount of compensation for the termination of the employment contract under the national collective agreement, together with the termination benefit and non-compete compensation if these were due, may not under any circumstances exceed the ceiling set by the AFEP-MEDEF Code (see paragraph 7.2.3.8 below).

Members of the Management Board may hold employment contracts for which performance has been suspended during their term of office on the Management Board.

7.2.1.2.3 COMPONENTS OF THE COMPENSATION OF THE CHAIRMAN AND MEMBERS OF THE MANAGEMENT BOARD

7.2.1.2.3.1 Weight of the components of the compensation of the Chairman and members of the Management Board

The primary components of the compensation of the Chairman and members of the Management Board, along with their purposes, are defined as follows:

Components		Purposes
Fixed portion		Role and responsibility
Variable portion		Linked to short-term performance by the achievement of annual objectives
Medium- and long-term incentive equity instruments	Performance shares	Linked to medium-term performance and alignment with shareholders' interests
	Stock options	Linked to long-term performance and alignment with shareholders' interests

The Supervisory Board ensures balance of the compensation and benefits between the three components (fixed portion, annual variable portion and medium- and long-term incentive equity instruments). The weighting for each of these components is one-third, provided that the amount of the variable portion is integrated in the target and the medium- and long-term incentive equity instruments are valued at their carrying amount for a target achievement.

7.2.1.2.3.2 Fixed portion of the Chairman and members of the Management Board

In general, the fixed portion is reviewed regularly based on the responsibility assumed by the Chairman and each member of the Management Board and on Vallourec's business sector.

To that end, the ACGC relies on compensation surveys conducted by outside consultants. It sets up the panel and makes adjustments as necessary according to revenues, market capitalization and sector of business of the companies on the panel, in order to ensure complete comparability and thus a high correlation between the fixed portion and the Group's size.

In addition, since the variable portion is based on the fixed portion, the Supervisory Board devotes particular attention to ensuring that the fixed portion is reasonable in application of the principles described in point 2.1 above.

The Supervisory Board also ensures that changes in the fixed portion for the Chairman and members of the Management Board appear moderate as compared to the overall wage increases of French employees over the same period.

For example, for the 2020 fiscal year:

- the fixed portion for Mr. Philippe Crouzet, Chairman of the Management Board until 15 March 2020, amounts to €798,000 and has remained unchanged since 2014;
- the fixed portion of Mr. Édouard Guinotte, Chairman of the Management Board as of 16 March 2020, amounts to €600,000;
- the fixed portion of Mr. Olivier Mallet, which had remained unchanged at €420,000 since 2014, will be increased to €470,000 as of 15 March 2020. This increase is justified by a greater amount of responsibility in light of the optimization of the Group's financial resources and the transition due to the arrival of a new Chairman of the Management Board.

For the fiscal years ahead, the Supervisory Board intends to review the fixed portion for Mr. Édouard Guinotte following the first two years of his term as Chairman of the Management Board. The fixed portion for Mr. Olivier Mallet will be maintained at its current amount until the end of his term as member of the Management Board, following the Ordinary Shareholders' Meeting to be held in 2023.

7.2.1.2.3.3 Variable portion of the Chairman and members of the Management Board

The variable portion aims to associate the Chairman and the members of the Management Board with the short-term performance of the Group. Its structure is reviewed and determined every year by the Supervisory Board, upon recommendations from the ACGC.

Determined on an annual basis, it corresponds to a percentage of the fixed portion and contains minimum thresholds, below which no payment is made; target levels when the objectives set by the Supervisory Board are met, and maximum levels when target objectives have been exceeded.

With regard to the 2019 fiscal year, the variable portion of the Chairman of the Management Board may vary from 0 to 100% of his target fixed portion and reach 135% of this same fixed portion in the event that maximum objectives were attained. For the members of the Management Board, the variable portions may vary from 0 to 75% of their target fixed portions and attain 100% in the event that maximum objectives were achieved.

The variable portions are subordinate to achievement of several precise and previously established objectives of a quantifiable or qualitative nature, for which the minimum, target and maximum thresholds are set by the Supervisory Board, upon recommendation from the ACGC. The quantifiable criteria are predominant.

The objectives taken into account to determine the variable portion are set each year based on the key operating and financial indicators of the Group, which are in line with the nature of its activities, strategy, values, and the challenges it faces.

The achievement of quantifiable objectives is verified by the ACGC based on information provided by the various Departments in question according to the nature of these objectives (Finance, Human Resources, Quality and Safety Department, Sustainable Development Department, etc.) and audited. The achievement of qualitative objectives is assessed by the ACGC and the Supervisory Board based on guidelines defined at the beginning of the year according to the Group's strategy, priorities and challenges.

For 2020, the Supervisory Board decided to determine the variable portions of the Chairman and members of the Management Board using the same fundamental components that have been used for the Group since 2017:

	Chairman of the Management Board (target variable portion: 100% of fixed portion)	**Members of the Management Board (excluding the Chairman) (target variable portion: 75% of fixed portion)**
1. Financial performance Net cash flow from operating activities, EBITDA, cost reductions	Weighting: 60%	Weighting: 45%
2. Operational performance Acceleration of performance and Quality	Weighting: 25%	Weighting: 18.75%
3. CSR Safety and composite CSR indicator including: average employee satisfaction rate, carbon emissions, diversity and waste recycling	Weighting: 15%	Weighting: 11.25%

Pursuant to Article L. 225-82-2 of the French Commercial Code, the payment of the elements of variable compensation to the Chairman and to the members of the Management Board is subject to approval by the Ordinary Shareholders' Meeting of the elements of compensation of the individual concerned under the terms provided for in Article L. 225-100 of the French Commercial Code.

7.2.1.2.3.4 Long-term incentive equity instruments of the Chairman and members of the Management Board

Performance shares and options

In an industrial group for which capital expenditure projects might have a distant time frame for achieving profitability, medium- and long-term incentive equity instruments seem particularly appropriate. Consequently, the Group has used a dynamic policy for many years for employees to share the Company's results, by establishing performance share and stock subscription or purchase options allocation plans. The Supervisory Board believes that the combination of these two tools, which align the interests of beneficiaries with those of the shareholders, is important insofar as the performance shares are connected to medium-term performance, while options are linked to long-term performance.

Subject to the approval of the twenty-sixth and twenty-seventh resolutions by the Ordinary and Extraordinary Shareholders' Meeting to be held on 6 May 2020, the Supervisory Board authorized the renewal in 2020 of the following:

- for the thirteenth consecutive year, a performance share allocation plan, subject to continued service and performance conditions, for the benefit of the Chairman and members of the Management Board, members of the Executive Committee and managers and executives;
- for the thirteenth consecutive year, a stock subscription or purchase options allocation plan, subject to continuous service and performance conditions, for the benefit of members of the Management Board and the Executive Committee and, again for managers and executives in 2020.

For the Chairman and the members of the Management Board, as well as for members of the Executive Committee, the distribution between the two instruments is 50% performance shares and 50% share purchase or subscription options. Overall, to ensure consistency with the balance sought in elements of compensation, the portion to be allotted to members of the Management Board may not exceed 15% of the total performance shares and 50% of the total share purchase or subscription options allotted.

To determine the number of performance shares and stock options allocated to the Chairman and members of the Management Board, the ACGC measures the fair value of these instruments and then sets an allocation volume that ensures a balance of the compensation and benefits between the three elements (fixed portion, variable portion and long-term incentive instruments). In recent years, adverse changes in the fair value of these instruments, however, has not made it possible to ensure this balance. On the recommendation of the ACGC, the Board decided that for the allocation of performance shares and stock options to the Management Board it would gradually return to a value that represents approximately one third of the total of the three target components of compensation and benefits (fixed portion, variable portion and long-term incentive instruments). In this regard, the volume of performance shares and options allotted to the Management Board represented at target 22% in 2017, 25% in 2018 and 12% in 2019 of the total of these three components of compensation and benefits for an on-target performance. It should be noted that in 2019, given the drop in share price, and to avoid any deadweight effect, the Supervisory Board decided to temporarily stop implementing this objective of gradually increasing the allocation value, and allocated the same number of performance shares and options to the Management Board as in 2018.

For 2020, the Supervisory Board, based on the ACGC's proposal, decided that the volume of performance shares and stock options allocated to the Management Board would represent one third of the total of those three components of compensation (fixed portion, variable portion and long-term incentive instruments) for an on-target performance.

The number of performance shares and options definitively allocated to beneficiaries following the performance assessment period will be calculated by applying a factor which measures the performance for each of the criteria to the number of performance shares and options initially allocated for target performance. No outperformance factor shall be applied, with the number of performance shares and options initially allocated thus representing a ceiling.

Performance shares

Subject to the approval of the twenty-seventh resolution by the Ordinary and Extraordinary Shareholders' Meeting of 6 April 2020, performance shares allocated to the Chairman and members of the Management Board in 2020 will be subject to performance conditions assessed over three years and measured on the basis of the following two quantitative criteria in line with the Group's objectives:

- two absolute internal criteria:
  - Group cost reductions (Gross savings as a % of the N-1 baseline and excluding DCOS) for the 2020, 2021 and 2022 fiscal years (40% weighting),
  - the ratio of carbon emissions due to Vallourec's industrial processes and the purchase of electricity generated by fossil fuel to sales volume, in metric tons (emissions of non-biogenic carbon) between 2020 and 2022 (20% weighting);
- an external relative criterion: growth of the EBITDA margin between 2020 and 2022 compared to a panel of comparable companies comprised as follows: Hunting Plc, United States Steel Corp., Nippon Steel Corp., Tubacex SA, Tenaris SA, Schlumberger, Halliburton, Tubos Reunidos SA, Timken Steel Corp., Salzgitter AG, ArcelorMittal SA, TMK and NOV (40% weighting).

The number of performance shares definitively allocated to the Chairman and members of the Management Board following the performance assessment period shall be calculated by applying a factor which measures the performance for each of the criteria to the number of performance shares initially allocated. This allocation factor will vary from 0 to 1 under the following conditions:

- absolute internal criterion based on cost reduction (F1): factor 1 would correspond to achieving the medium-term plan objectives during the performance vesting period (the "F1 Planned Performance"). It would be 0 if the performance achieved was 2 or more points less than the F1 Planned Performance, and 1 if the performance achieved was more than or equal to the F1 Planned Performance. A linear progression will be applied between limits;
- absolute internal criterion based on carbon emissions ratio: the factor would correspond to 100% for a ratio lower than or equal to 42, the factor would correspond to 80% for a ratio lower than or equal to 44 and greater than 42, the factor would correspond to 50% for a ratio lower than or equal to 46 and greater than 44, the factor would correspond to 5% for a ratio lower than or equal to 48 and greater than 46, the factor would correspond to 0 for a ratio greater than 48. A linear progression will be applied between limits;
- external relative criterion based on the growth of the EBITDA margin (F2): factor 1 would correspond to growth of the EBITDA margin that is equal to or greater than the median growth of the gross margin of the panel (the "Panel Performance"). It would be zero if the performance achieved was 2 points or more lower than the Panel Performance. A linear progression will be applied between limits.

Stock subscription or purchase options plans

Subject to the approval of the twenty-sixth resolution by the Ordinary and Extraordinary Shareholders' Meeting of 6 April 2020, stock subscription or purchase options allocated to the Chairman and members of the Management Board in 2020 will be subject to performance conditions assessed over four years and measured on the basis of two quantitative criteria as follows:

- an internal absolute criterion: aggregate net cash flow for the Group in 2020, 2021, 2022, and 2023 compared to the planned performance in the Group's medium-term plan for the same period (weighting 40%);
- two external relative criteria:
  - Total Shareholder Return (TSR) for 2020, 2021, 2022, and 2023 compared to a panel of comparable companies comprised as follows: Hunting Plc, United States Steel Corp., Nippon Steel Corp., Tubacex SA, Tenaris SA, Schlumberger, Halliburton, Tubos Reunidos SA, Timken Steel Corp., Salzgitter AG, ArcelorMittal SA, TMK and NOV (40% weighting),
  - the average of assessments of the Company carried out by three non-financial performance rating agencies: Vigeo, Sustainalytics and EcoVadis (20% weighting).

The number of options that were definitively allocated to the Chairman and members of the Management Board following the vesting period will be calculated by applying a factor that measures the performance for each of the criteria to the number of options initially allocated. This factor will vary from 0 to 1 under the following conditions:

- absolute internal criterion based on the aggregate free cash flow of the Group (F1): factor 1 would be equal to or greater than the achievement of the medium-term plan objectives during the performance vesting period (the "F1 Planned Performance"). It would be zero if the performance achieved was less than 70% of the F1 Planned Performance. A linear progression will be applied between limits;
- external relative criterion based on the Total Shareholder Return (TSR) (F2): the factor would be equal to 1 if the performance achieved exceeded the 8th decile of the panel and equal to 40% for a performance between the 5th and 6th deciles of the panel of comparable companies. It would be zero if the performance achieved was lower than the 4th decile of the panel. A linear progression will be applied between limits;
- external relative criterion based on assessment by three external agencies: the factor would be equal to 1 if the average is greater than or equal to 78.6%, for an average of between 77.1% and 78.5% the factor would be 80%, for an average of between 75.6% and 77% the factor would be 50%, for an average of between 74% and 75.5% the factor would be 20%, for an average of less than or equal to 74% the factor would be 0. A linear progression will be applied between limits.

The confidential nature of the first absolute criteria on performance shares and stock subscription or purchase options does not allow their target content to be disclosed. However, at the end of the performance assessment period, Vallourec will communicate the minimum, target and maximum thresholds to be achieved and the linear progression applied between them.

Within the set of performance objectives for performance shares and stock options, the relative criteria represent 50%.

The Supervisory Board considers that the performance criteria that apply to stock subscription or purchase options and performance shares allocated to the Chairman and members of the Management Board are correlated to the medium and the long-term evolution of the Group's overall performance and results.

The Chairman and members of the Management Board are required to retain until the end of their terms of office (i) one quarter of the performance shares allocated to them under the terms of a plan and (ii) the equivalent in Vallourec shares of one quarter of the gross capital gain realized on the date of sale of the shares resulting from the options exercised. Moreover, they agree not to use hedging instruments in connection with the exercise of options, selling shares resulting from the exercise of options, or selling performance shares.

As recommended by the AFEP-MEDEF Code, the Supervisory Board may, when allocating stock subscription or purchase options and performance shares, provide for a stipulation authorizing it to determine whether or not to maintain all or part of the long-term compensation plans that are not yet vested, options not yet exercised, or performance shares not yet vested at the time of the beneficiary's departure. Performance conditions would in any event be applied for the entire performance assessment period prescribed by each plan.

7.2.1.2.3.5 Benefits in kind of the Chairman and members of the Management Board

In terms of benefits in kind, the Chairman and members of the Management Board benefit, as do the majority of the Group's senior executives, from a Company car.

7.2.1.2.3.6 Attendance fees of the Chairman and members of the Management Board

Management Board members do not collect any compensation or attendance fees for the corporate offices they hold in direct or indirect subsidiaries of the Vallourec Group.

7.2.1.2.3.7 Supplementary pension scheme of the Chairman and members of the Management Board

In accordance with market practices and to retain the Group's senior executives, the Chairman and members of the Management Board are offered a comprehensive supplementary retirement plan to enable them to save for retirement, while preserving the economic interests of the Company via defined performance conditions.

This new system was set up in 2016 to replace the defined-benefit supplementary pension scheme previously in effect. This new scheme will ensure each of its beneficiaries, individually, a net annuity level equal to that of the previous plan, while allowing Vallourec to achieve savings of around 22%.

This plan, subject to the regulated agreements procedure of Articles L. 225-86 *et seq.* and Article L. 225-90-1 of the French Commercial Code, was approved by the Shareholders' Meeting of 6 April 2016 (sixth, eighth and ninth resolutions).

The supplementary pension scheme introduced in 2016 includes three components:

Closing of the defined benefit scheme (Article 39 of the French General Tax Code)

The Chairman and members of the Management Board who benefited, along with 22 other senior executives meeting the eligibility requirements, from the defined benefit scheme under the terms and conditions set by the closing regulation, under which no new potential rights will be created with respect to the closed scheme and beneficiaries may only benefit from "crystallized" vested rights upon liquidation of their social security pension.

Mandatory group defined contribution scheme (Article 83 of the French General Tax Code)

The Chairman and members of the Management Board benefit from a mandatory group defined-contribution retirement scheme open to all employees who meet the eligibility requirements[(1)]. The contribution to this scheme is set at 12% of the compensation that falls between four and eight times the Social Security cap. The scheme can only be liquidated upon liquidation of the social security pension.

The Company's financial obligation is strictly limited in terms of amount and time since it can close the scheme at any time.

Individual scheme subject to performance criteria (Article 82 of the French General Tax Code)

The Chairman and members of the Management Board, along with other senior executives meeting the eligibility requirements[(2)], benefit from an individual defined-contribution pension scheme to which the Company contributes and for which, in the spirit of the Macron Law, the Supervisory Board decided to establish performance criteria.

With respect to these performance conditions, the Board has decided to determine the effective contribution rate based on the annual bonus rate: the maximum contribution will be payable for the year in the case of an annual bonus calculated at 50% of the target; no contribution will be paid if the calculated annual bonus equals zero; the contribution will vary on a straight-line basis between limits ranging from 0 to 50%.

This mechanism remains applicable to employees who have benefited from this scheme since 2016.

For employees who had not benefited from the 2016 scheme, it is proposed that an individual scheme subject to performance criteria (Article 82 of the French General Tax Code) be implemented, with the contribution rate to the individual retirement plan defined based on the age of the beneficiary and according to the following scale:

- under 50 years of age: 5%;
- between 51 and 54 years of age: 7.5%;
- between 55 and 59 years of age: 10%;
- more than 60 years of age: 15%.

This individual retirement scheme will be implemented for new corporate officers and new senior executives who meet eligibility requirements (corporate officers, appointed to the Executive Committee). Contributions shall be based on fixed compensation plus the variable portion actually paid during the reference fiscal year.

(1) Eligible employees are Vallourec employees and, subject to the completion of legal procedures, Vallourec Tubes employees. Eligible employees are those whose annual compensation exceeds four times the Social Security cap (in 2017: 4 x €39,228), i.e. around 50 senior executives of the Group, including members of the Management Board.

(2) Eligible employees are Vallourec and Vallourec Tubes employees who have at least three years' seniority in the Group and whose compensation exceeds eight times the Social Security cap, i.e. potentially eight senior executives, including members of the Management Board.

In order to finance the contribution, the Company's share is equal to a gross amount after the deduction of employee contributions and the income tax generated by this contribution. The scheme can only be liquidated upon liquidation of the social security pension.

The latter shall continue to benefit from the provisions of the mandatory group defined-contribution scheme (Article 83 of the French General Tax Code) implemented in 2016.

The Company may terminate this scheme at any time in such a way that it does not represent a deferred obligation.

The supplementary pension scheme will be reviewed based on the new provisions of the French pension reform.

These schemes exist to improve the replacement revenue of beneficiaries and grant no specific advantage to the Chairman and members of the Management Board compared with eligible executive officers employed by the Group.

The determination of the overall compensation of the Chairman and members of the Management Board took into account the benefits under this supplementary pension scheme.

The Group's supplementary pension scheme has a replacement rate that remains clearly below market practice, regardless of the reference panel used.

7.2.1.2.3.8 Mechanisms linked to termination of the duties of the Chairman and members of the Management Board

Non-compete obligation applicable to the Chairman of the Management Board

Considering his steel industry expertise, the Supervisory Board has sought to enable the Group to safeguard its know-how and activities by imposing a conditional non-compete obligation on the Chairman of the Management Board should he leave the Group.

At its entire discretion, the Supervisory Board may decide to prohibit the Chairman of the Management Board, at the time of his departure, and for a period of 18 months following the termination of his duties as Chairman of the Vallourec Management Board, for whatever reason, from working in whatever manner with a company or a group of companies generating more than 50% of their annual consolidated revenue in the design, production, sale or use of seamless carbon tubes or any kind of solution that competes with seamless tubes in the steel industry for application in the energy field, with no territorial restrictions. Payment of the non-compete compensation shall not apply when the executive manager chooses to retire, and no compensation can be paid beyond age 65.

Should this obligation be implemented by the Board, it would result in a payment to the Chairman of the Management Board of non-compete compensation equal to 12 months of gross fixed and variable monetary compensation, which is calculated based on the average of the gross fixed and variable annual monetary compensation that has been paid during the two fiscal years preceding the date of departure.

This sum would be paid in equal monthly advances during the entire period in which the non-compete clause is applicable.

The accumulation of the compensation paid under the non-compete clause and a termination benefit, should such benefit be paid, may not under any circumstances exceed twice the average gross fixed and variable annual monetary compensation payable in respect of the two financial periods preceding the Chairman of the Management Board's departure date.

Monetary termination benefit for the Chairman and the members of the Management Board

The Supervisory Board takes into account all the benefits which may be claimed by the Chairman and each member of the Management Board in the event of dismissal, in order to decide whether or not to grant a monetary termination benefit in the event of dismissal. To this end the Board examines:

(i) the contractual severance pay, where applicable, provided for in the employment contract and likely to be due in the event of termination of said contract;

(ii) seniority in the Vallourec Group and the amount of severance pay to which the Management Board member concerned would be entitled under the applicable collective bargaining agreement in the event of termination of the employment contract for any reason other than serious misconduct.

The Supervisory Board considers that when no contractual severance pay is awarded, the Chairman or member of the Management Board in question may benefit from a monetary termination benefit.

Mr. Édouard Guinotte and Mr. Olivier Mallet, whose employment contracts are suspended for the duration of their terms of office, are not eligible for contractual severance pay. However, they are full beneficiaries of the provisions of the *Convention collective des cadres et ingénieurs de la métallurgie* (the national collective agreement for executives and engineers in the metal industry) the application of which is mandatory for Vallourec, which provides for severance pay equal to 18 months of fixed and variable compensation in the event of termination of their employment contract for any reason other than serious misconduct[1].

In accordance with the AFEP-MEDEF Code, the monetary termination benefit for the Chairman and members of the Management Board will only be due in the event of dismissal. No benefit will be due if it is possible for the interested party to invoke his retirement rights within a short period of time.

The amount of the termination benefit is limited to twice the average gross fixed and variable annual compensation payable in respect of the two fiscal years preceding the date of departure (hereinafter the "Maximum Benefit").

The benefit shall be calculated using the fixed monetary compensation payable in respect of the financial period preceding the departure date, plus the target variable monetary compensation determined for the same period (the "Reference Compensation") and may not under any circumstances exceed the Maximum Benefit.

In accordance with the AFEP-MEDEF Code, the aggregate compensation due for the termination of the employment contract under the Collective Bargaining Agreement, compensation due under the non-compete clause, for the Chairman, and the termination benefit – if one is due – may not under any circumstances exceed the Maximum Benefit.

Its amount will depend on the achievement of performance conditions set out below.

For ease of reference and transparency, the Supervisory Board, upon the ACGC's recommendation, wished to simplify the structure of performance conditions for the monetary termination benefit for the Chairman of the Management Board and members of the Management Board as of 15 March 2020.

(1) The amount of severance pay to which Mr. Édouard Guinotte would theoretically be entitled at 31 December 2019 is €363,000 and that of Mr. Olivier Mallet at the same date is €117,806. This theoretical amount was calculated based on (i) each individual's seniority, without excluding periods during which their employment contracts were suspended, (ii) the current rate of severance pay and the ceiling of 18 months of fixed and variable compensation, (iii) annual fixed and variable compensation of €360,000 for Mr. Édouard Guinotte and of €431,000 for Mr. Olivier Mallet relating to their respective employment contracts.

The amount of the termination benefit will depend on the rate of achievement of objectives set by the Supervisory Board for the annual variable monetary portion over the last three fiscal years preceding the departure date (the "Reference Period").

For an average achievement rate greater than or equal to 50%, the termination benefit shall be equal to this rate applied to the Reference Compensation, not exceeding 100% of the Reference Compensation. For an average achievement rate lower than 50%, no termination benefit shall be paid.

For the 2017, 2018 and 2019 fiscal years: the rate of achievement of objectives is calculated based on the method set out in the compensation policy applicable to members of the Management Board in office during this period. The result, expressed as the number of months of compensation, is reduced to 24 to obtain the achievement rate for the fiscal year. The achievement rates for these fiscal years are as follows:

- fiscal year 2017: 70.2%;
- fiscal year 2018: 83.6%;
- fiscal year 2019: 100%.

For fiscal years beginning as of 1 January 2020: the achievement rate taken into account is the achievement rate for the objectives set by the Supervisory Board for the annual variable monetary portion.

7.2.1.2.3.9 Special compensation of the Chairman and members of the Management Board

As recommended in the AFEP-MEDEF Code, the Supervisory Board may, on the recommendation of the ACGC, award special compensation to the Chairman and/or the members of the Management Board if very specific circumstances justify this (for example, due to their importance to the Group, the involvement they require and the difficulties they present). Its decision must be substantiated. The amount of this special compensation may not under any circumstance exceed the amount of the fixed annual monetary portion of the interested party.

Pursuant to Article L. 225-82-2 of the French Commercial Code, the payment of the elements of special compensation to the Chairman and to the members of the Management Board is subject to approval by the Ordinary Shareholders' Meeting of the elements of compensation of the individual concerned under the terms provided for in Article L. 225-100 of the French Commercial Code.

7.2.1.2.3.10 Signing bonus of the Chairman and members of the Management Board

As recommended in the AFEP-MEDEF Code, the Supervisory Board may, on the recommendation of the ACGC, award a new Chairman or a new member of the Management Board coming from an outside company a signing bonus in order to offset the loss of benefits previously enjoyed by the executive. Such compensation must be explained and made public at the time it is decided.

7.2.1.3 Compensation policy for the Chairman and members of the Supervisory Board

7.2.1.3.1 GENERAL PRINCIPLES OF THE BOARD POLICY FOR THE COMPENSATION OF THE CHAIRMAN AND MEMBERS OF THE SUPERVISORY BOARD

Members of the Supervisory Board

Members of the Supervisory Board only receive monetary compensation for the performance of their duties.

This compensation is divided by the Supervisory Board among its members, on the proposal of the ACGC, from a global annual amount of €650,000.

Members of the Supervisory Board receive a portion of their compensation as a fixed amount and another portion based on their attendance at Board meetings and meetings of Committees of which they are members.

Chairman, Vice-Chairman and Lead Member of the Supervisory Board

Only the Chairman of the Supervisory Board receives a fixed annual compensation. This is justified by the degree of involvement in the Group's affairs of the Board Chairman as he performs duties and procedures which far surpass merely attending Board and Committee meetings.

The Lead Member, who is also the Vice-Chairman, receives an additional fixed annual amount for his or her duties as Lead Member and participation in Group Committees in this capacity.

The Chairman of the Supervisory Board, along with the other members, is not allocated any options, performance shares or termination payments of any kind.

Members of the Supervisory Board are required to personally be shareholders of the Company throughout the entire term of their office, under the conditions set by the bylaws and internal regulations of the Board, for a minimum of 500 Vallourec shares[(1)].

(1) *Starting on the day of their appointment, members of the Supervisory Board must hold at least 50 Vallourec shares. The 450 additional shares must be acquired by 31 December of the year following the year they take office, in order to allow them to use their attendance fees to acquire them. These provisions do not apply to the member representing employee shareholders and to the member representing the employees.*

7.2.1.3.2 COMPONENTS OF COMPENSATION FOR THE CHAIRMAN AND MEMBERS OF THE SUPERVISORY BOARD

Participation in meetings of the Supervisory Board

As recommended by the AFEP-MEDEF Code, which requires that the fraction of attendance fees based on actual attendance be predominant in relation to the fixed portion, the fixed portion amounts to €12,000, i.e. one-third of compensation, and the variable portion based on actual attendance amounts to €21,000, i.e. two-thirds of compensation.

The Lead Member, who is also the Vice-Chairman, receives an additional fixed annual amount of €40,000 for his or her duties as Lead Member and participation in Group Committees in this capacity.

Participation in Committee meetings

The Chairman and the members of each of the Committees receive additional compensation based on their actual attendance at meetings of these Committees, at the rate of €2,500 per meeting. The Chairman additionally collects an annual fixed portion of €12,500 pertaining to the Finance and Audit Committee, and €6,250 pertaining to the Appointments, Compensation and Governance Committee and the CSR Committee.

Compensation of the Chairman

The Chairman of the Board receives fixed annual compensation of €320,000 that has not changed since it was set in 2014.

7.2.2 Compensation and benefits awarded to corporate officers

Compensation of members of the Management Board

The following tables show the compensation paid to members of the Management Board as it was comprised as at 31 December 2019.

A) SUMMARY OF COMPENSATION AND OPTIONS AND PERFORMANCE SHARES ALLOCATED TO EACH MEMBER OF THE MANAGEMENT BOARD (ACCORDING TO THE FORMAT OF TABLE 1 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR *(AUTORITÉ DES MARCHÉS FINANCIERS)*

The following table summarizes the compensation due and the valuation of the share subscription options and performance shares allocated for fiscal years 2018 and 2019.

In €	Fiscal year 2018	Fiscal year 2019
PHILIPPE CROUZET, CHAIRMAN OF THE MANAGEMENT BOARD		
Compensation allocated for the fiscal year (see Part B) of paragraph 7.2.2 herein)	1,536,033	1,687,973
Valuation of options allocated during the year (see Part C) of paragraph 7.2.2 herein)[a]	124,460	58,570
Valuation of performance shares allocated during the year (see Part E) of paragraph 7.2.2 herein)[b]	389,638	164,552
TOTAL	**2,050,131**	**1,911,095**
OLIVIER MALLET, CHIEF FINANCIAL OFFICER		
Compensation allocated for the fiscal year (see Part B) of paragraph 7.2.2 herein)	737,754	798,150
Valuation of options allocated during the year (see Part C) of paragraph 7.2.2 herein)[a]	57,324	26,976
Valuation of performance shares allocated during the year (see Part E) of paragraph 7.2.2 herein)[b]	179,464	75,791
TOTAL	**974,542**	**900,917**

(a) All share subscription options allocated to members of the Management Board in 2018 and 2019 are contingent upon performance conditions. Their valuation, which is shown in the table, is theoretical and results from the application of the binomial model used for the consolidated financial statements.

(b) All the performance shares allocated to members of the Management Board in 2018 and 2019 were subject to performance conditions. The valuation of the performance shares shown in the table is theoretical and results from the application of the binomial model used for the consolidated financial statements.

B) SUMMARY OF COMPENSATION FOR EACH MEMBER OF THE MANAGEMENT BOARD (ACCORDING TO THE FORMAT OF TABLE 2 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

	Fiscal year 2018		Fiscal year 2019	
In €	Amounts due for the fiscal year	Amounts paid for the fiscal year	Amounts due for the fiscal year	Amounts paid for the fiscal year
PHILIPPE CROUZET, CHAIRMAN OF THE MANAGEMENT BOARD				
Fixed compensation	798,000	798,000	798,000	798,000
Annual variable compensation	606,160	786,084	758,100	606,160
Article 82 payment in cash[(a)]	127,500	127,500	127,500	127,500
Extraordinary compensation	-	-	-	-
Attendance fees	-	-	-	-
Benefits in kind[(b)]	4,373	4,373	4,373	4,373
TOTAL	**1,536,033**	**1,715,957**	**1,687,973**	**1,536,033**
OLIVIER MALLET, CHIEF FINANCIAL OFFICER				
Fixed compensation	420,000	420,000	420,000	420,000
Annual variable compensation	238,854	307,970	299,250	238,854
Article 82 payment in cash[(a)]	73,500	73,500	73,500	73,500
Extraordinary compensation	-	-	-	-
Attendance fees	-	-	-	-
Benefits in kind[(b)]	5,400	5,400	5,400	5,400
TOTAL	**737,754**	**806,870**	**798,150**	**737,754**

(a) *Amount paid in cash under the supplementary individual defined-contribution retirement plan (Article 82). 50% of the amounts are paid in the form of a contribution and 50% in cash, as explained in Section 7.2.3.2 and Section 7.4.2.3.7.*

(b) *The benefit in kind measured corresponds to the use of a Company car.*

The principles and criteria for determining the variable monetary compensation of members of the Management Board as well as a breakdown of the benefits in kind are presented for fiscal year 2019, in the Supervisory Board report on the compensation policy for corporate officers (see Section 2.1 to Chapter 7 of the 2019 Universal Registration Document) and for fiscal year 2018 in the Supervisory Board report on the compensation policy for corporate officers (see Section 2.1 to Chapter 7 of the 2018 Registration Document).

C) SHARE PURCHASE OR SUBSCRIPTION OPTIONS ALLOCATED DURING FISCAL YEAR 2019 TO EACH MEMBER OF THE MANAGEMENT BOARD BY VALLOUREC AND EACH GROUP COMPANY (ACCORDING TO THE FORMAT OF TABLE 4 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

Name of executive corporate officer	Plan number and date	Type of options	Valuation of options according to the method used for the consolidated financial statements	Number of options allocated during the fiscal year[(a)]	Exercise price	Exercise period
Philippe Crouzet	2019 Plan 17/06/2019	Share subscription option	€58,666	122,220 *i.e. 0.027% of the share capital*[(b)]	€2.20	From 17/06/2023 to 17/06/2027 (inclusive)
Olivier Mallet	2019 Plan 17/06/2019	Share subscription option	€26,976	56,200 *i.e. 0.012% of the share capital*[(b)]	€2.20	From 17/06/2023 to 17/06/2027 (inclusive)
TOTAL			**€85,642**	**178,420** ***i.e. 0.039% of the share capital***[(b)]		

(a) *The number corresponds to the factor 1, which is equivalent to the performance target. It may be increased by applying a performance factor of 2 if the performance target is exceeded.*

(b) *Based on share capital as at 31 December 2019, comprised of 457,987,760 shares.*

The share subscription options allocated to members of the Management Board in 2019 are subject to performance conditions assessed over four years and measured based on the following two quantitative criteria:

- an internal criterion: aggregate net cash flow for the Group in 2018, 2019, 2020 and 2021 compared to the planned performance in the Group's medium-term plan for the same period (weighting 50%);
- an external criterion: Total Shareholder Return (TSR) for 2018, 2019, 2020 and 2021 compared to a panel of comparable companies (weighting 50%).

The panel of comparable companies shall be comprised of the following companies from the Oil & Gas, Energy and Steel sectors: ArcelorMittal SA, Hunting Plc, Nippon Steel & Sumitomo Metal Corp., NOV, Salzgitter AG, Seah Steel Corp., Tenaris SA, Timken Steel Corp., TMK, Tubacex SA, Tubos Reunidos SA, United States Steel Corp. and Voestalpine AG.

The number of options definitively allocated to members of the Management Board after the performance assessment period is calculated by applying a factor which measures performance for each of the criteria to the number of options initially allocated. This factor will vary from 0 to 2. The number of options allocated will be nil below a level of performance, which corresponds to the minimum threshold; it will be 1 if the performance target was attained. If all objectives are achieved at their maximum, a factor of 2 shall be applied to the target allocation.

At the end of the performance assessment period, Vallourec will communicate the minimum and maximum thresholds to be achieved and the linear progression applied between them.

D) SHARE SUBSCRIPTION OR SHARE PURCHASE OPTIONS EXERCISED DURING 2019 BY EACH MEMBER OF THE MANAGEMENT BOARD

No members of the Management Board exercised share subscription or purchase options in 2019 under the share subscription option or purchase plans created in previous years.

E) PERFORMANCE SHARES ALLOCATED DURING FISCAL YEAR 2019 TO EACH MEMBER OF THE MANAGEMENT BOARD BY VALLOUREC AND EACH GROUP COMPANY (ACCORDING TO THE FORMAT OF TABLE 6 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

Name of executive corporate officer	Plan number and date	Number of target shares allocated during the fiscal year(a)	Valuation of shares according to the method used for the consolidated financial statements	Vesting date	Availability date	Performance conditions
Philippe Crouzet	2019 Plan 17/06/2019	85,260 *i.e. 0.019% of the share capital(b)*	€164,552	17/06/2022	17/06/2024	Yes
Olivier Mallet	2019 Plan 17/06/2019	39,270 *i.e. 0.009% of the share capital(b)*	€75,791	17/06/2022	17/06/2024	Yes
TOTAL		**124,530** ***i.e. 0.027% of the share capital(b)***	**€240,343**			

(a) The number corresponds to the factor 1, which is equivalent to the performance target. It may be increased by applying a performance factor of 2 if the performance target is exceeded.

(b) Based on share capital as at 31 December 2019, comprised of 457,987,760 shares.

The performance shares allocated to members of the Management Board in 2019 are subject to performance conditions assessed over three years and measured based on the following two quantitative criteria:

- an internal criterion: reduction of costs in 2018, 2019 and 2020 compared to the planned performance in the Group's medium-term plan for the same period (weighting 50%);
- an external criterion: growth of the EBITDA margin between 2018 and 2020 compared to a panel of comparable companies (weighting 50%).

The panel of comparable companies shall be comprised of the following companies from the Oil & Gas, Energy and Steel sectors: ArcelorMittal SA, Hunting Plc, Nippon Steel Corporation (NSC, formerly NSSMC), NOV, Salzgitter AG, Seah Steel Corp., Tenaris SA, Timken Steel Corp., TMK, Tubacex SA, Tubos Reunidos SA, United States Steel Corp. and Voestalpine AG.

The number of performance shares definitively allocated to members of the Management Board after the performance assessment period is calculated by applying a factor which measures performance for each of the criteria to the number of options initially allocated. This factor will vary from 0 to 2. The number of options allocated will be nil below a level of performance, which corresponds to the minimum threshold; it will be 1 if the performance target was attained. If all objectives are achieved at their maximum, a factor of 2 shall be applied to the target allocation.

At the end of the performance assessment period, Vallourec will communicate the minimum and maximum thresholds to be achieved and the linear progression applied between them.

F) PERFORMANCE SHARES THAT BECAME AVAILABLE DURING FISCAL YEAR 2019 FOR EACH MEMBER OF THE MANAGEMENT BOARD (ACCORDING TO THE FORMAT OF TABLE 7 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

Starting in 2013, the performance share plans shifted over to a 3+2 mechanism (previously 2+2). Consequently, the next performance shares shall become available in 2019.

Performance shares vested during fiscal year 2019 for each member of the Management Board

Name of executive corporate officer	Plan number and date	Number of shares allocated on 18/05/2016(a)	Number of shares vested on 18/05/2019	Percentage of shares vested on 18/05/2019
Philippe Crouzet	2016 Plan 18/05/2016	22,036	0	0%
Olivier Mallet	2016 Plan 18/05/2016	10,370	0	0%
TOTAL		**32,406**	**-**	**0%**

(a) The number corresponds to the factor 1, which is equivalent to the performance target. It may be increased by applying a performance factor of 1.33 if the performance target is exceeded.

G) HISTORY OF SHARE SUBSCRIPTION OR SHARE PURCHASE OPTIONS ALLOCATED (ACCORDING TO THE FORMAT OF TABLE 8 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

The history of the share subscription or share purchase options allocated appears in Section 7.3.1.1 of this Chapter.

H) HISTORY OF PERFORMANCE SHARE ALLOCATIONS (ACCORDING TO THE FORMAT OF TABLE 9 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

The history of the performance shares allocated appears in Section 7.3.1.2 of this Chapter.

I) SHARE SUBSCRIPTION OR PURCHASE OPTIONS ALLOCATED TO THE TOP TEN EMPLOYEES WHO ARE NOT CORPORATE OFFICERS AND OPTIONS EXERCISED BY THEM (ACCORDING TO THE FORMAT OF TABLE 9 RECOMMENDED BY THE AFEP-MEDEF CODE AND THE FRENCH SECURITIES REGULATOR)

	Total number of options allocated/shares subscribed or purchased	**Weighted average exercise price** *(in €)*	**Share subscription or share purchase option plans**
Options allocated during the year to the 10 Group employees to whom the largest number of options was allocated	176,000	2.20	Plan of 17 June 2019
Options exercised during the year by the 10 Group employees who purchased or subscribed for the largest number of options	–	–	–

The definitive allocation of subscription options issued under the plan put in place on 15 June 2018 is subject to conditions of performance and continuous service.

J) SUMMARY OF DEPARTURE MECHANISMS AND STATUS OF MEMBERS OF THE MANAGEMENT BOARD (ACCORDING TO THE FORMAT OF TABLE 10 RECOMMENDED BY THE AFEP-MEDEF CODE AND TABLE 11 RECOMMENDED BY THE FRENCH SECURITIES REGULATOR)

	Employment contract		**Supplementary retirement plan**(d)		**Payments or benefits due or likely to become due in respect of termination of office or change of position**(e)		**Compensation for a non-compete clause**(f)	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**
PHILIPPE CROUZET Chairman of the Management Board *Date of first appointment: 1 April 2009*(a) *Date of appointment as Chairman of the Management Board: 1 April 2009*(a) *Date renewed: 15 March 2016*(a) *Date on which appointment ceases: 15 March 2020*(a)		○	○		○		○	
OLIVIER MALLET Member of the Management Board *Date of first appointment: 30 September 2008*(b) *Date renewed: 15 March 2016*(b) *Date on which appointment ceases: 15 March 2020*(c)	○(c)		○		○			○

(a) At its meeting on 25 February 2009, the Supervisory Board appointed Mr. Philippe Crouzet as Chairman of the Management Board as from 1 April 2009, thereby succeeding Mr. Pierre Verluca for the remainder of Mr. Verluca's term of office, i.e. until 15 March 2012. On 22 February 2012, the Supervisory Board renewed his appointment as Chairman of the Management Board, effective from 15 March 2012 until 15 March 2016. On 29 January 2016, the Supervisory Board renewed Mr. Philippe Crouzet's appointment as Chairman of the Management Board, effective from 15 March 2016 until 15 March 2020.

(b) On 29 September 2008, the Supervisory Board appointed Mr. Olivier Mallet as member of the Management Board, with effect from 30 September 2008 until 15 March 2012. On 22 February 2012, the Supervisory Board renewed his appointment as member of the Management Board, effective from 15 March 2012 until 15 March 2016. On 29 January 2016, the Supervisory Board renewed his appointment as member of the Management Board, effective from 15 March 2016 until 15 March 2020.

(c) The employment contract is suspended throughout the Management Board member's term on the Management Board.

(d) For a description of the supplementary retirement plan, see 7.2.3.2 below.

(e) For a description of the payments or benefits that are due or that may be due as a result of a termination or change of office, see 7.2.1.2.3.8 above.

(f) For a description of the compensation for a non-compete clause, see 7.2.1.2.3.8.1 above.

7.2.3 Compensation and retirement commitments of the Group's main executives

7.2.3.1 Compensation of the Group's main senior executives

The total amount of all direct and indirect compensation paid in 2019 by the Group's French and foreign companies to all of the Group's main senior executives (i.e. the members of the Executive Committee as composed in 2019, excluding the members of the Management Board) amounted to €3,545 thousand. Variable compensation represented 21% of this total.

The share subscription options and performance shares allocated during the fiscal year to the members of the Executive Committee are valued according to the method used for the consolidated financial statements, at €286 thousand.

7.2.3.2 Retirement commitments

At the recommendation of the Appointments, Compensation and Governance Committee, the Supervisory Board Meeting of 17 February 2016 authorized the establishment of a new supplementary retirement plan, to replace the supplementary mandatory Group retirement plan with defined benefits, which it authorized closing to new benefits. In accordance with Articles L. 225-86 *et seq.* and Article L. 225-90-1 of the French Commercial Code *(Code de commerce),* this new plan was approved by the Shareholders' Meeting of 6 April 2016.

As a result, the retirement commitments and other life annuities for corporate officers comprise, in addition to the ARRCO and AGIRC mandatory supplementary plans, a defined benefit scheme (closed), a mandatory group defined contribution scheme, and an individual defined contribution scheme for which the main characteristics are provided below.

- Main characteristics of the defined benefit retirement scheme:
  - This scheme related to Article L. 137-11 of the French Social Security Code and was approved by the Shareholders' Meetings of 1 June 2006 and 4 June 2009.
  - The scheme was closed to new beneficiaries and all new rights on 31 December 2015.
  - The scheme included 20 executive managers or corporate officers, it being stated that the rights to the defined benefits retirement are random. The seniority condition was three years at the closing of the scheme on 31 December 2015.
  - The annuity did not exceed 20% of the average basic compensation for the last three years and was limited to four times the annual social security ceiling. The reference compensation is the average compensation for the last three years (excluding the variable portion) as at 31 December 2015.
  - The regime is financed by contributions paid to an insurance body and is subject to a company contribution as stated in Article L. 137-11 of the French Social Security Code at the rate of 24%. Financing of the scheme by Vallourec cannot be made on an individual basis.
  - The estimated amount of the annual annuity that will be paid to Management Board members for this scheme during settlement of French Social Security retirement rights, calculated as at 31 December 2019, is indicated below for each member of the Management Board:

Members of the Management Board	Estimated amount of the annual annuity as at 31 December 2019
Philippe Crouzet	€106,019
Olivier Mallet	€52,950

- Main characteristics of the defined contribution mandatory group retirement scheme:
  - This scheme related to Article L. 242-1 of the French Social Security Code and relating to Article 83 of the French General Tax Code and was approved by the Shareholders' Meeting of 6 April 2016.
  - This scheme is mandatory for all Vallourec Tubes and Vallourec employees and corporate officers who meet the eligibility requirements, i.e. whose gross annual compensation exceeds four times the annual social security ceiling. There is no seniority requirement. The scheme includes around fifty managers or corporate officers.
  - Vallourec's commitment is limited to payment to the insurance body of a contribution of 12% of the fixed and variable compensation that falls between five and eight times the Social Security ceiling (Tranche C). In 2019, the contribution paid for this purpose to each of the Management Board members was: €19,451.52. The contribution is partially subject to social security costs.
  - Vallourec's financial commitment is strictly limited in terms of amount and time since it can close the scheme at any time.
  - The estimated amount of the annuity that will be paid to Management Board members for this scheme during settlement of French Social Security retirement rights, calculated as at 31 December 2019, is indicated below for each member of the Management Board:

Members of the Management Board	Estimated amount of the annual annuity as at 31 December 2019[(a)]
Philippe Crouzet	€3,485
Olivier Mallet	€3,485

(a) On the basis of retirement at 62 years of age and with a post-retirement life expectancy of 20 years.

- Main characteristics of the individual retirement scheme:
  - This mechanism, related to Article 82 of the French General Tax Code, was approved by the Shareholders' Meeting of 6 April 2016.
  - The scheme is individual and discretionary. In addition, the beneficiaries must have a three-year seniority within the Group and a gross annual compensation that exceeds eight times the annual Social Security ceiling. The scheme includes around ten senior executives or corporate officers.
  - Vallourec's commitment is limited to payment of an annual amount for retirement comprising 50% contributions made to an insurance body and 50% cash, taking into account the tax characteristics of the scheme, imposing taxation at entry.
  - In the spirit of the Macron law, the payment made under this scheme for Management Board members is subject to a performance condition: the maximum contribution is due for a year in the case of an annual bonus being awarded, calculated at 50% of the target of the bonus and no contribution is paid

for an annual bonus calculated at zero. The contribution varies linearly between 0%-50%.

- Vallourec's financial commitment is strictly limited in terms of amount and time since it can close the scheme at any time.
- According to the applicable performance criteria and after deducting contributions, employee contributions and the relative income tax, the estimated amount of the annuity that will be paid to Management Board members for this scheme during settlement of French Social Security retirement rights, calculated as at 31 December 2019, is indicated below for each member of the Management Board:

Members of the Management Board	Estimated amount of the annual annuity as at 31 December 2019[a]
Philippe Crouzet	€25,500
Olivier Mallet	€14,700

(a) On the basis of retirement at 62 years of age and with a post-retirement life expectancy of 20 years.

7.3 Executive management interests and employee profit sharing

At its meeting of 13 May 2009, the Supervisory Board approved a policy for strengthening employees' involvement in the Group's results as presented by the Management Board.

In 2019, this policy was determined during the Supervisory Board meetings of 19 February (along with the performance share and share subscription option allocation plans for managers). The Supervisory Board also determined, at its meeting on 19 February 2019, the principles of compensation for Management Board members, in the form of performance shares and share subscription options.

This information was made public in accordance with the AFEP-MEDEF Corporate Governance Code through the information provided on the Company's website on 20 February 2019 (www.vallourec.com).

Vallourec aims to supplement the compensation paid to its employees with various plans designed to involve them in sharing in the Group's performance over the long term and build a significant level of employee share ownership, in line with Vallourec's development goals. The policy will gradually be extended to all categories of Group staff worldwide, subject to and in accordance with local legislation and regulations and budgetary constraints (for example, those relating to the relationship between the number of staff in a country and the cost of implementing the policy).

Vallourec's second aim is to achieve closer convergence between the interests of Vallourec's management and those of its shareholders over the long term through the annual allocation of options and/or performance shares subject to the achievement of performance targets over several fiscal years.

These allocations have been gradually extended to a growing number of Group managers, according to a scope and volume that has been defined based on a Hay chart established at the global level. They are contingent upon:

- continuing employment within the Company; and
- the fulfillment of objective and predefined performance requirements.

Beneficiaries are encouraged, through these allocations, to make greater efforts to improve net profit and help the Group achieve the targets it has set for itself.

7.3.1 Options and performance shares

The Supervisory Board sets the maximum number of share subscription or share purchase options and performance shares, and their allocation conditions to the members of the Management Board.

The Supervisory Board also approves the maximum number of beneficiaries and the maximum number of share subscription or share purchase options and performance shares that the Management Board proposes to allocate to Group employees under the terms of a plan.

The Management Board is responsible for determining the conditions for implementing any allocations of share subscription or share purchase options and performance shares, including the identification of beneficiaries of such plans and, in the case of share subscription or share purchase options, the reference price. It is also responsible for ensuring the proper implementation of each plan and reports to the Supervisory Board, in the context of its control function.

The number of performance shares and options mentioned in Sections 7.3.1.1 and 7.3.1.2 below correspond to a factor of 1, equivalent to the performance target. Some figures have been adjusted, where necessary, to take account of the capital increase with maintenance of the Shareholders' preferential subscription rights on 3 May 2016.

Members of the Management Board are required to retain until the end of their terms of office (i) one quarter of the performance shares allocated to them under the terms of a plan and (ii) the equivalent in Vallourec shares of one quarter of the gross capital gain realized on the date of sale of the shares resulting from the options exercised. They formally agree not to hedge their risks on either options or shares resulting from the exercise of options, or on performance shares.

Furthermore, with regard to the confidential information obtained in the course of their duties, the members of the Management Board are required to comply with the provisions established by the Supervisory Board concerning the periods during which members in possession of insider knowledge may not buy, sell or take positions in the Company's shares or in any other financial instrument linked to Vallourec shares (options, warrants, etc.), i.e. the thirty (30) calendar days preceding the publications of the annual and semi-annual results and fifteen (15) calendar days preceding the publications of the first quarter and third quarter results as well as the day of publication and the following day, without prejudice to the current statutory and regulatory provisions on "insider trading".

7.3.1.1 Share subscription and/or purchase options

	2010 Plan	2011 Plan	2012 Plan	2013 Plan
Date of Shareholders' Meeting	4 June 2009	4 June 2009	31 May 2012	31 May 2012
Date of allocation by the Management Board	1 September 2010	1 September 2011	31 August 2012	2 September 2013
Number of beneficiaries when plan implemented	349	743	387	406
Total number of shares that can be subscribed, including those that can be subscribed by:	517,865	684,521	883,602	1,003,746
• Philippe Crouzet	27,149 i.e. 0.006% of the share capital(b)	21,992 i.e. 0.005% of the share capital(b)	0	54,981 i.e. 0.012% of the share capital(b)
• Jean-Pierre Michel	12,340 i.e. 0.003% of the share capital(b)	9,997 i.e. 0.002% of the share capital(b)	0	24,991 i.e. 0.006% of the share capital(b)
• Olivier Mallet	9,873 i.e. 0.002% of the share capital(b)	7,997 i.e. 0.002% of the share capital(b)	0	19,993 i.e. 0.004% of the share capital(b)
Percentage of the share capital that may potentially be allocated to members of the Management Board(a)(b)	0.01%	0.009%	0.00%	0.02%
Total number of options allocated to the 10 Group employees who are not corporate officers and to whom the largest number of options was allocated	42,706	29,072	89,631	77,577
Total potential dilution of the plan at the allocation date(b)	0.08%	0.080%	0.20%	0.22%
Date from which options may be exercised	1 September 2014	1 September 2015	1 April 2017	3 March 2018
Expiration date of exercise period	1 September 2020	1 September 2021	31 August 2020	1 September 2021
Exercise price(c)	€42.72	€36.44	€22.21	€27.70
Performance conditions	Yes(d)	Yes(e)	Yes(f)	Yes(g)
Number of shares subscribed	-	-	-	-
Total number of options canceled or expired since the allocation date	217,154	384,355	865,502	450,152
Options remaining as at 31 December 2019	300,711	300,166	18,100	553,594
Total potential dilution of the plan as at 31 December 2019(b)	0.07%	0.070%	0.00%	0.13%

(a) Based on the composition of the Management Board as at 31 December 2019.

(b) Based on the 457,987,760 shares comprising the share capital as at 31 December 2019.

(c) Average price of the Vallourec share over the 20 trading days preceding the allocation date, without discount. Changes were made to the exercise prices to take account of the adjustments linked to the capital increase in May 2016.

(d) Performance condition: target ratio of the Group's consolidated EBITDA to consolidated revenue for the 2010, 2011, 2012 and 2013 fiscal years.

(e) Performance condition: target ratio of the Group's consolidated EBITDA to consolidated revenue for the 2011, 2012, 2013 and 2014 fiscal years.

(f) The definitive allocation of the subscription options issued under the plan put in place on 31 August 2012 is entirely subject to conditions of performance and continuous service. For allocations to employees (other than members of the Operational Committee), performance is assessed over fiscal years 2013, 2014, 2015 and 2016 and is dependent on achieving a target ratio of the Group's EBITDA to consolidated revenue. As concerns allocations to members of the Operational Committee, performance is assessed over fiscal years 2013, 2014, 2015 and 2016, and measured based on the following four quantitative criteria: the estimated rate of return on capital employed on a consolidated basis, the growth of consolidated sales and revenue on a like-for-like basis, as well as the relative stock market performance of Vallourec shares, and the relative performance of consolidated EBITDA measured against a group of comparable companies, comprising Tenaris and TMK.

(g) The definitive allocation of subscription options issued under the plan put in place on 2 September 2013 is subject to conditions of performance and continuous service. For allocations to employees (other than members of the Operational Committee), performance is assessed over fiscal years 2014, 2015, 2016 and 2017 and is dependent on achieving a target ratio of the Group's EBITDA to consolidated revenue. As concerns allocations to members of the Operational Committee, performance is assessed over fiscal years 2014, 2015, 2016 and 2017, and measured based on the following four quantitative criteria: the estimated rate of return on capital employed on a consolidated basis, the growth of consolidated sales and revenue on a like-for-like basis, as well as the relative stock market performance of Vallourec shares, and the relative performance of consolidated EBITDA measured against a group of comparable companies, comprising Tenaris and TMK.

(h) The definitive allocation of all subscription options issued under the plan put in place on 15 April 2014 is subject to conditions of performance and continuous service. For allocations to employees (other than members of the Executive Committee), performance is assessed over fiscal years 2014, 2015, 2016 and 2017 and is dependent on achieving a target ratio of the Group's EBITDA to consolidated revenue. As concerns allocations to members of the Executive Committee, performance is assessed over fiscal years 2014, 2015, 2016 and 2017, and is measured based on the following four quantitative criteria: the estimated rate of return on capital employed on a consolidated basis, the growth of consolidated sales and revenue on a like-for-like basis, as well as the relative stock market performance of Vallourec shares, and the relative performance of consolidated EBITDA measured against a group of comparable companies, comprising Tenaris and TMK.

2014 Plan	2015 Plan	2016 Plan	2017 Plan	2018 Plan	2019 Plan
31 May 2012	28 May 2014	28 May 2014	12 May 2017	12 May 2017	12 May 2017
15 April 2014	15 April 2015	18 May 2016	18 May 2017	15 June 2018	17 June 2019
399	486	445	11	10	10
622,261	683,413	537,895	292,500	354,220	354,220
30,152 i.e. 0.007% of the share capital[b]	-[i]	30,145 i.e. 0.007% of the share capital[b]	95,000 i.e. 0.021% of the share capital[b]	122,020 i.e. 0.027% of the share capital[b]	122,020 i.e. 0.027% of the share capital[b]
14,159 i.e. 0.003% of the share capital[b]	14,159[j] i.e. 0.003% of the share capital[b]	14,159 i.e. 0.003% of the share capital[b]	-	-	-
14,159 i.e. 0.003% of the share capital[b]	14,159[j] i.e. 0.003% of the share capital[b]	14,159 i.e. 0.003% of the share capital[b]	44,500 i.e. 0.015% of the share capital[b]	56,200 i.e. 0.012% of the share capital[b]	56,200 i.e. 0.012% of the share capital[b]
0.01%	0.01%	0.013%	0.031%	0.039%	0.039%
74,470	53,812	49,134	153,000	176,000	176,000
0.14%	0.15%	0.120%	0.060%	0.080%	0.077%
15 April 2018	15 April 2019	18 May 2020	18 May 2021	15 June 2022	17 June 2023
15 April 2022	15 April 2023	18 May 2024	18 May 2025	15 June 2026	17 June 2027
€23.13	€13.57	€3.90	€6.02	€5.50	€2.20
Yes[h]	Yes [j][k]	Yes [l]	Yes [m]	Yes [n]	Yes [o]
-	-	-	-	-	-
275,607	430,755	113,379	17,000	0	0
346,654	252,658	424,516	275,500	354,220	354,220
0.08%	0.11%	0.100%	0.060%	0.080%	0.077%

(i) At its meeting on 17 February 2016, the Supervisory Board formally recorded Mr. Philippe Crouzet's waiver of the share subscription options allocated during the 2015 fiscal year after the approval of the financial statements for that year. Consequently, the valuation of the share subscription options allocated in 2015 (i.e. €97,740) is nil in this table.

(j) As from the 2015 plans, the maximum factor has been 1.33, i.e. a maximum of 18,831 options.

(k) For allocations to employees (other than members of the Executive Committee), performance is assessed over fiscal years 2015, 2016, 2017, and 2018 and is dependent on achieving a target ratio of the Group's EBITDA to consolidated revenue. As concerns allocations to members of the Executive Committee, performance is assessed over four years and measured based on the following two quantitative criteria: the consolidated EBITDA for 2015, 2016, 2017 and 2018, and the growth in the EBITDA margin between 2015 and 2018 (based on a comparison between the growth of Vallourec's gross margin and the average growth in gross margin of a group of comparable companies. This group comprises the following: NSSMC, Halliburton, NOV, Schlumberger, Technip, Baker Hughes, TMK, Tenaris, Alstom, Areva, U.S. Steel, ThyssenKrupp, ArcelorMittal and Salzgitter AG).

(l) As concerns allocations to employees (excluding members of the Executive Committee), performance is assessed for the 2016, 2017, 2018 and 2019 fiscal years, and is dependent on achieving a target ratio of the Group's EBITDA to the budget. As concerns allocations to members of the Executive Committee, performance is assessed over four years and measured based on the following two quantitative criteria: the consolidated EBITDA for 2016, 2017, 2018 and 2019, and the growth in the EBITDA margin between 2016 and 2019 (based on a comparison between the growth of Vallourec's gross margin and the average growth in gross margin of a group of comparable companies. This group comprises the following: NSSMC, Halliburton, NOV, Schlumberger, Technip, Baker Hughes, TMK, Tenaris, Alstom, Areva, U.S. Steel, ThyssenKrupp, ArcelorMittal and Salzgitter AG).

(m) As concerns allocations to members of the Executive Committee, performance is assessed over four years and measured based on the following two quantitative criteria: the Free Cash Flow (FCF) for 2017, 2018, 2019 and 2020, and the change in Vallourec's TSR between 2017 and 2020 (comparison of Vallourec's TSR with that of the panel of competitors. This group comprises the following: Hunting Plc, United States Steel Corp., Nippon Steel & Sumitomo Metal Corp., Tubacex SA, Tenaris SA, Voestalpine AG, Seah Steel Corp., Tubos Reunidos SA, Timken Steel Corp., Salzgitter AG, ArcelorMittal SA, TMK, and NOV).

(n) As concerns allocations to members of the Executive Committee, performance is assessed over four years and measured based on the following two quantitative criteria: the Free Cash Flow (FCF) for 2018, 2019, 2020 and 2021, and the change in Vallourec's TSR between 2018 and 2021 (comparison of Vallourec's TSR with that of the panel of competitors. This group comprises the following: Hunting Plc, United States Steel Corp., Nippon Steel & Sumitomo Metal Corp., Tubacex SA, Tenaris SA, Voestalpine AG, Seah Steel Corp., Tubos Reunidos SA, Timken Steel Corp., Salzgitter AG, ArcelorMittal SA, TMK, and NOV).

(o) As concerns allocations to members of the Executive Committee, performance is assessed over four years and measured based on the following two quantitative criteria: the Free Cash Flow (FCF) for 2019, 2020, 2021 and 2022, and the change in Vallourec's TSR between 2019 and 2022 (comparison of Vallourec's TSR with that of the panel of competitors. This group comprises the following: Hunting Plc, United States Steel Corp., Nippon Steel Corporation (NSC, formerly NSSMC), Tubacex SA, Tenaris SA, Voestalpine AG, Seah Steel Corp., Tubos Reunidos SA, Timken Steel Corp., Salzgitter AG, ArcelorMittal SA, TMK, and NOV).

After applying the adjustment terms provided for in Articles L. 228-99 and R. 228-91 of the French Commercial Code and in conformity with the regulations of the share subscription options and performance share plans, Vallourec's Supervisory Board, at its meeting on 2 May 2016, wished to preserve the rights of holders of performance shares and share subscription options, by ensuring that the capital increase determined on 7 April 2016 would be neutral for them. The figures below have been updated.

The value of the option plans is included in Notes 19 and 21 to the consolidated financial statements, which are found in Section 6.1 of this Universal Registration Document.

7.3.1.2 Performance share and free share allocation plans

PERFORMANCE SHARE ALLOCATION PLANS

Date of Shareholders' Meeting
Date of allocation by the Management Board
Number of beneficiaries when plan implemented
Total number of shares that can be acquired, including those able to be acquired by[a]:
• Philippe Crouzet
• Jean-Pierre Michel
• Olivier Mallet
Percentage of the share capital that may potentially be allocated to members of the Management Board[b][c]
Total number of performance shares allocated to the ten employees who are not corporate officers and to whom the largest number of shares was allocated
Total potential dilution of the plan at the date[b]
Performance conditions
Vesting period end-date
Total number of performance shares canceled or expired since the allocation date
Performance shares remaining as at 31 December 2019
Total potential dilution of the plan as at 31 December 2019[b]

(a) Based on a factor of 1.

(b) Based on the composition of the Management Board as at 31 December 2019.

(c) Based on the capital at the end of each year.

(d) For all beneficiaries (excluding Management Board and Executive Committee members), it will be based on the ratio of consolidated EBITDA to consolidated revenue achieved by the Group in 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.25. For members of the Management Board and Executive Committee, the definitive allocation will depend on the following two criteria, assessed for 2016, 2017 and 2018: the rate of return on capital employed on a consolidated basis (ROCE), compared to the ROCE in the budget, and the Total Shareholder Return (TSR) for 2016, 2017 and 2018. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.33.

2016 Plan	2017 Plan	2018 Plan	2019 Plan
28 May 2014	12 May 2017	12 May 2017	12 May 2017
18 May 2016	18 May 2017	15 June 2018	17 June 2019
537	553	531	524
610,001	820,275	842,630	836,630
22,036[e] *i.e.* 0.005% of the share capital	66,500 *i.e.* 0.015% of the share capital	85,260 *i.e.* 0.019% of the share capital	85,260 *i.e.* 0.019% of the share capital
10,370[e] *i.e.* 0.002% of the share capital	-	-	-
10,370[e] *i.e.* 0.002% of the share capital	31,500 *i.e.* 0.007% of the share capital	39,270 *i.e.* 0.09% of the share capital	39,270 *i.e.* 0.09% of the share capital
0.009%	0.021%	0.027%	0.027%
43,599	124,400	122,100	119,400
None	None	None	None
Yes[d]	Yes[f]	Yes[g]	Yes [h]
18 May 2019 or 2020	18 May 2020 or 2021	15 June 2021 or 2022	17 June 2022 or 2023
346,987	102,260	50,500	3,800
263,014	718,015	792,130	832,830
None	None	None	None

(e) Number of shares adjusted following the 2016 capital increase (ratio of 1.6 new shares for each existing share).

(f) For all beneficiaries (excluding members of the Management Board and Executive Committee), this will depend on cost reduction in 2017, 2018 and 2019, in comparison to the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2017, 2018 and 2019. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 1.4. For members of the Management Board and the Executive Committee, the final allocation will depend on the following two criteria: cost reduction in 2017, 2018 and 2019, in comparison with the Group's planned performance in the medium-term plan over the same period, and the increase in the EBITDA margin between 2017 and 2019 compared with a panel of comparable companies. The actual number is determined by applying a performance factor, calculated for the two years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

(g) For all beneficiaries, this will depend on cost reduction in 2018, 2019, and 2020 in comparison to the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2017, 2018 and 2019. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

(h) For all beneficiaries, this will depend on cost reduction in 2019, 2020, and 2021 in comparison to the planned performance in the Group's medium-term plan for the same period, and on the Group's cumulative Free Cash Flow (FCF) for 2018, 2019 and 2020. The actual number is determined by applying a performance factor, calculated for the three years concerned, to the theoretical number of shares allocated. This factor may range from 0 to 2.

INTERNATIONAL PERFORMANCE SHARE ALLOCATION PLANS FOR EMPLOYEES

	2-4-6 plan
Date of Shareholders' Meeting	31 May 2012
Date of allocation by the Management Board	15 April 2014
Number of beneficiaries when plan implemented	21,677
Maximum total number of performance shares	208,100
of which maximum total number of performance shares allocated to members of the Management Board (as composed when plan implemented)	0
Number of executive corporate officers concerned	0
Maximum total number of performance shares allocated to the 10 employees who are not corporate officers and to whom the largest number of shares was allocated	100
Potential dilution	None
Performance condition	*Ratio of consolidated EBITDA to consolidated revenue (2014, 2015 and 2016)*
Vesting period	3 to 4 years
Holding period	0 to 2 years
Total number of performance shares canceled or expired since the allocation date	N/A
Performance shares as at 31 December 2018	None (plan expired 16 April 2018)

FREE SHARE ALLOCATION PLANS

Free share allocation plans (without performance conditions) have been implemented only under the terms of the Value employee share ownership offers (see Section 7.3.3 "Employee share ownership" below), offered every year between 2008 and 2017, and for the sole benefit of employees and those with similar rights who are non-French residents for tax purposes of certain Group companies, instead of the employer matching contribution granted to other employees and those with similar rights of the Vallourec Group's French companies. As in 2018, no Value operation was implemented in 2019.

	"Value 14" Plan	"Value 15" Plan	"Value 16" Plan	"Value 17" Plan
Date of Shareholders' Meeting	28/05/2014	28/05/2015	06/04/2016	12/05/2017
Date of allocation by the Management Board	16/12/2014	15/12/2015	14/12/2016	14/12/2017
Number of beneficiaries when plan implemented	768	348	255	265
Total number of free shares	6,336	2,744	3,344	3,409
of which total number of shares allocated free of charge to members of the Management Board (when plan implemented)	0	0	0	0
Number of executive management members concerned	0	0	0	0
Total number of shares allocated free of charge to the 10 employees who are not corporate officers and to whom the largest number of shares was allocated	100	100	100	150
Potential dilution	None	None	None	None
Performance conditions	None	None	None	None
Vesting period	4.6 years	4.6 years	4.6 years	4.6 years
Holding period	0	0	0	0
Number of shares allocated free of charge, canceled since their allocation	N/A	417	289	142
Free shares as at 31 December 2018	0	2,327	3,055	3,267

The valuation of performance share and free share allocation plans appears in Notes 19 and 21 to the consolidated financial statements in Section 6.1 of this Universal Registration Document.

7.3.2 Profit sharing, incentive and savings plans

Profit sharing and incentive plans

Most Group companies have put in place profit sharing and incentive plans that involve the employees in the Company's performance, based on the current income/revenue ratio.

The amounts paid under these plans during the last five fiscal years are as follows:

In € million	2015	2016	2017	2018	2019
	21.43	18.72	21.67	15.57	31.65

Company savings plan

The Group formed a Company savings plan (*plan d'épargne d'entreprise* – PEE) in France in 1989, to help employees build up capital over the medium and long term. Since 2005, these arrangements have been supplemented by the implementation, by agreement, of a collective retirement savings plan (*plan d'épargne retraite collectif* – PERCO).

Employees' voluntary payments are topped up by the Company in accordance with a scale updated each year in relation to the Group's net profit.

The amounts paid by way of employer matching contribution over the last five fiscal years were as follows:

	2015		2016		2017		2018		2019	
In € million	PEE	PERCO	PEE	PERCO	PEE	PERCO	PEE	PERCO	PEE	PERCO
	3.7[(a)]	0.9[(a)]	3.6[(b)]	0.6[(b)]	1.2[(c)]	0.2[(c)]	2.1	0.4	2.0	0.3

(a) *Including €728,133.70 for the Value 15 operation.*

(b) *Including €244,632.55 for the Value 16 operation.*

(c) *Including €234,043.88 gross for the Value 17 operation.*

7.3.3 Employee share ownership

Each year between 2008 and 2017, the Group offered an international employee share ownership plan in its main countries of operation, called Value, followed by the last two figures of the year of its roll-out (for a description of the plans from 2008 to 2013, see Section 6.3.3 "Employee share ownership" in the 2011 Registration Document and Section 7.3.3 "Employee share ownership" in the 2012, 2013, 2014, 2015, 2016, and 2017 Registration Documents).

The 10 international employee share ownership plans offered between 2008 and 2017 have proved highly successful given their average subscription rate of 63.2% and raised employee share ownership from 0.16% as at 31 December 2007, to 3.70% as at 31 December 2019. Through their significant subscription, Vallourec believes its employees have demonstrated their loyalty to the Group, as well as their confidence in Vallourec's strategy and future. Against this backdrop, the Supervisory Board welcomed Ms. Pascale Chargrasse as a member of the Supervisory Board representing employee shareholders on 13 December 2010. Ms. Pascale Chargrasse's office has been renewed twice for a four-year term by the Shareholders' Meeting on 28 May 2015 and 23 May 2019.

These plans have enabled the Group to achieve the three objectives it had set for each of these operations:

- to involve as many employees as possible in the Group's performance;
- to strengthen "Group spirit", the cornerstone of its culture; and
- to develop a long-term relationship with employees that will help Vallourec to maintain a stable shareholder base.

Details of the terms and conditions of the Value 12, Value 13, Value 14, Value 15, Value 16 and Value 17 plans are provided in Note 19 to the consolidated financial statements in Section 6.1 of the corresponding Registration Documents.

7.4 Supervisory Board Report on total compensation in 2019 for corporate officers

This report was established in application of Articles L. 225-37-3, L. 225-82-2 and L. 225-100 of the French Commercial Code in anticipation of the votes of shareholders, gathered at the Shareholders' Meeting of 6 April 2020, on the total compensation and benefits paid or allocated for the fiscal year ended 31 December 2019 to (i) all corporate officers and (ii) Mr. Philippe Crouzet, Chairman of the Management Board, Mr. Olivier Mallet, member of the Management Board, and to Ms. Vivienne Cox, Chairman of the Supervisory Board.

Compensation for corporate officers is determined by the Supervisory Board, at the proposal of its Appointments, Compensation and Governance Committee (the "ACGC"), in compliance with the compensation policy approved by the Shareholders' Meeting.

7.4.1 Compliance of total compensation with the compensation policy for corporate officers approved by the shareholders

The compensation of members of the Management Board and the Chairman of the Supervisory Board is reviewed each year in accordance with the policy on compensation for corporate officers. This policy, and the corresponding governance, are presented in the corporate governance report established in application of Article L. 225-68 of the French Commercial Code, in conformity with Article L. 225-82-2 of said Code.

The Supervisory Board, at its 18 February 2020 meeting, ensured that the fixed, variable and exceptional items comprising the total compensation and benefits paid or allocated for fiscal year 2019 to corporate officers complies with the compensation policy for corporate officers approved by the 23 May 2019 Shareholders' Meeting.

The Supervisory Board also ensured that the compensation of executive corporate officers contributes to the Company's long-term performance. To that end, the Supervisory Board has been committed for several years to ensuring that the share of medium- and long-term incentive equity instruments in the total compensation of executive corporate officers increases, as set out below. The target weighting is one third for an on-target performance.

The Supervisory Board took note of the conditions for the approval of resolutions relating to the compensation policy for corporate officers by the 23 May 2019 Shareholders' Meeting, as summarized below. Considering the very high approval rate of these resolutions, the Supervisory Board considers that the compensation policy for corporate officers is in line with the expectations of the Company's shareholders.

23 May 2019 Shareholders' Meeting resolution	Approval rate
Resolution 7 - Compensation policy for the Chairman of the Management Board for 2019	97.35%
Resolution 8 - Compensation policy for members of the Management Board (other than the Chairman) for 2019	97.29%
Resolution 9 - Compensation policy for the Chairman of the Supervisory Board for 2019	98.53%
Resolution 10 - Compensation policy for members of the Supervisory Board (other than the Chairman) for 2019	98.51%

7.4.2 Compensation of members of the Management Board

7.4.2.1 General principles

The compensation of the Management Board members presented below corresponds to all of the fixed, variable and special elements comprising the total compensation and benefits paid or allocated for 2019.

7.4.2.2 Status of members of the Management Board

The Management Board is comprised of two members as at 1 January 2020:

- Mr. Philippe Crouzet, Chairman of the Management Board, who does not have an employment contract;
- Mr. Olivier Mallet, who holds an employment contract for which performance was suspended during his term as a member of the Management Board.

Moreover, Mr. Philippe Crouzet and Mr. Olivier Mallet respectively hold 71,874 and 30,061 Vallourec shares.

7.4.2.3 Components of Management Board members' compensation and benefits

7.4.2.3.1 RESPECTIVE WEIGHT OF THE COMPONENTS OF MANAGEMENT BOARD MEMBERS' COMPENSATION

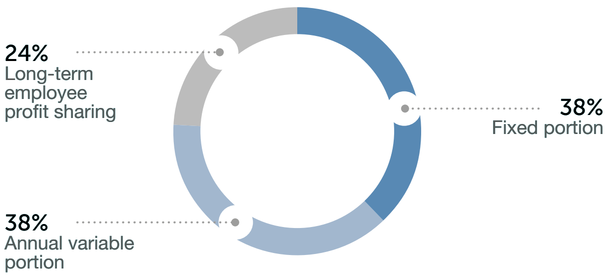
In accordance with the compensation policy, the weighting for each of these three components of compensation (fixed portion, annual variable portion and long-term instruments) is one third, provided that the amount of the variable portion is integrated in the target and the medium- and long-term incentive equity instruments are valued at their estimated IFRS value at the allocation date for an on-target performance. In recent years, adverse changes in the fair value of these instruments, however, has not made it possible to ensure this balance.

In 2017, the ACGC decided to gradually return to a value for the allocation of performance shares and stock options to the Management Board representing one third of the total of the three components of compensation (fixed, variable and long-term incentive instruments) for an on-target performance). In this regard, the volume of performance shares and options allocated to the Management Board represented, for an on-target performance, around 22% in 2017 and around 25% in 2018 of these three components combined.

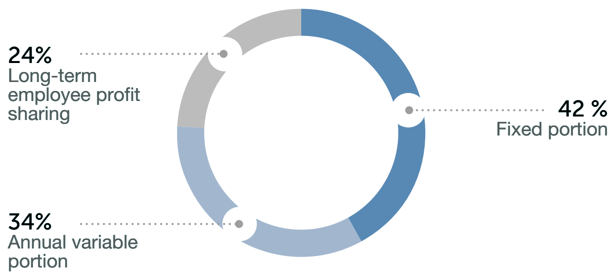
For 2019, given the drop in stock price seen at the end of 2018, and to avoid any deadweight effect, the Supervisory Board, at the proposal of the ACGC, decided to temporarily stop implementing this objective of gradually increasing the allocation value of the performance shares and options for the Management Board. The Supervisory Board has decided to allocate the same number of performance shares and options to the Management Board in 2019 as in 2018.

At the target, the respective weight of each of these elements was as follows:

Philippe Crouzet



Olivier Mallet



7.4.2.3.2 FIXED PORTION

In accordance with the compensation policy, the Supervisory Board, having noted at the beginning of 2019 that:

- the responsibilities of the Management Board members had not changed; and
- that an examination of the compensation surveys did not uncover any significant imbalance compared to the first quartile of the comparison sample,

decided not to change the fixed portion of the two Management Board members in 2019.

Therefore:

- **the fixed portion for Mr. Philippe Crouzet,** which was brought to €798,000 in 2014, remains unchanged; and
- **the fixed portion for Mr. Olivier Mallet,** which was brought to €420,000 in 2014, remains unchanged.

With regard to the general salary increases of French employees between 2011 and 2019, the changes in the fixed portions for members of the Management Board over the same period seem moderate, as the table below attests.

Change in the fixed compensation of French employees of the Group and members of the Management Board for the period 2011-2019 for the full year

Members of the Management Board	2012	2013	2014	2015	2016	2017	2018	2019	Total change
Philippe Crouzet	€760,000	€760,000	€798,000	€798,000	€798,000	€798,000	€798,000	€798,000 i.e. 0%	+5% over the period
Olivier Mallet	€400,000	€400,000	€420,000	€420,000	€420,000	€420,000	€420,000	€420,000 i.e. 0%	+5% over the period
Total salary increase budget for the Group's employees (2012 to 2019 budgets)									17.8% over the period

7.4.2.3.3 VARIABLE PORTION

The variable portion corresponds to a percentage of the fixed portion. It provides for minimum thresholds, below which no payment is made, target levels when the objectives set by the Supervisory Board are met, and maximum levels when target objectives have been exceeded.

For fiscal year 2019, the variable portions of the Management Board members changed in terms of their structure, as stated hereafter, while the target and maximum levels remained unchanged. Accordingly, in 2019 Mr. Philippe Crouzet's variable portion could vary from 0 to 100% of his target fixed portion and reach 135% of this same fixed portion in the event that maximum objectives were attained. For Mr. Olivier Mallet, the 2019 variable portion could vary from 0 to 75% of their target fixed portions and attain 100% in the event that maximum objectives were achieved. In summary, the elements of monetary compensation of the members of the Management Board were as follows:

	Philippe Crouzet **Chairman of the Management Board**	**Olivier Mallet** **Member of the Management Board**
Fixed portion *In €*	798,000	420,000
Target variable portion *As a % of fixed portion*	100%	75%
Maximum variable portion *As a % of fixed portion*	135%	100%

The 2019 variable portions were contingent on the achievement of several precise and previously established objectives of a quantifiable or qualitative nature, for which the minimum, target and maximum thresholds were set by the Supervisory Board, after an in-depth examination by the ACGC.

For 2019, the Supervisory Board decided to determine the Management Board's objectives based on the same three fundamental components that were used for the Group in 2018, which remained relevant:

- three objectives linked to the Group's financial performance:
  - net cash flow from operating activities,
  - EBITDA,
  - net debt;
- two objectives linked to operating performance:
  - continued deployment of the Transformation Plan,
  - quality through a reduction of customer claims;
- three objectives linked to CSR issues:
  - TRIR: injury rate without lost time per million hours worked,
  - LTIR: injury rate with lost time per million hours worked,
  - social and environmental responsibility, based on a composite indicator including the rate of Group industrial waste reclaimed (as a %), the average satisfaction rate of Group employees in "Opinion" surveys, and the ratio of non-biogenic CO_2 emissions to sales volume.

In 2019 quantifiable objectives represented 80% of the target variable portion of Mr. Philippe Crouzet and Mr. Olivier Mallet; the share of financial performance objectives was 60% of the variable target share (identical to 2018); the portion of social performance objectives represented 15% of the target variable portion (identical to 2018).

In view of the results achieved, the variable portions of each Management Board member for the 2019 fiscal year were set as follows:

2019 variable portion	Philippe Crouzet	Olivier Mallet
Structure and level of the variable portion *(expressed as a percentage of the fixed portion)*	Variable portion: 100% if the objectives set by the Board are achieved (target), and 135% maximum for exceptional performance	Variable portion: 75% if the objectives set by the Board are achieved (target), and 100% maximum for exceptional performance
FINANCIAL PERFORMANCE OBJECTIVES	Weight in target variable portion: 60%	Weight in target variable portion: 45%
Net cash flow from operating activities	This criterion varied from 0 to 20% if the target was attained and could be established at a maximum of 27%	This criterion varied from 0 to 15% if the target was attained and could be established at a maximum of 20%
The rate of achievement for this indicator is	_	_
EBITDA	This criterion varied from 0 to 20% if the target was attained and could be established at a maximum of 27%	This criterion varied from 0 to 15% if the target was attained and could be established at a maximum of 20%
The rate of achievement for this indicator is	_	_
Net debt	This criterion varied from 0 to 20% if the target was attained and could be established at a maximum of 27%	This criterion varied from 0 to 15% if the target was attained and could be established at a maximum of 20%
The rate of achievement for this indicator is	_	_
Total calculated in € of financial performance objectives[(a)]	**€407,060**	**€160,734**
OPERATIONAL PERFORMANCE OBJECTIVES	Weight in target variable portion: 25%	Weight in target variable portion: 18.75%
Continued deployment of the Transformation Plan	This criterion varied from 0 to 20% if the target was attained and could be established at a maximum of 27%	This criterion varied from 0 to 15% if the target was attained and could be established at a maximum of 20%
The rate of achievement for this indicator is	20.00%	15.00%
Quality	This criterion varied from 0 to 5% if the target was attained and could be established at a maximum of 6.75%	These criteria varied from 0 to 3.75% from the target, and could be established at a maximum of 5%
The rate of achievement for this indicator is	5.49%	4.11%
Total calculated in € of operational performance objectives	**€203,410**	**€80,262**
CSR OBJECTIVES	Weight in target variable portion: 15%	Weight in target variable portion: 11.25%
Safety (TRIR)/(LTIR)[(b)]	These criteria varied from 0 to 10% from the target, and could be established at a maximum of 13.5%	These criteria varied from 0 to 7.5% from the target, and could be established at a maximum of 10
The rate of achievement for these indicators is	11.75%	8.81%
Social and environmental responsibility composite indicator	These criteria varied from 0 to 5% from the target, and could be established at a maximum of 6.75%	These criteria varied from 0 to 3.75% from the target, and could be established at a maximum of 5%
The rate of achievement for these indicators is	6.75%	5.06%
Total calculated in € of CSR performance objectives	**€147,630**	**€58,254**
Percentage of the variable portion in relation to the target variable portion[(a)]	**95.00%**	**95.00%**
Variable portion as a percentage of the fixed portion of compensation	**95.00%**	**71.25%**
VARIABLE PORTION CALCULATED IN €	**€758,100**	**€299,250**

(a) *The Supervisory Board decided to allocate a variable portion that corresponds to 95% of the target variable portion. Financial income was calculated based on the difference with the other indicators.*

(b) *The safety objective is measured based on the results of the Lost Time Injury Rate (LTIR) and Total Recordable Injury Rate (TRIR), which measure, respectively, the number of accidents, with work stoppage, per million hours worked, and the injury rate per million hours worked.*

The monetary variable portion of Management Board members reflects the performance of the Management Board in relation to the objectives that were set in terms of financial, operational and CSR performance. The Supervisory Board, at the recommendation of the ACGC, took the Group's overall position into account in its assessment of financial performance, and in particular the planned capital increase of around €800 million announced on 19 February 2020. In this respect, the Supervisory Board decided not to quantify the achievement of financial objectives set at the beginning of the year but rather to set the overall achievement rate at 95% of the target variable portion.

- The Supervisory Board wishes to highlight Vallourec's financial performance, which confirms its marked improvement:
  - the recovery in profitability quickened its pace in 2019, with EBITDA which more than doubled, and free cash flow that was positive over the last three quarters of 2019 and which was significantly improved over the year as a whole. Net debt increased slightly for the year, but was down over the last quarter.
- In terms of operational performance, the Supervisory Board noted the continued roll-out the Transformation Plan, taking into account:
  - the efficiency of new commercial routes;
  - the stronger competitiveness of the Franco-German production;
  - the roll-out of the "Cultural Change" program;
  - the good retention of management teams.

  The quality objective has been achieved.
- In terms of safety and CSR, the threshold LTIR target (accidents with lost time) was not achieved. The TRIR (accidents without lost time) threshold target was achieved. The targets of the CSR composite indicator were fully achieved.

Pursuant to Article L. 225-82-2 of the French Commercial Code, payment of the variable compensation to the Chairman and members of the Management Board is subject to approval by the Ordinary Shareholders' Meeting of 6 April 2020 of the compensation components of the individual concerned under the terms provided for in Article L. 225-100 of the French Commercial Code.

7.4.2.3.4 LONG-TERM INCENTIVE EQUITY INSTRUMENTS

7.4.2.3.4.1 Performance shares and options allocated in 2019

In 2019, the Supervisory Board thus authorized the renewal of:

- for the thirteenth consecutive year of a plan to allocate, subject to continuous service and performance conditions, a target number of 836,630 performance shares, to benefit 524 managers and executives and the two members of the Management Board, under the twenty-seventh resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017;
- for the thirteenth consecutive year, a plan to allocate, subject to continuous service and performance conditions, a target number of 354,220 share subscription options, to benefit eight managers and executives and the two members of the Management Board, under the twenty-sixth resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017.

The Supervisory Board, in conformity with its compensation policy and market practices, decided that for the allocation of performance shares and stock options to the Management Board it would gradually return to a target performance value that represents approximately one third of the total of the three components of compensation (fixed portion, variable portion and long-term incentive instruments). After two years of increasing the number of performance shares and options allocated, for 2019, given the drop in stock price seen at the end of 2018, and to avoid any deadweight effect, the Supervisory Board decided to temporarily stop implementing this objective of gradually increasing the allocation value of the performance shares and options for the Management Board. The Supervisory Board has decided to allocate the same number of performance shares and options to the Management Board in 2019 as in 2018.

The number of performance shares allocated by the Supervisory Board in 2019 was 85,260 for Mr. Philippe Crouzet and 39,270 for Mr. Olivier Mallet for target performance (corresponding to a factor of 1, as described below).

The number of options allocated by the Supervisory Board in 2019 was 122,020 for Mr. Philippe Crouzet and 56,200 for Mr. Olivier Mallet for target performance (corresponding to a factor of 1, as described below).

Overall, representing 0.26% of share capital as at 31 December 2019, the portion allocated to members of the Management Board was set at 25.4% of the total allocations, and 0.066% of share capital.

The **performance shares** allocated to members of the Management Board in 2019 are subject to performance conditions assessed over three years and measured based on the following two quantifiable criteria:

- an internal criterion: reduction of costs in 2019, 2020 and 2021 compared to the planned performance in the Group's medium-term plan for the same period (50% weighting);
- an external criterion: growth of the EBITDA margin between 2019 and 2021 compared to a panel of comparable companies (50% weighting).

The panel of comparable companies shall be comprised of the following companies from the "Oil & Gas," "Energy" and "Steel" sectors: ArcelorMittal SA, Hunting Plc, Nippon Steel Corp., NOV, Salzgitter AG, Seah Steel Corp., Tenaris SA, Timken Steel Corp., TMK, Tubacex SA, Tubos Reunidos SA, United States Steel Corp., and Voestalpine AG.

The number of performance shares definitively allocated to the Chairman and member of the Management Board following the performance assessment period will be calculated by applying a factor that measures the performance for each of the criteria to the number of performance shares initially allocated. This allocation factor will vary from 0 to 2 under the following conditions:

- absolute internal criterion based on cost reduction (F1): factor 1 would correspond to achieving the medium-term plan objectives during the performance vesting period (the "F1 Planned Performance"). It would be 0 if the performance achieved was 2 or more points less than the F1 Planned Performance, and 2 if the performance achieved was 2 or more points greater than the F1 Planned Performance. A linear progression will be applied between limits;
- external relative criterion based on the growth of the EBITDA margin (F2): factor 1 would correspond to growth of the EBITDA margin that is equal to the median growth of the gross margin of the panel (the "Panel Performance"). It would be 0 if the performance achieved was 2 or more points less than the Panel Performance, and 2 if the performance achieved was 2 or more points greater than the Panel Performance. A linear progression will be applied between limits.

The **stock subscription options** allocated to members of the Management Board in 2019 are subject to performance conditions assessed over four years and measured based on the following two quantifiable criteria:

- an internal criterion: aggregate net cash flow for the Group in 2019, 2020, 2021 and 2022 compared to the planned performance in the Group's medium-term plan for the same period (weighting 50%);
- an external criterion: Total Shareholder Return (TSR) for 2019, 2020, 2021 and 2022 compared to a panel of comparable companies (weighting 50%).

The panel of comparable companies shall be comprised of the following companies from the "Oil & Gas," "Energy" and "Steel" sectors: ArcelorMittal SA, Hunting Plc, Nippon Steel Corp., NOV, Salzgitter AG, Seah Steel Corp., Tenaris SA, TimkenSteel Corp., TMK, Tubacex SA, Tubos Reunidos SA, United States Steel Corp., and Voestalpine AG.

The number of options that were definitively allocated to the Chairman and members of the Management Board following the vesting period will be calculated by applying a factor that measures the performance for each of the criteria to the number of options initially allocated. This factor will vary from 0 to 2 under the following conditions:

- absolute internal criterion based on the aggregate free cash flow of the Group (F1): factor 1 would correspond to achieving the medium-term plan objectives during the performance vesting period (the "F1 Planned Performance"). It would be zero if the performance achieved was less than 70% of the F1 Planned Performance, and 2 if the performance achieved was greater or equal to 120% of the F1 Planned Performance. A linear progression will be applied between limits;
- external relative criterion based on the Total Shareholder Return (TSR) (F2): factor 1 would correspond to performance between the 5th and 6th deciles of the panel of comparable companies. It would be zero if the performance achieved was less than the 4th decile of the panel; it would be 0.8 if the performance achieved was ranked in the 5th decile of the panel and 2 if the performance achieved was greater than the 8th decile of the panel. A linear progression will be applied between limits.

The confidentiality of information relating to both internal criteria prevents the disclosure of the targets and the minimum and maximum thresholds. But these values, between which a linear progression will have been applied, will be communicated following the performance assessment period.

Within the set of performance objectives for performance shares and options, the external criteria represent 50%.

At the end of the performance assessment period, Vallourec will communicate the minimum and maximum thresholds to be achieved and the linear progression applied between them.

7.4.2.3.4.2 Performance shares vested in 2019

The performance assessment period for the performance share allocation plan, which began on 18 May 2016, ended on 18 May 2019. The shares allocated under this plan, under the twentieth resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 28 May 2014, were subject to the following performance conditions:

- the estimated rate of return on capital employed on a consolidated basis (ROCE) for 2016, 2017, and 2018 compared with the planned performance envisaged in the medium-term plan for 2016, 2017, and 2018 (50% weighting): the result for this criterion was 0;
- the Total Shareholder Return (TSR) for 2016, 2017, and 2018 (50% weighting); using the following panel: NSC; Halliburton, NOV, Schlumberger, Technip, Baker Hughes, TMK, Tenaris, Alstom, Areva, U.S. Steel, ThyssenKrupp, ArcelorMittal, Salzgitter AG: the result for this criterion was 0.

After applying these strict conditions, the members of the Management Board did not acquire any performance shares:

2016 performance share plan Members of the Management Board	Philippe Crouzet	Olivier Mallet	Total
Number of shares allocated on 18 May 2016	22,036	10,370	32,406
Number of shares vested on 18 May 2019 after performance conditions applied	0	0	0
Percentage of shares vested on 18 May 2019 compared to the number of shares allocated on 18 May 2016	0%	0%	0%

Members of the Management Board are required to retain until the end of their terms of office (i) one quarter of the performance shares allocated to them under the terms of a plan and (ii) the equivalent in Vallourec shares of one quarter of the gross capital gain realized on the date of sale of the shares resulting from the options exercised. Moreover, they agree not to use hedging instruments in connection with the exercise of options, selling shares resulting from the exercise of options, or selling performance shares.

7.4.2.3.4.3 Subscription options vested in 2019

The performance assessment period for the subscription option plan, which began on 15 April 2015, ended on 15 April 2019. The subscription options allocated under this plan, under the nineteenth resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 28 May 2014, were subject to the following performance conditions for 2015, 2016, 2017, and 2018:

- to the extent of 50%, on consolidated EBITDA for 2015, 2016, 2017 and 2018: the result for this criterion was 0; and
- to the extent of 50%, on Vallourec's EBITDA margin growth between 2015 and 2018 compared to the panel: the result of this objective was 150% achieved, which corresponds to a result of 75%.

After applying these strict conditions, the number of options that were vested by each of the members of the Management Board was established as follows:

2015 subscription option plans Members of the Management Board	Philippe Crouzet	Olivier Mallet	Total
Number of options allocated on 15 April 2015[(a)] [(b)]	0	14,159	14,159
Number of options vested on 15 April 2019 after performance conditions applied	0	10,617	10,617
Percentage of options vested on 15 April 2019 compared to the number of shares allocated on 15 April 2015	0%	75.0%	37.5%

(a) Adjustment following the capital increase. Initially allocated amount multiplied by 1.67.

(b) Philippe Crouzet waived his right to subscription options allocated in 2015.

7.4.2.3.4.4 History of past acquisitions of the Management Board

Performance shares

Allocation year	2012	2013[(a)]	2014	2015	2016	2017	2018	2019
Vesting date	2014	2016	2017	2018	2019	2020	2021	2022
Number of shares allocated to the Management Board[(d)]	17,068	17,068	47,528[(b)]	20,736[(b)(c)]	42,776	98,000	124,530	124,530
Number and % of shares vested, compared to the number of shares allocated	**2,787 (i.e. 16.2%)**	**3,432 (i.e. 20.1%)**	**6,038 (i.e. 12.7%)**	**- (i.e. 0%)**	**- (i.e. 0%)**	**Not available**	**Not available**	**Not available**

(a) As of 2013, performance share plans have been 3+2 (three years of vesting + two years of holding) instead of 2+2.

(b) Number of shares allocated multiplied by 1.6 following the capital increase in April 2016 of eight new shares per five existing shares.

(c) The Supervisory Board meeting on 17 February 2016 duly noted Mr. Philippe Crouzet's waiver of the performance shares allocated during the 2015 fiscal year after the approval of the financial statements for that year. Consequently, the valuation of the performance shares allocated in 2015 (which would have otherwise been €292,199) is nil in this table.

(d) Including, until 2016, the allocation made to Mr. Jean-Pierre Michel as a member of the Management Board.

Share subscription options

Allocation year	2012	2013	2014	2015	2016	2017	2018	2019
Number of shares allocated to the Management Board	0	99,962[(a)(b)]	58,469[(a)(b)]	28,318[(a)(b)(c)]	58,457[(a)(b)]	139,500	178,220	178,220
Number and % of options compared to the maximum number of options allocated	**0**	**25,890[(b)] (i.e. 25.9%)**	**13,916[(b)] (i.e. 23.8%)**	**17,826[(b)(d)] (i.e. 75.0%)**	**Not available**	**Not available**	**Not available**	**Not available**
Exercise price	€22.20	€27.71	€23.13	€13.57	€3.90	€6.02	€5.50	€2.20

(a) Adjustment following the capital increase. Initially allocated amount multiplied by 1.67.

(b) Philippe Crouzet waived his right to subscription options allocated in 2015.

(c) Including the allocation to Mr. Jean-Pierre Michel as a member of the Management Board.

(d) The number of options vested by Mr. Jean-Pierre Michel was reduced pro rata to the period of his continuous service.

7.4.2.3.5 BENEFITS IN KIND

In 2019, the Management Board members had use of a Company car. The value of this benefit in kind was unchanged compared to 2018.

7.4.2.3.6 COMPENSATION PAID OR ALLOCATED BY A COMPANY INCLUDED IN THE CONSOLIDATION SCOPE

Members of the Management Board did not receive any compensation in 2019 relating to corporate offices held in Vallourec Group subsidiaries included within the consolidation scope, within the meaning of Article L. 223-16 of the French Commercial Code.

7.4.2.3.7 SUPPLEMENTARY RETIREMENT PLANS

The retirement scheme for corporate officers comprises a defined benefit plan (closed), a collective and mandatory defined contribution plan, and an individual defined contribution plan.

Closed defined benefit scheme (Article 39 of the French General Tax Code)

Given that the scheme was closed to all new rights as of 31 December 2015 and the compensation used as a basis for calculating the rights was set to the reference compensation at 31 December 2015, the potential rights opened individually for each of the two members of the Management Board as at 31 December 2019 are identical to the rights as at 31 December 2018 and are as follows:

Members of the Management Board	Reference compensation as at 31 December 2019	Annual potential rights for 2019(a)	Total annual potential rights as at 31 December 2019(b)	Limit on potential rights	Length of service conditions
Philippe Crouzet	€798,000	0%	13.50%	20%	36 months
Olivier Mallet	€420,000	0%	12.81%	20%	36 months

(a) As a percentage of the reference compensation (basic pay excluding variable portion).

(b) Limited to 20% of the average basic compensation for the last three years, excluding the variable portion and limited to four annual Social Security caps.

The Group's supplementary pension scheme has a replacement rate that remains clearly below market practice, regardless of the reference panel used.

Mandatory group defined contribution scheme (Article 83 of the French General Tax Code)

In 2019, the contribution paid for this purpose to each of the Management Board members was: €19,451.52.

This amount was in addition to the €12,357.12 for 2016, €18,829.44 for 2017 and €19,071.36 for 2018.

Individual defined contribution plan subject to performance criteria (Article 82 of the French General Tax Code)

The Supervisory Board has confirmed that the performance condition applicable to payment of the Management Board's contribution to the individual retirement plan for 2019 was fulfilled. The maximum contribution is due, in light of the achievement of at least 50% of the annual bonus calculated for 2019. Note: Vallourec's commitment is limited to payment of an annual amount for retirement comprising 50% contributions made to an insurance body and 50% cash, taking into account the tax characteristics of the scheme, imposing taxation at entry.

Members of the Management Board	Total amount paid for 2019	Amount of contributions paid	Amount paid in cash
Philippe Crouzet	€255,000	€127,500	€127,500
Olivier Mallet	€147,000	€73,500	€73,500

7.4.2.3.8 MECHANISMS LINKED TO TERMINATION OF THE DUTIES OF MEMBERS OF THE MANAGEMENT BOARD

In 2019, the mechanisms linked to the termination of duties of the two members of the Management Board remained the same as in 2018.

7.4.2.3.8.1 Mechanism linked to the termination of the duties of Mr. Philippe Crouzet, Chairman of the Management Board

Under the mechanism approved by the Shareholders' Meeting of 6 April 2016, Mr. Philippe Crouzet's termination package for 2019 included a termination benefit and non-compete compensation.

No termination benefit was paid in 2019.

No non-compete compensation was paid in 2019.

7.4.2.3.8.2 Mechanisms linked to the termination of duties of Mr. Olivier Mallet, member of the Management Board

In 2019, Mr. Olivier Mallet was eligible for severance pay under the terms of his employment contract of €117,000.

Under the mechanism approved by the Shareholders' Meeting of 6 April 2016, Mr. Olivier Mallet was eligible in 2019 for a termination benefit. No termination benefit was paid in 2019.

7.4.2.3.8.3 Performance criteria for the termination benefit of Mr. Philippe Crouzet, Chairman of the Management Board, and of Mr. Olivier Mallet, member of the Management Board

Termination package of Mr. Philippe Crouzet

Under the mechanism approved by the Shareholders' Meeting of 6 April 2016, after application of the performance conditions assessed for the three preceding fiscal years, the performance factor (PF) calculated for fiscal years 2017, 2018 and 2019 would be 90, 66 and 89, respectively.

Termination package of Mr. Olivier Mallet

Under the mechanism approved by the Shareholders' Meeting of 6 April 2016, after application of the performance conditions assessed for the three preceding fiscal years, the performance factor (PF) calculated for fiscal years 2017, 2018 and 2019 would be 90, 66 and 89, respectively.

7.4.2.3.9 SPECIAL COMPENSATION

No special compensation was paid to Mr. Philippe Crouzet, Chairman of the Management Board, or to Mr. Olivier Mallet, member of the Management Board.

7.4.2.3.10 SIGNING BONUS

No signing bonus was paid to Mr. Philippe Crouzet, Chairman of the Management Board, or to Mr. Olivier Mallet, member of the Management Board.

7.4.2.3.11 DEFERRED VARIABLE COMPENSATION

No deferred variable compensation was paid to Mr. Philippe Crouzet, Chairman of the Management Board, or to Mr. Olivier Mallet, member of the Management Board.

7.4.3 Compensation of the Chairman of the Supervisory Board

The Chairman of the Supervisory Board receives a fixed annual compensation exclusively. This is justified by the degree of involvement in the Group's affairs of the Board Chairman as she performs duties and procedures that far surpass merely attending Board and Committee meetings. The tasks and activities of the Chairman of the Supervisory Board are described in paragraph 7.1.2.5 of chapter 7 of the 2019 Universal Registration Document.

The amount of this fixed annual compensation has not changed since it was set in 2014 and in 2019 amounted to €320,000.

7.4.4 Compensation of members of the Supervisory Board

Participation in meetings of the Supervisory Board

The total amount for attendance fees that the Supervisory Board divided among its members in 2019 is recorded under the annual budget for attendance fees of €650,000 authorized by the Ordinary Shareholders' Meeting of 28 May 2014 (thirteenth resolution).

The amount of attendance fees of €33,000 per year and per member, in effect since 2010, will remain unchanged. The fixed portion is set at €12,000 (i.e. approximately one third of attendance fees) and the variable portion based on actual attendance at €21,000 (i.e. around two thirds of attendance fees).

The Lead Member, who is also the Vice-Chairman, received an additional fixed annual amount of €40,000 for his or her duties as lead member and participation in Group Committees in this capacity.

The Chairman of the Supervisory Board, along with the other members, is not allocated any options, non-recurring compensation, performance shares or termination payments of any kind.

Participation in Committee meetings

In 2019, the members of the Committees received, as part of the aforementioned €650,000 annual budget, additional compensation based on their actual attendance at meetings of these Committees, at the rate of €2,500 per meeting. The Chairman additionally collected an annual fixed portion of €12,500 pertaining to the Finance and Audit Committee, and €6,250 pertaining to the Appointments, Compensation and Governance Committee.

Compensation received by the members of the Supervisory Board

Members of the Supervisory Board *In €*		**Amounts due and paid in 2018**	**Amounts due and paid in 2019**
Ms.	Vivienne Cox	320,000	320,000
Mr.	Pierre Pringuet	94,250	94,250
Ms.	Maria-Pilar Albiac-Murillo	33,000	35,833
Mr.	Philippe Altuzarra	40,500	43,000
Mr.	Cédric de Bailliencourt	28,800	33,000
Ms.	Corine de Bilbao	N/A	25,333
	Bpifrance Participations, represented by Mr. Alexandre Ossola	55,500	43,333
Ms.	Laurence Broseta	41,300	59,417
Ms.	Pascale Chargrasse[(a)]	48,000	48,000
Mr.	Mickaël Dolou[(b)]	48,000	43,000
Mr.	José-Carlos Grubisich	35,300	N/A
Mr.	Yuki Iriyama	33,000	33,000
Mr.	Jean-Jacques Morin	36,892	60,500
Mr.	Henri Poupart-Lafarge	17,308	N/A
Ms.	Alexandra Schaapveld	60,500	60,500
TOTAL		**892,350**	**899,166**

(a) These amounts are in addition to the fixed and variable compensation received by Ms. Pascale Chargrasse under her employment contract with the Group.

(b) This amount is in addition to the fixed and variable compensation received by Mr. Mickaël Dolou under his employment contract with the Group.

7.4.5 Summary of the compensation paid or awarded for the fiscal year ended 31 December 2019 to each of the two Management Board members and to the Chairman of the Supervisory Board

7.4.5.1 Compensation paid or awarded for the fiscal year ended 31 December 2019 to Mr. Philippe Crouzet

Components of compensation paid or awarded for the fiscal year ended 31 December 2019	Amount or value submitted for vote	Presentation
Fixed compensation	€798,000	Unchanged since 2014.
Annual variable compensation	€758,100	See paragraph 7.4.2.3.3 of this report for a description of the annual variable compensation.
Deferred or multi-annual variable compensation	N/A	There is no deferred or multi-annual variable compensation.
Extraordinary compensation	N/A	There is no extraordinary compensation.
Long-term incentive equity instruments	Options = €58,570	122,020 options allocated for target performance, or 0.027% of the share capital as at 31 December 2019. This allocation was authorized by the Supervisory Board meeting of19 February 2019, and is included within the twenty-sixth resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017. See paragraph 7.4.2.3.4 of this report for a description of the conditions for these options.
	Shares = €164,552	85,260 performance shares allocated for target performance, or 0.019% of the share capital as at 31 December 2019. This allocation was authorized by the Supervisory Board meeting of 19 February 2019, and is included within the twenty-seventh resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017. See paragraph 7.4.2.3.4 of this report for a description of the terms of these performance shares.
Attendance fees	N/A	Mr. Philippe Crouzet does not receive attendance fees for corporate offices held within the Vallourec Group.
Valuation of all benefits	€4,373	Car

Components of compensation paid or awarded during the fiscal year ended that are or were voted on by the Shareholders' Meeting under the related party agreements and commitments procedure	Amount or value submitted for vote	Presentation
Termination payment	€0	See paragraph 7.4.2.3.8.1 of this report for a description of the termination payment scheme.
Right to exercise options or receive performance shares allocated prior to departure maintained	€0	See paragraph 7.4.2.3.8.1 of this report for a description of the conditions under which this authority could be exercised.
Non-compete compensation	€0	See paragraph 7.4.2.3.8.1 of this report for a description of the non-compete compensation scheme.
Supplementary retirement plan	€146,952	See paragraph 7.4.2.3.7 of this report for a description of the supplementary retirement plan.

7.4.5.2 Compensation paid or awarded for the fiscal year ended 31 December 2019 to Mr. Olivier Mallet

Components of compensation paid or awarded for the fiscal year ended 31 December 2019	Amount or value submitted for an advisory vote	Presentation
Fixed compensation	€420,000	Unchanged since 2014.
Annual variable compensation	€299,250	See paragraph 7.4.2.3.3 of this report for a description of the annual variable compensation.
Deferred or multi-annual variable compensation	N/A	There is no deferred variable compensation.
Extraordinary compensation	N/A	There is no extraordinary compensation.
Long-term incentive equity instruments	Options = €26,976	56,200 options allocated for target performance, or 0.012% of the share capital as at 31 December 2019. This allocation was authorized by the Supervisory Board meeting of 19 February 2019, and is included within the twenty-sixth resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017. See paragraph 7.4.2.3.4 of this report for a description of the conditions for these options.
	Shares = €75,791	39,270 performance shares allocated for target performance, or 0.009% of the share capital as at 31 December 2019. This allocation was authorized by the Supervisory Board meeting of 19 February 2019, and is included within the twenty-seventh resolution approved by the Ordinary and Extraordinary Shareholders' Meeting of 12 May 2017. See paragraph 7.4.2.3.4 of this report for a description of the terms of these performance shares.
Attendance fees	N/A	Mr. Olivier Mallet does not receive attendance fees for corporate offices held within the Vallourec Group.
Valuation of all benefits	€5,400	Car

Components of compensation paid or awarded during the fiscal year ended that are or were voted on by the Shareholders' Meeting under the related party agreements and commitments procedure	Amount or value submitted for vote	Presentation
Termination payment	€0	See paragraph 7.4.2.3.8.2 of this report for a description of the termination payment scheme.
Non-compete compensation	N/A	There is no non-compete compensation.
Supplementary retirement plan	€92,952	See paragraph 7.4.2.3.7 of this report for a description of the supplementary retirement plan.

7.4.5.3 Compensation paid or awarded for the fiscal year ended 31 December 2019 to Ms. Vivienne Cox

Components of compensation paid or awarded for the fiscal year ended 31 December 2019	Amount or value submitted for vote	Presentation
Fixed compensation	€320,000	Amount unchanged since 2014.
Annual variable compensation	N/A	There is no annual variable compensation.
Deferred or multi-annual variable compensation	N/A	There is no deferred or multi-annual variable compensation.
Extraordinary compensation	N/A	There is no extraordinary compensation.
Long-term incentive equity instruments	N/A	There are no long-term incentive equity instruments.
Attendance fees	N/A	
Valuation of all benefits	N/A	There are no benefits of any kind.

Components of compensation paid or awarded during the fiscal year ended that are or were voted on by the Shareholders' Meeting under the related party agreements and commitments procedure	Amount or value submitted for vote	Presentation
Termination payment	N/A	There is no termination payment.
Non-compete compensation	N/A	There is no non-compete compensation.
Supplementary retirement plan	N/A	There is no supplementary retirement plan.

7.4.6 Compensation multiple and annual change in compensation, company performance and the average compensation of employees during the last five fiscal years

In accordance with Article L. 225-37-3 of the French Commercial Code, the ratios between the level of compensation of the Chairman, members of the Management Board and the Chairman of the Supervisory Board and, on one hand, the average compensation based on the full-time equivalent of employees other than corporate officers, and on the other hand, the median compensation based on the full-time equivalent of employees other than corporate officers, are listed below. The tables also present the annual change in compensation, company performance and the average compensation of employees during the last five fiscal years.

	2015	2016	2017	2018	2019
Vivienne Cox – Chairman of the Supervisory Board					
Compensation(1)	€320,000	€320,000	€320,000	€320,000	€320,000
(Change compared with the previous fiscal year)		*0.00%*	*0.00%*	*0.00%*	*0.00%*
Average compensation of employees (based on the full-time equivalent other than corporate officers)(2)(3)	€43,062	€45,530	€41,703	€45,370	€45,192
(Change compared with the previous fiscal year)		*5.7%*	*-8.4%*	*8.8%*	*-0.4%*
Ratio compared with the average compensation of employees (based on the full-time equivalent other than corporate officers)	7.4	7.0	7.7	7.1	7.1
(Change compared with the previous fiscal year)		*-5.4%*	*9.2%*	*-8.1%*	*0.4%*
Median compensation of employees (based on the full-time equivalent other than corporate officers)(2)(3)	€32,263	€32,006	€29,188	€31,991	€31,363
(Change compared with the previous fiscal year)		*-0.8%*	*-8.8%*	*9.6%*	*-2.0%*
Ratio compared with the median compensation of employees (based on the full-time equivalent other than corporate officers)	9.9	10.0	11.0	10.0	10.2
(Change compared with the previous fiscal year)		*0.8%*	*9.7%*	*-8.8%*	*2.0%*
NET INCOME (LOSS) (COMPANY PERFORMANCE)	**(897,954,000)**	**(807,546,000)**	**(559,729,000)**	**(500,367,000)**	**(340,103,000)**
(Change compared with the previous fiscal year)		*10.1%*	*30.7%*	*10.6%*	*32.0%*

	2015	2016	2017	2018	2019
Philippe Crouzet – Chairman of the Management Board					
Compensation(2)	€1,301,790(4)	€ 898,861(5)	€2,165,940	€2,378,169	€1,907,520
(Change compared with the previous fiscal year)		*-30.95%*	*140.96%*	*9.80%*	*-19.79%*
Average compensation of employees (based on the full-time equivalent other than corporate officers)(2)(3)	€43,062	€45,530	€41,703	€45,370	€45,192
(Change compared with the previous fiscal year)		*5.7%*	*-8.4%*	*8.8%*	*-0.4%*
Ratio compared with the average compensation of employees (based on the full-time equivalent other than corporate officers)	30.2	19.7	51.9	52.4	42.2
(Change compared with the previous fiscal year)		*-34.7%*	*163.1%*	*0.9%*	*-19.5%*
Median compensation of employees (based on the full-time equivalent other than corporate officers)(2)(3)	€32,263	€32,006	€29,188	€31,991	€31,363
(Change compared with the previous fiscal year)		*-0.8%*	*-8.8%*	*9.6%*	*-2.0%*
Ratio compared with the median compensation of employees (based on the full-time equivalent other than corporate officers)	40.3	28.1	74.2	74.3	60.8
(Change compared with the previous fiscal year)		*-30.4%*	*164.2%*	*0.2%*	*-18.2%*
NET INCOME (LOSS) (COMPANY PERFORMANCE)	**(897,954,000)**	**(807,546,000)**	**(559,729,000)**	**(500,367,000)**	**(340,103,000)**
(Change compared with the previous fiscal year)		*10.1%*	*30.7%*	*10.6%*	*32.0%*

(1) Compensation taken into account: as described in paragraph 5.3.

(2) Compensation taken into account: compensation based on the full-time equivalent paid or awarded during the fiscal year (basic fixed compensation, seniority bonus, benefits in kind (including supplementary pension schemes), year-end bonus, 13th-month bonus, annual variable portion, vacation bonus, foreign travel allowances, performance bonus, gross profit sharing, gross employer matching contribution). Long-term profit sharing plans were valued at their carrying amount applicable at the time of allocation.

(3) Employees taken into account: employees bound by a short-term or permanent employment contract to one of the Group's French entities and continuously present between 2015 and 2019 (excluding Serimax Holdings and Serimax SAS considering the different specific compensation structure relating to the specific activity of these entities and which are therefore unrepresentative).

(4) In 2015, Mr. Crouzet waived his right to the allocation of long-term plans.

(5) In 2016, Mr. Crouzet waived his right to the payment of his variable portion.

	2015	2016	2017	2018	2019
Olivier Mallet – Member of the Management Board					
Compensation[2]	€827,190	€728,265	€1,045,133	€1,137,772	€934,887
(Change compared with the previous fiscal year)		*-11.96%*	*43.51%*	*8.86%*	*-17.83%*
Average compensation of employees (based on the full-time equivalent other than corporate officers)[2][3]	€43,062	€45,530	€41,703	€45,370	€45,192
(Change compared with the previous fiscal year)		*5.7%*	*-8.4%*	*8.8%*	*-0.4%*
Ratio compared with the average compensation of employees (based on the full-time equivalent other than corporate officers)	19.2	16.0	25.1	25.1	20.7
(Change compared with the previous fiscal year)		*-16.7%*	*56.7%*	*0.1%*	*-17.5%*
Median compensation of employees (based on the full-time equivalent other than corporate officers)[2][3]	€32,263	€32,006	€29,188	€31,991	€31,363
(Change compared with the previous fiscal year)		*-0.8%*	*-8.8%*	*9.6%*	*-2.0%*
Ratio compared with the median compensation of employees (based on the full-time equivalent other than corporate officers)	25.6	22.8	35.8	35.6	29.8
(Change compared with the previous fiscal year)		*-11.3%*	*57.4%*	*-0.7%*	*-16.2%*
NET INCOME (LOSS) (COMPANY PERFORMANCE)	**(897,954,000)**	**(807,546,000)**	**(559,729,000)**	**(500,367,000)**	**(340,103,00)**
(Change compared with the previous fiscal year)		*10.1%*	*30.7%*	*10.6%*	*32.0%*

(2) Compensation taken into account: compensation based on the full-time equivalent paid or awarded during the fiscal year (basic fixed compensation, seniority bonus, benefits in kind (including supplementary pension schemes), year-end bonus, 13th-month bonus, annual variable portion, vacation bonus, foreign travel allowances, performance bonus, gross profit sharing, gross employer matching contribution). Long-term profit sharing plans were valued at their carrying amount applicable at the time of allocation.

(3) Employees taken into account: employees bound by a short-term or permanent employment contract to one of the Group's French entities and continuously present between 2015 and 2019 (excluding Serimax Holdings and Serimax SAS considering the different specific compensation structure relating to the specific activity of these entities and which are therefore unrepresentative).

7.5 Individual statements of executive managers

Summary of individual statements relating to the operations involving Vallourec instruments carried out by the people mentioned in Article L. 621-18-2 of the French Monetary and Financial Code, during the 2019 fiscal year

Reporting party	Financial instruments	Nature of transaction	Transaction date	Unit price *(in €)*	Transaction amount *(in €)*
Bpifrance Participations	Shares	Loan	29/04/2019	2.2380	6,714,000

7.6 Valid delegations

Authorizations to issue shares and marketable securities providing access to the Company's capital valid as at 31 December 2019 are described in paragraph 2.2.3.1 of this Universal Registration Document.

7.7 Shareholders' participation in the Company's Shareholders' Meetings

Every shareholder is entitled to participate in the Company's Shareholders' Meetings in accordance with applicable statutory and regulatory provisions and regardless of the number of shares held. Article 12 of the bylaws concerning Shareholders' Meetings does not provide any specific conditions for attending and participating, although a double voting right is allocated to all registered shares held by the same owner for at least four years.

Since Vallourec places great importance on listening to its shareholders, it endeavors, whenever it can, to improve shareholder participation at its Shareholders' Meetings by making shareholders aware of the meetings in advance, by publishing information over and above that required by law in specialist publications and by sending a letter to all shareholders.

The attendance register at the Ordinary and Extraordinary Shareholders' Meeting on 25 May 2018 shows that 4,262 shareholders were present, represented or voted by post, owning a combined total of 233,985,785 shares with voting rights out of 457,889,167 shares, i.e. 51.1% of shares with voting rights, and 245,380,036 voting rights out of 469,962,172 voting rights, i.e. 51.1% of voting rights.

7.8 Information on factors likely to have an impact in the event of a public takeover bid or a public exchange offer

The factors that are likely to have an impact in the event of a takeover bid are set forth below.

7.8.1 Structure of share capital and direct or indirect shareholdings declared in accordance with Articles L. 233-7 and L. 233-12 of the French Commercial Code

A table showing the structure of Vallourec's share capital and direct or indirect shareholdings in the capital declared in accordance with Articles L. 233-7 and L. 233-12 of the French Commercial Code *(Code de commerce)* is presented in Section 2.3 of this Universal Registration Document.

7.8.2 Statutory restrictions on the exercise of voting rights

Article 8 paragraph 5 of the Company bylaws lays down an obligation of disclosure on any person who comes to hold or to cease to hold a number of bearer shares of the Company equal to or greater than three (3), four (4), six (6), seven (7), eight (8), nine (9) or twelve and a half (12.5) percent of the total number of shares comprising share capital (see Section 2.1.9 of this Universal Registration Document).

In the event of failure to comply with this obligation of disclosure, and at the request of one or more shareholders holding at least 5% of the Company's shares, the voting rights attached to the shares exceeding the fraction that should have been declared cannot be exercised or delegated by the shareholder who failed to meet the obligation, for all Shareholders' Meetings held for a period of two years following the date of the proper disclosure notification.

7.8.3 Holders of any security containing special rights of control

Article 12, paragraph 4 of the bylaws provides for fully paid-up shares that have been duly registered in the name of the same shareholder for four (4) years to have double the voting rights conferred on other shares. Apart from this condition, there are no other securities that have special rights of control.

7.8.4 Control mechanisms within an employee share ownership system

In accordance with Article L. 214-40 of the French Monetary and Financial Code *(Code monétaire et financier),* the Supervisory Boards of the Vallourec Actions, Value France Germany UK and Value Brazil Mexico UAE company mutual funds (FCPEs) decide whether to contribute Company securities to a public offering to purchase or exchange these shares.

7.8.5 Agreements between shareholders of which the Company is aware that could lead to restrictions on the transfer of shares and the exercise of voting rights

Subject to the agreement not constituting a concerted action entered into with Nippon Steel Corporation (NSC, formerly NSSMC) on 1 February 2016 and the shareholders' agreement not constituting a concerted action entered into with Bpifrance Participations on 1 February 2016 (see Section 2.3.3 of this Universal Registration Document), as well as the subscription commitments entered into between NSC and the Company, and Bpifrance Participations and the Company, on 17 February 2020 (the "Subscription Commitments"), there is to the Company's knowledge no agreement between shareholders that could lead to restrictions on the transfer of shares and exercise of voting rights of the Company.

As part of its Subscription Commitment and under customary conditions, NSC has undertaken to:

- vote in favor of the resolutions relating to the capital increase planned by the Company in the amount of approximately €800 million (the "Capital Increase");
- grant a lock-up commitment for a period of six months from the settlement-delivery date of the Capital Increase.

As part of its Subscription Commitment, Bpifrance Participations has undertaken to:

- vote in favor of the resolutions relating to the Capital Increase;
- grant a lock-up commitment as of 17 February 2020 and until the expiry of a period of six months from the settlement-delivery date of the Capital Increase, unless the commitment ceases early due to an event occurring that is likely to cause a material adverse change to the Company's situation.

7.8.6 Rules applicable to the appointment and replacement of the members of the Company's Management Board

No provision in the bylaws, or agreement concluded between the Company and a third party, contains an obligation or particular rule regarding the appointment and/or the replacement of members of the Management Board of the Company that is likely to have an impact in the event of a takeover bid.

7.8.7 Powers of the Management Board in the event of a takeover bid

Since 2009, the Shareholders' Meetings called to decide on conferring authority on the Management Board to purchase shares of the Company have expressly ruled out the possibility of share buybacks during takeover bids for the Company. The Shareholders' Meeting of 6 April 2020 will be asked to renew this prohibition on buying back shares during a takeover bid on the Company.

The Shareholders' Meeting of 12 May 2017 suspended the Management Board's ability to use the resolutions to increase the Company's share capital (with the exception of capital increases reserved for employees or allocations of medium/long-term incentive instruments (performance shares and options)) during takeover bids for the Company, except with the prior authorization of the Shareholders' Meeting.

The Management Board is not authorized by the Shareholders' Meeting to issue share subscription warrants during a takeover period on shares of the Company, as stipulated in Article L. 233-32-II of the French Commercial Code *(Code de commerce)*. No draft resolution in this regard is due to be put to the Shareholders' Meeting on 6 April 2020.

7.8.8 Agreements made by the Company that would be amended or terminated in the event of a change in control of the Company

Some agreements made by the Company contain a change of control clause. The most significant ones, which could have an impact in the event of a takeover bid include: certain industrial agreements with Nippon Steel Corporation (formerly NSSMC) and Sumitomo Corporation (see Section 5.1.3 of this Universal Registration Document); the shareholders' agreement not constituting a concerted action entered into with Nippon Steel Corporation (formerly NSSMC) on 1 February 2016, and the shareholders' agreement not constituting a concerted action entered into with Bpifrance Participations on 1 February 2016 (see Section 2.3.3 of this Universal Registration Document); the confirmed credit line of €1.1 billion expiring in February 2019 (initially extended for €1.078 billion to February 2020 and then a second time for €1.034 billion to February 2021), entered into on 12 February 2014; the confirmed credit line of €400 million expiring in July 2020 (extended for €300 million to February 2021), entered into on 21 September 2015; the confirmed credit line of €450 million expiring in February 2020 (extended for €300 million to February 2021), entered into on 2 May 2016; a bilateral line of €90 million expiring in February 2021; and the bond issues of August 2012, September 2014, September 2017, October 2017, and April 2018 (see Section 2.2.6 "Non-equity instruments" of this Universal Registration Document).

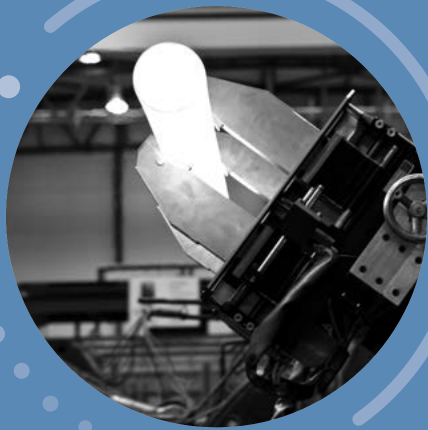
7.8.9 Agreements providing for payments to members of the Management Board or employees, if they resign or are dismissed for no real or serious cause, or if their employment is terminated due to a takeover bid

The mechanisms linked to the termination of corporate offices and/or, where applicable, the employment contracts of Mr. Philippe Crouzet, Chairman of the Management Board, and Mr. Olivier Mallet, member of the Management Board, are described in the compensation policy for corporate officers appearing in Section 7.2.1 of this Universal Registration Document and in the Supervisory Board's Report on the 2019 compensation of corporate officers, which appears in Section 7.4 to Chapter 7 of this Universal Registration Document.

7.9 Supervisory Board observations on the management report of the Management Board and the financial statements

The Supervisory Board reviewed the Management Board's management report and the parent company and consolidated financial statements for fiscal year 2019, along with the various documents attached thereto. It has no particular observations to make on these documents.

The Supervisory Board supports the Management Board's proposal to not pay a dividend for fiscal year 2019.



CHAPTER 8

Additional information

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8.3 Other periodic information required under the General Regulations of the French securities regulator *(Autorité des Marchés Financiers)* 339

8.1 Statutory auditors' special report on regulated agreements

Annual General Meeting held to approve the financial statements for the year ended 31 December 2019

To the Shareholders of Vallourec,

In our capacity as statutory auditors of your Company, we hereby present to you our report on the regulated agreements.

The terms of our engagement require us to communicate to you, based on information provided to us, the principal terms and conditions of those agreements brought to our attention or which we may have discovered during the course of our audit, and the reasons justifying that these agreements are in the company's interest, without expressing an opinion on their usefulness and appropriateness or identifying such other agreements, if any. It is your responsibility, pursuant to article R.225-58 of the French Commercial Code (*Code de Commerce*), to assess the interest involved in respect of the conclusion of these agreements for the purpose of approving them.

Our role is also to provide you with the information stipulated in article R.225-58 of the French Commercial Code relating to the implementation during the past year of agreements previously approved by the Shareholders' Meeting, if any.

We conducted the procedures we deemed necessary in accordance with the professional guidelines of the French National Institute of Statutory Auditors (*Compagnie Nationale des Commissaires aux Comptes*) relating to this engagement. These procedures consisted in agreeing the information provided to us with the relevant source documents.

AGREEMENTS SUBMITTED TO THE APPROVAL OF THE SHAREHOLDERS' MEETING

Agreements authorised during the past year

We hereby inform you that we have not been advised of any agreement authorised during the year to be submitted for the approval of the Shareholders' Meeting pursuant to article L. 225-86 of the French Commercial Code (*Code de commerce*).

Agreements authorised since the year-end closing

We have been advised of the following agreements which have been authorised since the year-end closing and which received the prior approval of your Supervisory Board on 12 February 2020.

Subscription agreement signed with Nippon Steel Corporation in connection with the Company capital increase of 800 million euros

Shareholder concerned: Nippon Steel Corporation ("NSC"), shareholder of the Company owning 14.56% of share capital and 14.59% of voting rights.

In connection with the Company capital increase of 800 million euros submitted to your vote at the annual Shareholders' Meeting (« the Capital increase »), your company signed on 17 February 2020 a Subscription Agreement with NSC whereby NSC undertakes, provided that usual conditions apply:

- To vote in favour of the resolutions related to the Capital increase;
- To exercise, *à titre irreducible* only, a number of the preferential subscription rights that it will receive such that NSC will hold about 10% of Vallourec's share capital after completion of the Capital increase, that the total net amount of the investment to be paid by NSC, provided that usual conditions apply, shall not exceed 35 million euros;
- To enter in lock-up agreement, whereby NSC shall not Transfer any Vallourec shares held by NSC for a six- month period from the completion date of the Capital increase.

Your Supervisory Board considered that the conclusion of this agreement was in the interest of the Company because it aims to facilitate the completion of the Capital increase and demonstrates the support of NSC, reference shareholder and strategic partner of the Group.

Subscription agreement signed with Bpifrance Participations in connection with the Company capital increase of 800 million euros

Shareholder and person concerned: Bpifrance Participations (« Bpifrance »), shareholder of the Company owning 14.56% of share capital and 15.65% of voting rights, represented by M. Alexandre Ossola.

In connection with the Capital increase, your company signed on 17 February 2020 a Subscription Agreement with Bpifrance whereby Bpifrance undertakes, provided that usual conditions apply:

- To vote in favour of the resolutions related to the Capital increase;
- To exercise, *à titre irreducible* only, all the preferential subscription rights that it will receive in respect of the Shares that it will hold on the date of the Capital increase, that the total net amount of the investment to be paid by Bpifrance, provided that usual conditions apply, shall not exceed 120 million euros;
- To enter in lock-up agreement whereby Bpifrance shall not Transfer any Vallourec shares held by Bpifrance starting as from 17 February 2020 and for a period ending 6 months after the completion date of the Capital increase. Notwithstanding the above, the lock-up period shall end by anticipation if a material adverse change occurs in respect of the Company (material adverse change).

The Supervisory Board of the Company considered that the conclusion of this agreement was in the interest of the Company because it aims to facilitate the completion of the Capital increase and demonstrates the support of Bpifrance, reference shareholder of the Group.

AGREEMENTS PREVIOUSLY APPROVED BY THE ANNUAL GENERAL MEETING

We hereby inform you that we have not been advised of any agreements, previously approved by the Annual General Meeting, which did not have continuing effect during the year.

Paris La Défense, 28 February 2020

The Statutory Auditors

KPMG S.A.
Alexandra Saastamoinen

Deloitte & Associés
Véronique Laurent

8.2 Concordance tables and information incorporated by reference

8.2.1 Concordance table comparing the Universal Registration Document and Annexes 1 and 2 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019

Annexes 1 and 2 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019		Universal Registration Document Chapters/Sections	Pages
1.	**Persons responsible, third party information, experts' reports and competent authority approval**		
1.1	Names of persons responsible	1.1	10
1.2	Declaration of persons responsible	1.2	10
1.3	Declaration or expert's report	N/A	N/A
1.4	Confirmations relating to third party information	N/A	N/A
1.5	Declaration without prior approval of the competent authority	Cover page	
2.	**Statutory Auditors**		
2.1	Name and address of the Statutory Auditors	1.3	11
2.2	Statutory Auditors who have resigned, been removed or who have not been re-appointed during the period covered	N/A	N/A
3.	**Risk factors**	**5.1**	**152**
4.	**Information about the issuer**		
4.1	Legal and commercial name	2.1.1	14
4.2	Place of registration, registration number and legal entity identifier (LEI)	2.1.2	14
4.3	Date of incorporation and length of life	2.1.3	14
4.4	Domicile, legal form, legislation, country of incorporation, address and telephone number of the registered office and website	2.1.1 / 2.1.2	14 / 14
5.	**Business overview**		
5.1	Principal activities	3.2 / 3.3 / 3.7	36 / 49 / 63
5.1.1	Nature of operations and principle activities	3.2 / 3.5 / 3.7	36 / 60 / 63
5.1.2	New products and/or services	3.3	49
5.2	Principal markets	3.2.2 / 3.10	40 / 76
5.3	Important events in the development of business	3.1 / 3.3.1.3 / 3.5 / 3.6 / 3.7.1 / 3.8	34 / 50 / 60 / 61 / 63 / 74
5.4	Strategy and objectives	3.2 / 3.8	36 / 74
5.5	Dependence on patents, licenses, industrial, commercial or financial contracts or new manufacturing processes	3.3	49
5.6	Basis for any statements made by the issuer regarding its competitive position	3.2.3	41
5.7	Investments	3.7.2.3	70
5.7.1	Material investments made	3.7.2.3	71
5.7.2	Investments in progress or for which firm commitments have already been made	3.7.2.3	71
5.7.3	Joint ventures and undertakings in which the issuer holds a proportion of the capital likely to have a significant effect on the assessment of its own assets and liabilities, financial position or profits and losses	6.1.7 (note 5)	198
5.7.4	Environmental issues that may affect the issuer's utilization of the tangible fixed assets	3.10.2 / 4.2.4	77 / 110

Annexes 1 and 2 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019		Universal Registration Document Chapters/Sections	Pages
6.	**Organizational structure**	**3.2.6**	**43**
6.1	Brief description of the Group	3.2.6	43
6.2	List of significant subsidiaries	3.2.6 / 6.1 (note 10)	43 / 227
7.	**Operating and financial review**	**3.7 / 3.9 / 3.10 / 6.1 / 6.3**	**63 / 75 / 76 / 170 / 236**
7.1	Financial condition	3.7 / 3.9 / 3.10 / 6.1 / 6.3	63 / 75 / 76 / 170 / 236
7.1.1	Development and performance of the issuer's business and of its position for each year and interim period for which historical financial information is required	3.7 / 3.9 / 3.10 / 6.1 / 6.3	63 / 75 / 76 / 170 / 236
7.1.2	Likely future development of the issuer's activities and activities in the field of research and development	3.8 / 3.3	74 / 49
7.2	Operating results	3.7.1 / 3.9	63 / 75
7.2.1	Significant factors, unusual or infrequent events or new developments, materially affecting income from operations	3.7.1	63
7.2.2	Reason for material changes in net sales or revenues	3.7.1	63
8.	**Liquidity and Capital resources**	**3.7.2 / 6.13**	**69 / 172**
8.1	Information on capital resources	6.1.4	173
8.2	Sources and amounts of cash flows and description of these cash flows	6.1.3	172
8.3	Borrowing requirements and funding structure	6.1 (Note 7)	207
8.4	Information regarding any restrictions on the use of capital resources that have materially affected, or could materially affect, directly or indirectly, the issuer's operations	6.1 (Note 7)	209
8.5	Information regarding the anticipated sources of funds needed to fulfill commitments referred to in item 5.7.2	6.1 (Note 7)	207
9.	**Regulatory environment**	**3.10.2 / 4.2.4 / 5.1.2 / 5.1.3**	**77 / 110 / 154 / 156**
9.1	Description of the regulatory environment that the issuer operates in and that may materially affect its business, together with information regarding any governmental, economic, fiscal, monetary or political policies or factors that have materially affected, or could materially affect, directly or indirectly, the issuer's operations	3.10.2 / 4.2.4 / 5.1	76 / 110 / 152
10.	**Trend information**	**3.4**	**53**
10.1	Significant trends in production, sales and inventory, and costs and selling prices since the end of the last financial year to the date of the registration document	3.4	53
10.2	Known trends, uncertainties, demands, commitments or events that are reasonably likely to have a material effect on the issuer's prospects, at least for the current financial year	3.8 / 5.1	74 / 152
11.	**Profit forecasts or estimates**	**3.8.1**	**74**
11.1	Published profit forecasts or estimates	3.8.1	74
11.2	Principal assumptions upon which the issuer has based its forecast or estimate	3.8.1	74
11.3	Statement of comparability with historical financial information and consistency with the issuer's accounting policies	N/A	N/A
12.	**Administrative, management and supervisory bodies and senior management**	**7.1**	**256**
12.1	Information concerning members of the administrative, management and supervisory bodies	7.1.1	256
12.2	Administrative, management and supervisory bodies and senior management conflicts of interests	7.1.3 / 7.1.5	289 / 290

Annexes 1 and 2 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019		Universal Registration Document Chapters/Sections	Pages
13.	**Remuneration and benefits**	**7.2**	**292**
13.1	Amount of remuneration paid and benefits in kind granted by the issuer and its subsidiaries	7.2	292
13.2	The total amounts set aside or accrued by the issuer or its subsidiaries to provide for pension, retirement or similar benefits	6.1 (Note 8) / 7.2.3 / 7.3	221 / 304 / 305
14.	**Board practices**	**7.1.2**	**279**
14.1	Date of expiration of the current term of office and the period during which the person has served in that office	7.1.1	256
14.2	Information about members of the administrative, management or supervisory bodies' service contracts with the issuer or any of its subsidiaries providing for benefits upon termination of employment, or an appropriate statement to the effect that no such benefits exist	7.1.4	290
14.3	Information about the issuer's audit committee and remuneration committee	7.1.2.6	283
14.4	Statement as to whether or not the issuer complies with the corporate governance regime(s) applicable to the issuer	7.1.6	291
14.5	Potential material impacts on corporate governance		
15.	**Employees**	**4.2.2.1**	**90**
15.1	Number of employees at the end of the period or the average for each financial year for the period covered by the historical financial information and a breakdown of persons employed by main category of activity and geographic location.	4.2.2.1	90
15.2	Shareholdings and stock options	6.1 (Note 8) / 7.2.2 / 7.3.1	221 / 300 / 305
15.3	Arrangements for involving the employees in the capital of the issuer	7.3	305
16.	**Major shareholders**	**2.3.1**	**24**
16.1	Name of any person other than a member of the administrative, management or supervisory bodies who, directly or indirectly, has an interest in the issuer's capital or voting rights which is notifiable under the issuer's national law, together with the amount of each such person's interest, or an appropriate statement to that effect that no such person exists	2.3.1	24
16.2	Existence of different voting rights	2.1.8 / 2.3.1	15 / 24
16.3	Ownership or control, direct or indirect, of the issuer	2.3.1 / 2.3.2	24 / 27
16.4	Arrangements, known to the issuer, the operation of which may at a subsequent date result in a change of control	N/A	N/A
17.	**Related party transactions**	**6.1 (Note 5.3)**	**200**
17.1	Details of related party transactions	6.1 (Note 5.3)	200
18.	**Financial information concerning the issuer's assets and liabilities, financial position and profits and losses**	**6**	**169**
18.1	Historical financial information	6	169
18.1.1	Audited historical financial information covering the latest three financial years and the audit report in respect of each year	N/A	N/A
18.1.2	Change of accounting reference date	N/A	N/A
18.1.3	Accounting standards	6.1 (note 1)	178
18.1.4	Change of accounting framework	6.1 (note 1)	178
18.1.5	Audited financial information prepared in accordance with national accounting standards	6	169
18.1.6	Consolidated financial statements	6.1	170
18.1.7	Age of financial information	6.1	170
18.2	Interim and other financial information	N/A	N/A
18.2.1	Half-yearly or quarterly financial information	N/A	N/A
18.3	Auditing of historical annual financial information	N/A	N/A
18.3.1	Independent audit of historical annual financial information	6.2 / 6.4	232 / 251

Annexes 1 and 2 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019			Universal Registration Document Chapters/Sections	Pages
	18.3.2	Other information audited by the auditors	4.2	87
	18.3.3	Financial information not extracted from the audited financial statements	N/A	N/A
	18.4	Pro forma financial information	N/A	N/A
	18.4.1	Significant change in gross values	N/A	N/A
	18.5	Dividend policy	2.5	30
	18.5.1	Description of policy on dividend distributions and any restrictions thereon	2.5	30
	18.5.2	Amount of dividend per share	2.5	30
	18.6	Legal and arbitration proceedings	5.1.3 / 6.1 (Note 9)	156 / 225
	18.6.1	Significant proceedings	N/A	N/A
	18.7	Significant change in the issuer's financial position	3.1 / 6.1 (Note 11)	34 / 229
	18.7.1	Description	3.1 / 6.1 (Note 11)	34 / 229
19.	**Additional information**			
	19.1	Share capital	2.2.2	16
	19.1.1	Amount of capital issued and authorized, number of shares issued and fully paid and issued but not fully paid, par value per share, reconciliation of the number of shares outstanding at the beginning and end of the year	2.2.2 / 2.2.5	16 / 21
	19.1.2	Information about shares not representing capital	2.2.6	22
	19.1.3	Number, book value and face value of shares in the issuer held by or on behalf of the issuer itself or by subsidiaries of the issuer	2.2.4	20
	19.1.4	Information about convertible securities, exchangeable securities or securities with warrants	2.2.3.4	20
	19.1.5	Information about and terms of any acquisition rights and/or obligations over authorized but unissued capital or any undertaking to increase the capital	2.2.3	17
	19.1.6	Information about and capital of any member of the Group which is under option or agreed conditionally or unconditionally to be put under option	2.3.1	24
	19.1.7	History of share capital	2.2.5	21
	19.2	Memorandum and Articles of Association	N/A	N/A
	19.2.1	Register and issuer's objects and purposes	2.1.4	14
	19.2.2	Rights, preferences and restrictions attaching to each class of existing shares	2.2.1 / 7.8	16 / 326
	19.2.3	Provisions of the issuer's articles of association, statutes, charter or bylaws that could have the effect of delaying, deferring or preventing a change in control of the issuer	2.2.1 / 7.8	16 / 326
20.	**Material contracts**		**3.3.1 / 5.1.3 / 5.1.4 / 6.1 (Note 7) / 6.1 (Note 11)**	**49 / 156 / 158 / 207 / 229**
	20.1	Summary of each material contract	3.3.1 / 5.1.3 / 5.1.4 / 6.1 (Note 7) / 6.1 (Note 11)	49 / 156 / 157 / 158 / 207 / 229
	20.2	Information from a third party	N/A	N/A
21.	**Documents available**		**2.1.5 / 2.6**	**14 / 30**
	21.1	Statement on documents that can be inspected	2.1.5 / 2.6	14 / 30

8.2.2 Concordance table between Vallourec's Universal Registration Document and the annual financial report

Annual financial report		Universal Registration Document Chapters/Sections	Pages
1.	Parent company financial statements	6.3	236
2.	Group consolidated financial statements	6.1	170
3.	Statutory Auditors' report on the company financial statements	6.4	251
4.	Statutory Auditors' report on the consolidated financial statements	6.2	232
5.	Management report including at least the information referred to in Articles L.225-100, L.225-100-2, L.225-100-3 and L.225-211 paragraph 2 of the French Commercial Code (Code de commerce)	8.2.3	337
6.	Statement by the person responsible for the annual financial report	1.2	10
7.	Statutory Auditors' fees (Article 222-8 of the AMF's General Regulations)	6.1 (Note 11)	229
8.	Supervisory Board Report on compensation in 2019 for corporate officers	7.4	312

8.2.3 Concordance table between the Universal Registration Document and the Management Board report

This Universal Registration Document includes all elements from the Board's management report as required by law and the regulations. The table below identifies the sections and pages of this Universal Registration Document constituting the management report.

Management report		Universal Registration Document Chapters/Sections	Pages
1.	Activities and business development of the Group – Progress and challenges	3.2 / 3.4	36 / 53
2.	Results of the Group – Financial position and performance indicators	3.7	63
3.	Changes to the presentation of the annual financial statements or the valuation methods applied in prior years	6.3.3	237
4.	Material events between the reporting date and the date the report was prepared	3.5	60
5.	Foreseeable developments and the Company's outlook*	3.8	74
6.	Payment periods for suppliers and customers	3.9	75
7.	Amount of dividends paid during the past three years	2.5	30
8.	Vallourec results table for the last five financial years	6.2.3.E.7	250
9.	Description of the principal risks and uncertainties the Group faces – Exposure to interest rate, credit, liquidity and cash risks – Internal control and risk management procedure*	5.1	152
10.	Use of financial instruments by the Group, where it is relevant for the assessment of its assets, liabilities, financial position and income or loss	2.2.6 / 5.1.4	22 / 158
11.	Significant equity stakes in companies headquartered in France	N/A	N/A
12.	Injunctions or monetary penalties for anti-competitive practices	N/A	N/A
13.	Research and development activities	3.3	49
14.	Oversight plan	4.1	83
15.	Consolidated statement of non-financial performance	4.2	87
16.	Composition of share capital	2.3.1	24
17.	Employee share ownership	2.3.1 / 7.3.3	24 / 311
18.	Share repurchases	2.2.4	20
19.	Share transfers made to regularize cross-shareholdings or takeovers of such companies	N/A	N/A
20.	Summary of valid authorizations for capital increases and use made of these authorizations during fiscal year 2018	2.2.3	17
21.	Adjustments of the rights of holders of transferable securities giving access to capital or options	N/A	N/A

(*) Item having been the subject of additional information since the approval of the financial statements

8.2.4 Concordance table between the Universal Registration Document and the Supervisory Board's corporate governance report

This Universal Registration Document includes all elements from the Supervisory Board's corporate governance report as required by law and the regulations. The table below identifies the sections and pages of this Registration Document constituting the corporate governance report.

Corporate governance report		Universal Registration Document	
		Chapters/Sections	Pages
1.	Composition of the Management and Supervisory Boards	7.1.1	256
2.	Mandates and functions of corporate officers	7.1.1.1	256
3.	Diversity policy applied to members of the Supervisory Board	7.1.1.2	260
4.	Conditions for preparation and organization of the Board's work	7.1.2.2	279
5.	Declaration on corporate governance – Compliance with the AFEP-MEDEF Code	7.1.6	291
6.	Compensation policy for corporate officers	7.2.1	292
7.	Compensation of corporate officers	7.2.2	300
8.	Allocation of stock options	7.3.1	305
9.	Allocation of shares free of charge or performance shares	7.3.1	305
10.	Employee share ownership	7.3.3	311
11.	Supervisory Board Report on compensation in 2019 for corporate officers	7.4	312
12.	Securities transactions made by executives	7.5	325
13.	Valid delegations regarding capital increases	7.6	325
14.	Shareholders' participation in the Company's Shareholders' Meetings	7.7	325
15.	Measures having an impact in the event of a takeover bid	7.8	326
16.	Supervisory Board observations on the management report of the Management Board and the financial statements	7.9	327

8.2.5 Information included by reference

In accordance with Annex 1 to Commission Delegated Regulation (EU) 2019/980 of 14 March 2019 supplementing Regulation (EU) 2017/1129 of the European Parliament and of the Council , this Universal Registration Document incorporates the following information by reference (available on Vallourec's website: https://www.vallourec.com/en/hub-finance/informations-reglementees):

- the parent company and consolidated financial statements for the year ended 31 December 2018, the Statutory Auditors' reports thereon, and the management report, presented respectively in Sections 6.3 (pages 234 to 248), 6.1 (pages 160 to 230), 6.2 (pages 231 to 233), 6.4 (pages 249 to 252), 8.1.1 (pages 324 to 326) and 8.2.3 (page 331) of the 2018 Registration Document filed with the French securities regulator (*Autorité des Marchés Financiers*) on 29 March 2019 under No. D.19-0231; and
- the parent company and consolidated financial statements for the year ended 31 December 2017, the Statutory Auditors' reports thereon, and the management report, presented respectively in Section 6.2 (pages 230-245), Section 6.1 (pages 158-229), Sections 8.1.1 to 8.1.4 (pages 316-324) and Section 8.2.3 (page 329) of the 2017 Registration Document filed with the French securities regulator (*Autorité des Marchés Financiers*) on 21 March 2018 under No. D.18-0161.

8.3 Other periodic information required under the General Regulations of the French securities regulator *(Autorité des Marchés Financiers)*

The Universal Registration Document includes some of the periodic information required under the terms of the AMF's General Regulations. The following table provides details of the pages of this Universal Registration Document on which this information appears.

	Universal Registration Document	
	Sections	**Pages**
Supervisory Board Report on compensation in 2019 for corporate officers	7.4	312
Statutory Auditors' fees (Article 222-8 of the AMF's General Regulations)	6.1 (Note 11)	229
Description of the share buyback program (Article 241-2 of the AMF's General Regulations)	2.2.4	20

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A French limited company (société anonyme)
with Management and Supervisory Boards and issued capital of €915,975,520