CORPORATE SOCIAL RESPONSIBILITY

Chapter 4 of the 2017 Document de référence*

SANOFI

Empowering Life

(*) This is a free translation into English of the "Chapitre 4. Responsabilité sociale, environnementale et sociétale" of our 2017 Document de référence issued in French and is provided solely for the convenience of English-speaking readers.

4

Corporate Social Responsibility

This chapter forms an integral part of the French-language *Rapport de Gestion* (Management Report), in accordance with Articles L. 225-102-1 and R. 225-104 to R. 225-105-2 of the French Commercial Code relating to companies' obligations of transparency with regard to corporate social responsibility. It has been verified by an independent third party, whose report is presented in Section "4.6. Report by independent third party".

Our reporting principles are based on the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI), under the "Core" option first attained in 2015. Sanofi is also a signatory of the United Nations Global Compact.

Our Corporate Social Responsibility (CSR) strategy focuses on three key pillars: Access to Healthcare for the Underserved, Engagement with Communities, and Healthy Planet. This strategy is presented in our 2016 Integrated Report, which is available from our online documents center: https://www.sanofi.com/en/our-responsibility/documents-center/. The documents center also provides other relevant information, including factsheets and charts.

4.1. Social information

For details of the methodology used to report social information and the definition of the regions used in workforce data tables, refer to Section "4.5. How corporate social responsibility information is reported: methodological note – 4.5.5.2. Definition of regions".

4.1.1. Employment

4.1.1.1. Workforce

Distribution of employees under contract by activity and region

The exchange of Sanofi's Animal Health business (Merial) for Boehringer Ingelheim's Consumer Healthcare business, and the integration of the former Sanofi Pasteur MSD joint venture, were completed on January 1, 2017 (see Note D.35. to our consolidated financial statements, included at Item 18 of our 2017 Annual Report on Form 20-F). Consequently, Merial data are no longer included in our 2016 figures.

Data for Boehringer Ingelheim (Consumer Healthcare) and Sanofi Pasteur MSD (Vaccines) are included in the 2017 figures in all data tables.

Employees under contract as of December 31	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2017	2016[a]	2017	2016[a]	2017	2016[a]	2017	2016[a]	2017	2016[a]
Employees under contract	106,566	106,859	48,358	46,924	13,810	15,181	38,401	39,308	5,997	5,446
Distribution by activity										
Pharmaceuticals[b][c]	69,946	91,467	31,784	40,251	8,122	12,137	26,933	35,176	3,107	3,903
Vaccines[b]	15,217	15,392	7,015	6,673	2,917	3,044	3,828	4,132	1,457	1,543
Consumer Healthcare[c]	9,834	N/A	3,284	N/A	757	N/A	4,876	N/A	917	N/A
Other[b]	11,569	N/A	6,275	N/A	2,014	N/A	2,764	N/A	516	N/A

(a) Excludes Animal Health employees.

(b) Starting in 2017, the "Other" line includes employees of our global support functions (Medical Affairs, External Affairs, Finance, Human Resources, Legal Affairs, Information Solutions & Technologies, Sanofi Business Services, etc.), who were previously allocated between our Pharmaceuticals and Vaccines operating activities.

(c) Employees of the Consumer Healthcare business are presented on the "Pharmaceuticals" line for 2016 and the "Consumer Healthcare" line for 2017.

Workforce in main countries where Sanofi operates

Employees under contract as of December 31	Worldwide		France		United States		Germany		China		India		Brazil	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Employees under contract	106,566	106,859	25,427	25,230	13,810	15,181	9,322	8,990	8,714	8,683	5,181	5,282	3,795	4,116
% of total employees under contract	100.0%	100.0%	23.9%	23.6%	13.0%	14.2%	8.7%	8.4%	8.2%	8.1%	4.9%	4.9%	3.6%	3.9%

As of December 31, 2017, Sanofi had a total of 106,566 employees under contract, down 0.3% year-on-year.

The three countries where Sanofi has the most employees under contract are France (25,427 employees, 23.9% of our total employees under contract), the United States (13,810 employees, 13.0%) and Germany (9,322 employees, 8.7%).

Sanofi is continuing to expand its presence throughout the rest of the world and especially in China, India and Brazil, which now have a combined total of more than 17,690 employees (16.6% of total employees under contract).

Distribution of employees under contract by function and region

Distribution by function	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2017	2016[a]	2017	2016[a]	2017	2016[a]	2017	2016[a]	2017	2016[a]
Employees under contract	**106,566**	**106,859**	**48,358**	**46,924**	**13,810**	**15,181**	**38,401**	**39,308**	**5,997**	**5,446**
%	100%	100%	45.4%	43.9%	13.0%	14.2%	36.0%	36.8%	5.6%	5.1%
Sales forces	30,284 28.4%	30,815 28.8%	5,319 11.0%	4,972 10.6%	2,898 21.0%	3,855 25.4%	19,999 52.1%	20,151 51.2%	2,068 34.5%	1,837 33.8%
Research and development	14,764 13.9%	15,148 14.2%	9,078 18.8%	9,486 20.2%	2,849 20.6%	2,921 19.2%	1,936 5.0%	1,874 4.8%	901 15.0%	867 15.9%
Production	40,417 37.9%	41,867 39.2%	24,692 51.1%	24,939 53.2%	4,866 35.2%	5,132 33.8%	9,153 23.8%	10,215 26.0%	1,706 28.4%	1,581 29.0%
Marketing and support functions	21,101 19.8%	19,029 17.8%	9,269 19.2%	7,527 16.0%	3,197 23.1%	3,273 21.6%	7,313 19.0%	7,068 18.0%	1,322 22.0%	1,161 21.3%

(a) Excludes Animal Health employees.

Although the workforce was stable overall, the number of employees fell in Emerging Markets (-2.3%) and in the United States (-9.0%, mainly due to the "Serio" program and to the "Forward" reorganization program in the Diabetes & Cardiovascular Global Business Unit (GBU); see Section "4.1.1.2. New hires and departures"). Meanwhile, there were increases in headcount in Europe (+3.1%, due mainly to the integration of employees from the Boehringer Ingelheim Consumer Healthcare business, and from Sanofi Pasteur MSD following the dissolution of the joint venture) and in Other Countries (+10.1%, due largely to the integration of Consumer Healthcare employees in Japan).

As of December 31, 2017, Sales Forces, Research and Development, Production, and Marketing and Support Functions accounted for 28.4%, 13.9%, 37.9% and 19.8% of our total employees under contract, respectively.

Employee numbers fell during 2017 in Sales Forces (-1.7%), Research and Development (-2.5%) and Production (-3.5%) relative to 2016. The year-on-year increase in Marketing and Support Functions headcount was related to the ongoing reorganization of Sanofi, and more specifically to the verticalization of our support functions. As a result, some of the employees included in Research and Development or Production in 2016 are included in Marketing and Support Functions with effect from 2017.

External staff

External staff as of December 31	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Total external workforce[a]	7,426	7,573	3,266	2,700	974	1,225	2,818	3,329	368	319
of which temporary staff	5,401	5,353	2,834	2,397	824	935	1,403	1,784	340	237
of which third party sales forces	2,025	2,220	432	303	150	290	1,415	1,545	28	82

(a) Temporary staff are calculated on a Full Time Equivalent (FTE) basis, and third party sales forces on the basis of average monthly period of service (calculated prorata to time spent promoting Sanofi products).

As of December 31, 2017, total outside staff headcount was 1.9% lower year-on-year.

Temporary staff headcount was 0.9% higher than in 2016, while third party sales force headcount was 8.8% lower.

Distribution of employees under contract by type of contract, work time and gender

Employees under contract as of December 31	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Distribution of employees under contract by gender										
Employees under contract	106,566	106,859	48,358	46,924	13,810	15,181	38,401	39,308	5,997	5,446
% women	46.2%	45.7%	48.5%	48.3%	50.0%	49.6%	42.6%	41.6%	40.9%	42.9%
% men	53.8%	54.3%	51.5%	51.7%	50.0%	50.4%	57.4%	58.4%	59.1%	57.1%
Distribution by type of contract, work time and gender										
Permanent contracts	88.2%	88.2%	92.8%	92.2%	99.8%	99.9%	77.1%	78.0%	95.7%	95.4%
% women	45.6%	45.3%	48.4%	48.2%	50.0%	49.6%	40.4%	39.5%	40.2%	42.4%
Fixed-term contracts	11.8%	11.8%	7.2%	7.8%	0.2%	0.1%	22.9%	22.0%	4.3%	4.6%
% women	50.1%	49.3%	49.9%	50.2%	53.1%	52.9%	50.0%	48.8%	57.0%	53.1%
Number of part-time employees	4,070	4,104	3,911	3,905	71	116	31	26	57	57
Full time equivalent	3,078	3,066	2,968	2,923	47	78	22	22	42	43
% women	84.8%	82.7%	84.9%	82.2%	91.5%	94.0%	61.3%	73.1%	86%	96.5%

The percentage of fixed-term contracts (11.8%) was the same as in 2016. The ratio of temporary staff to permanent contract employees was 5.7%, also unchanged from 2016.

A total of 4.2% of our permanent contract employees work part-time, a slightly lower proportion than in 2016 (4.3%). The majority of our part-time employees are women (84.8%), an increase compared with 2016 (82.7%).

Part-time work, which is more common in Europe than elsewhere, reflects national job market characteristics and the regulatory conditions governing employment.

Worldwide distribution of employees under contract by managerial status

Employees under contract as of December 31	Worldwide		Manager[a]		Non-Manager		Executive posts[b]		Executive Committee	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
% women	46.2%	45.7%	42.2%	41.4%	46.9%	46.5%	27.5%	26.4%	14.3%	7.7%
% men	53.8%	54.3%	57.8%	58.6%	53.1%	53.5%	72.5%	73.6%	85.7%	92.3%

(a) Whose role involves managing direct subordinates.
(b) Executive Level 1 or Executive Level 2 grade (see methodological note, "4.5.5.6. Definition of Executive Level grades 1 and 2").

The overall percentage of female employees at Sanofi (46.2%) was slightly higher than in 2016 (45.7%).

The percentage is rising both globally (+0.5 of a percentage point) and for managers (+0.8 of a percentage point).

Worldwide distribution of employees under contract by length of service

Years of service (employees under contract)	Worldwide	
	2017	2016
> 35	1.8%	1.6%
31-35	3.1%	3.1%
26-30	5.4%	5.2%
21-25	6.3%	6.5%
16-20	11.0%	9.9%
11-15	15.2%	14.6%
6-10	15.5%	18.2%
1-5	30.2%	30.9%
< 1	11.6%	9.9%

The average length of service is 10 years and 7 months, slightly down on 2016 (10 years and 8 months).

The average length of service of employees is higher in Europe (14 years and 5 months) than in Other Countries (11 years and 8 months), the United States (8 years and 10 months) and Emerging Markets (6 years and 3 months).

The average length of service of female employees (10 years and 3 months) is seven months lower than that of male employees (10 years and 10 months). 57.3% of employees have ten years' service or less, compared with 59.0% in 2016.

Distribution of employees under contract by age bracket

Distribution by age bracket (employees under contract)	Worldwide	
	2017	2016
Under 21 years	0.3%	0.3%
21 to 30 years	17.3%	17.8%
31 to 40 years	31.4%	31.8%
41 to 50 years	29.8%	29.7%
51 to 60 years	19.2%	18.5%
Over 60 years	2.0%	1.9%

The average age of our employees (41 years and 6 months) was 2 months lower than in 2016; 73.5% of our employees were aged between 26 and 50, less than in 2016 (74.1%). 48.9% of our employees were aged 40 or under, fewer than in 2016 (49.9%); 21.2% were aged over 50, more than in 2016 (20.4%).

4.1.1.2. New hires and departures

New hires and departures by region[a]

Employees under contract December 31	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Employees under contract	**106,566**	**106,859**	**48,358**	**46,924**	**13,810**	**15,181**	**38,401**	**39,308**	**5,997**	**5,446**
Permanent staff[b]	88.2%	88.2%	92.8%	92.2%	99.8%	99.9%	77.1%	78.0%	95.7%	95.4%
Total number of new hires	13,927	12,391	4,572	4,044	1,319	1,471	7,034	6,337	1,002	539
of which permanent contracts	*8,657*	*6,209*	*2,603*	*1,182*	*1,308*	*1,436*	*3,847*	*3,253*	*899*	*338*
of which permanent contracts %	*62.2%*	*50.1%*	*56.9%*	*29.2%*	*99.2%*	*97.6%*	*54.7%*	*51.3%*	*89.7%*	*62.7%*
Total number of departures	14,507	14,535	3,404	4,396	2,695	1,989	7,913	7,263	495	887
of which permanent contracts	*10,052*	*9,125*	*1,632*	*1,761*	*2,691*	*1,979*	*5,343*	*4,665*	*386*	*720*
of which permanent contracts %	*69.3%*	*62.8%*	*47.9%*	*40.1%*	*99.9%*	*99.5%*	*67.5%*	*64.2%*	*78.0%*	*81.2%*
Resignation rate – permanent contracts[c]	4.5%	4.8%								
Turnover – permanent contracts[d]	10.0%	8.1%								

(a) Data on movements (new hires and departures) cover more than 98% of the reporting scope, but do not include movements relating to companies not included in the "Convergence" platform, for which data on new hires and departures are not collected. In addition, the data do not include in-house transfers.
(b) Employees under permanent contracts.

$$\text{(c) Resignation rate on permanent contracts} = \frac{\text{Voluntary departures of permanent staff}}{\text{Total permanent staff at year-end}}$$

$$\text{(d) Turnover of employees on permanent contracts} = \frac{\text{(New hires of permanent staff + departures of permanent staff)/2}}{\text{Total permanent staff at year-end}}$$

Sanofi hired 13,927 new employees in 2017, 62.2% of them on permanent contracts.

The main reasons for new hires were as follows:

- the integration of Boehringer Ingelheim employees, primarily in Japan, Germany, Brazil, Russia and Mexico;
- the operational implementation of vaccines promotion by Sanofi Aventis France (the GBU formed following the dissolution of the Sanofi Pasteur MSD joint venture), which affected headcount in France and the rest of Europe;
- an increase in production capacity in the Czech Republic in connection with Sanofi's proposed withdrawal from the generics business in Europe.

Departures during the year (14,507 in total) related mainly to:

- a dedicated early retirement program (Serio) and the effects of the "Forward" reorganization program for the Diabetes & Cardiovascular GBU in the United States;
- the divestment of Maphar to a third party;
- the collective transfer of Winthrop Pharma Sénégal employees to Medis, the buyer of the production facility in Senegal;
- the adaptation of the business model in sub-Saharan Africa, leading to the outsourcing of distribution to Eurapharma (EPDis/Propharmed), a key player in the African market;
- restructuring programs in Brazil, mainly in commercial operations and Vaccines.

Departures were due to resignations (39.2%), layoffs (45.2%), expiration of fixed-term contracts (12.7%), and retirement (2.9%):

Based on employees under contract as of December 31	Worldwide	
	2017	2016
Total number of departures	14,507	14,535
Resignations:	39.2%	41.3%
of which voluntary departures: fixed-term contract employees	26.2%	24.6%
of which voluntary departures: permanent contract employees	73.8%	75.4%
Layoffs	45.2%	36.4%
Expiration of fixed-term contracts	12.7%	19.3%
Retirement	2.9%	3.0%

Of the total number of resignations, 26.2% were voluntary departures of employees on fixed-term contracts (72.2% of which were in China, where new employment contracts are generally renewable fixed-term contracts) and 73.8% were voluntary departures by employees on permanent contracts, representing a 4.5% resignation rate for permanent contract employees. Turnover of permanent contract employees is 10.0%.

4.1.1.2.1. Supporting employees during reorganizations in France

In 2016, as part of the strategic roadmap for 2020, Sanofi implemented a program to adapt the organizational structures within a number of entities, based primarily on voluntary departures under the end-of-career leave scheme. This program continued through 2017 in a number of entities.

- **Sanofi Aventis Groupe (SAG)**:

  The "Forward" reorganization and adaptation program, scheduled to be completed in 2017, was implemented during the year with new appointments, rollout of new organizational structures, and the final round of departures under the end-of-career leave scheme (98 people out of a total of 278).

  In addition, new agreements were signed on trade union rights and on the use of the electronic messaging system by trade unions.

  In light of the employment law reforms announced by President Macron, the elections for the Works Council and Employee Delegates initially scheduled for October 2017 have been postponed to the end of 2018.

- **Sanofi Aventis France (SAF)**:

  The main events in 2017 were (i) operational implementation of vaccines promotion by Sanofi Aventis France (the GBU formed following the dissolution of the Sanofi Pasteur MSD joint venture); (ii) integration of the employees (around 75 in all) from Boehringer Ingelheim following the exchange of Merial for Boehringer Ingelheim's Consumer Healthcare business; and (iii) the information/consultation process relating to the proposed combined structure for Consumer Healthcare operations to be implemented on January 1, 2018.

  The information/consultation process relating to the transfer of Sanofi Aventis France's Generics operations to Zentiva France began on October 19, 2017; it was completed at the end of January 2018.

- **Sanofi Chimie**:

  At an extraordinary meeting of the Works Council on October 11, 2017 to discuss strategic orientations for the 2018-2020 period, management announced its decision not to continue production under the Universal Corticosteroid Intermediate (UCI) development project, but rather to focus future production on soya as a growth medium. The aim is to secure the company's position as an established player in the corticosteroids market in a fast-moving, highly competitive environment.

  At the Vitry-sur-Seine site, the UCI development project will end slightly earlier than in the initial roadmap, under which it was scheduled to end in 2019.

  At Saint-Aubin-lès-Elbeuf, internal solutions will be found for all employees affected by the discontinuation of the UCI project.

  At Vertolaye, the discontinuation of the UCI project and the return to soya as a growth medium will gradually increase activity levels at the site.

  Negotiations on the term of office of trade union delegates led to the signature of an agreement with the three representative unions (CFE-CGC, CFDT and CGT).

- **Sanofi Winthrop Industrie (SWI)**:

  SWI continued to progress staff departures under the reorganization and adaptation plan scheduled for completion in 2018, and also hired new staff as stipulated in the majority agreement on support measures involving internal mobility and voluntary departures.

  Alongside this adjustment in headcount, SWI has also initiated industrial optimization measures at its production and distribution facilities, in order to attain its performance objectives and protect its competitiveness.

Negotiations on trade union rights, the term of office of trade union delegates and the negotiating body within SWI resulted in the signature of three agreements with the CFE-CGC and CFDT unions.

- **Sanofi Pasteur**:

  During 2017, work time agreements were put in place at all four sites. The transformation undertakings were delivered: 120 fixed-term contracts at industrial sites were converted into permanent contracts, and work began on a new building dedicated to influenza vaccine at Val-de-Reuil.

- **Sanofi Aventis Recherche et Développement (SARD)**:

  During 2017, the Central Works Council was informed and consulted about the strategic orientations of SARD (May) and the company's economic situation (July). An information/consultation process on HR policy was launched in October.

  A mobility survey was conducted within SARD during May, to boost internal mobility within Sanofi by gaining a better understanding of the issues. Two initiatives with the same objective ("I-Explore" and "Clustree") were presented to the Central Works Council before being rolled out across SARD. Skills forums were held at all R&D sites in December.

  Presentations on the R&D pipeline and on Research Strategy and Vision were made to the Central Works Council.

- **Genzyme SAS**:

  During 2017, the main focus was on informing and consulting the employee representative bodies about the proposed merger of Genzyme SAS into Sanofi Aventis France (SAF), and support for employees during this process. The employment contracts of the 156 employees involved were transferred to SAF on January 1, 2018, and are otherwise unchanged.

4.1.1.2.2. Absenteeism

Under the Sanofi Social Charter, the health and safety of all is an obligation for Sanofi and its employees, and all necessary resources must be deployed to safeguard health and safety. Monitoring absenteeism provides a means of measuring employee satisfaction and engagement in the workplace.

Sanofi monitors absenteeism locally in line with the relevant regulations; because those regulations vary from country to country, it is not meaningful to report them on a worldwide consolidated basis.

4.1.1.3. Compensation

Sanofi's compensation policy is designed to reward individual and team contributions, while also taking overall economic results into account. It aims to promote a culture of performance and reward the competencies that underpin our development. The compensation arrangements of the Chief Executive Officer and the Chairman of the Board are described in "Item 6.B. – Compensation" of our 2017 Annual Report on Form 20-F".

4.1.1.3.1. Objectives of Sanofi's compensation policy

The objectives of our compensation policy are to:

- align with local market practices to ensure that we offer competitive, attractive compensation in all countries where we operate;
- maintain a strong connection between our company's performance and our employees' contributions to that performance, while ensuring that employees are treated fairly; and
- maintain a balance between short-term performance and medium/long-term performance.

This policy is based on the principles used by the Board of Directors to determine the compensation of the Chief Executive Officer (see "Item 6.B. – Compensation" of our 2017 Annual Report on Form 20-F).

These principles are applicable essentially to all managers.

4.1.1.3.2. Alignment with market practices

We aim to assess market trends for each component of compensation:

- fixed compensation: assessed in terms of absolute value and year-on-year changes;
- employee benefits: primarily plans providing for retirement benefits, reimbursement of medical expenses, and death and disability benefits;
- short-term variable compensation: a target level of annual variable compensation; and
- medium/long-term variable compensation: mainly includes stock options and performance shares taking into account potential share dilution, the number of beneficiaries and the value of the grant price.

Market benchmarking is generally performed for each country. We compare our practices with those of our local competitors, first and foremost our competitors in the pharmaceutical sector but also competitors in other sectors depending on the business activity in question.

Each year we take part in compensation surveys in the various countries where we operate. Those surveys are conducted by reputable consulting firms in order to obtain reliable information on local compensation practices. The information collected is used to benchmark jobs at Sanofi relative to the local reference market.

Our aim is to align average compensation levels with the benchmark market median while allowing for great flexibility based on individual performance or an employee's command of his/her duties.

Strong connection between company performance and employee contributions to that performance

All variable compensation, whether short-term or medium/long-term, is subject to the attainment of performance criteria that reflect key factors for our success. Performance indicators, which are generally financial indicators, are always measurable, quantifiable, specified in advance and made known to the beneficiaries.

A global short-term performance management process is applied across the whole of Sanofi. That process was revised in 2016 to align on the strategic roadmap for 2020, and the new organizational structure based on Global Business Units (GBUs) and global support functions. The process involves setting individual objectives, and assessing the progress made towards those objectives and the professional conduct demonstrated in pursuit of them. Individual and team goals are set at the beginning of the year, and progress is assessed at the end of the evaluation period before compensation decisions are made.

Balance between short-term performance and medium/long-term performance

Short-term performance

Nearly 35,000 employees are covered by an annual individual variable remuneration (IVR) plan, which is the same across all activities and all countries. Target variable remuneration levels are primarily based on local market practices. They range from 5% to more than 50% for senior executives, with an average of 15%. Sales representatives are covered by a separate compensation system based on the performance of their sales unit.

The IVR budget is determined by reference to Sanofi's overall performance, and is allocated between each GBU and global support function on the basis of their respective results.

Sanofi's overall performance is now judged by reference not only to growth in sales and business net income but also to the quality of its R&D pipeline, the success of its new product launches and its ability to optimize cash flow.

Finally, the new IVR plan takes account of Sanofi's ability to improve transversal cooperation, act for change and develop people.

The annual IVR budget is based on the level of attainment of key performance indicators (KPIs) specified in advance within each organization.

- The actual results achieved for each objective in 2017 are measured, and expressed as a percentage. The results for each KPI are used to calculate an overall score for Sanofi, and for GBUs and global support functions.
- The total IVR budget is calculated on the basis of the Sanofi score and allocated between the GBUs and global support functions to reflect their respective performances. All budgets are calculated at Sanofi senior management level.
- Each GBU or support function decides on the amount to be distributed to its managers according to its own criteria and performance. Individual IVR bonuses are then determined by line managers based on their evaluation of the employee's performance, within the limit of the available budget.

Performance indicators are generally financial indicators such as sales growth, operating profit or cost control. In R&D, the KPIs applied are designed to measure the capacity to innovate and successfully launch new products; they include the quality of the pipeline, progress on key development programs and other key projects, and utilization of the R&D budget. For Industrial Affairs, performance is measured using a combination of indicators aligned with the production system and reflecting variances between budgeted and actual costs.

The five indicators used to measure Sanofi's overall performance are:

- business net income (see definition in "Item 5 – A.1.5. Segment information – 3/ Business Net Income" in our 2017 Annual Report on Form 20-F), which measures our profitability;
- sales growth, measured against the projected growth rate for the year;
- R&D outcomes, which demonstrate Sanofi's ability to innovate;
- the cash conversion rate, which measures Sanofi's ability to convert profits into cash; and
- the level of sales of new products, which reflects Sanofi's ability to conduct successful product launches.

A specific weight is allocated to each indicator. These performance indicators are used for all senior executives eligible for IVR, in addition to indicators specific to their entity.

Medium/long-term performance

In 2017, performance shares and stock options were granted to nearly 7,600 employees. These awards are conditional on employees' attainment of performance criteria over three financial years and their continued employment at Sanofi.

The performance criteria are determined by reference to two indicators measured for Sanofi as a whole: business net income and return on assets (ROA). The first is assessed relative to the budget set at the beginning of the year, and the second relative to a target set by the Board of Directors at the beginning of the period.

An additional performance criterion, total shareholder return assessed against a panel of competitors, is also used in determining the compensation of the CEO.

By granting performance shares or stock options, and choosing appropriate performance criteria, Sanofi aligns the interests of beneficiaries and shareholders in terms of value creation.

For senior executives, the medium/long-term variable compensation component is similar to the short-term variable compensation component.

In accordance with market practices, the number of employees entitled to performance shares and/or stock options is limited in order to ensure that share dilution remains at acceptable levels while offering employees competitive compensation.

Non-discrimination

Sanofi is careful to avoid any discrimination (e.g. based on gender) in the compensation paid in respect of a given position at equivalent levels of individual performance.

Where disparities exist, we may allocate specific budgets to rebalance compensation levels. For example, in France in 2017, some of our operations allocated up to 0.1% of their total budget to adjustments such as reducing the pay gap between men and women.

Employee share ownership

Sanofi regularly offers employee share ownership plans in order to:

- build employee loyalty and motivation;
- foster employees' unity and sense of belonging to Sanofi;
- enable employees to share in Sanofi's growth and success; and
- align employees' and shareholders' interests.

As of December 31, 2017, 1.54% of Sanofi's share capital was held by employees, representing a market value of €1.38 billion as of that date. Employees have become shareholders primarily through their voluntary contributions; Sanofi's top-up contributions into the employee savings plan; a worldwide free share plan; and capital increases reserved for employees.

On March 2, 2017, the Board of Directors approved "Action 2017", a capital increase reserved for employees, which was offered to all Sanofi employees in countries where such plans are feasible from a regulatory standpoint. The aim of the plan is to associate employees more closely with Sanofi's future successes, and increase the level of employee share ownership.

Under the plan, employees could subscribe for Sanofi shares at a 20% discount to the market price. As a top-up contribution, employees received one extra free share for every five shares subscribed, up to a maximum of four free shares. In return, the shares are subject to a five-year lock-up period. Overall, 25,760 employees in nearly 80 countries signed up to the plan; they invested a total of €107 million, subscribed for 1.5 million shares, and received a further 92,000 free shares by way of top-up contribution.

Employee benefits

Sanofi strives to ensure that all employees worldwide receive high-quality benefits covering health, old age, incapacity, disability and death. Those benefits comply with national regulations, are adapted to local cultures and provide the coverage that best meets employees' needs. In all countries, employees (as well as, in general, their spouses and children) receive a good level of reimbursement of medical expenses as well as death benefits.

In the vast majority of countries, Sanofi also offers benefits covering temporary or permanent incapacity. In France for example, all Sanofi employees, irrespective of the type of contract they hold (fixed-term or permanent, part-time or full-time), are entitled to the same medical and welfare benefits from the moment they are hired.

On a regular basis, we take part in a comprehensive market survey, conducted in over 60 countries, to ensure that the employee benefits we offer are in line with current local practices.

We also make sure that our employee benefit plans are designed for the long term.

In order to limit employee-related liabilities, Sanofi prefers defined-contribution plans (where the employer's commitment is restricted to paying the amount of its annual contribution) over defined-benefit plans (where the employer's commitment is to pay the amount of the future benefit), in order to contain the level of post-employment benefit obligations recognized as a liability by the company.

As regards "insured" plans, Sanofi seeks to optimize funding and reduce administrative costs by using programs such as insurance pooling or through the use of a captive insurance company. These plans not only offer economies of scale for the subsidiaries, they are also designed to ensure financial oversight and optimal governance.

Sanofi has had a dedicated Employee Benefits Steering Committee since 2010. The remit of the Committee, which is chaired by our Chief Financial Officer and our Executive Vice President, Human Resources, is to:

- review and approve Sanofi's overall employee benefits strategy;
- review and approve the implementation or amendment of any defined-benefit plan, irrespective of its cost; and
- review and approve the implementation or amendment of any defined-contribution plan above a limit set in advance by the Committee.

Whenever possible, Sanofi provides personalized employee benefit programs (medical, vision, dental, etc.) that allow employees to adjust their coverage according to their family situations and personal needs. These types of programs have been instituted in China, the United States, the United Kingdom and Ireland, for example.

In some countries, medical benefits also include programs focusing on prevention, vaccinations, screening (diabetes, skin cancer, etc.), nutritional advice, well-being, etc. In the United States and many other countries, employees can sign up to "Take Care & Bwel!", Sanofi's complete wellness program (see Section "4.2.2.1.4. Health and wellness").

In addition to medical, disability and death benefits, Sanofi offers retirement benefits in all countries where this is standard industry practice (more than half of the countries where the company operates).

For example, in France, Sanofi has set up an optional collective retirement savings plan (PERCO) that supplements statutory plans and encourages employees to voluntarily save for retirement. Under the plan, Sanofi tops up employee contributions by 250% up to a specified limit. Top-ups and limits are established, and fund management decisions taken, jointly by Sanofi management and the trade unions.

Sanofi also offers a medical and travel assistance plan for employees whose jobs require them to travel abroad, regardless of the country where they work. This plan also covers emergency evacuations and repatriation.

4.1.1.3.3. Principal compensation policy indicators

At Sanofi, we provide fair compensation for our employees in accordance with standard industry practices. In order to ensure the best possible living standards, employee compensation generally exceeds the legal minimum wage in the countries where we operate.

(€ million)	2017	2016	2015	2014
Net sales	35,055	33,821	34,060	31,380
Personnel costs[(a)]	9,321	9,119	9,134	8,163
Personnel costs/Net sales ratio	26.6%	27.0%	26.8%	26.0%

(a) Excludes personnel costs for the Animal Health business: immaterial in 2017, €0.6 billion for 2016 and 2015.

Collective variable compensation

In addition to individual variable remuneration, some countries and activities offer collective variable compensation.

In France, two collective variable compensation plans are in place:

- The first is statutory profit-sharing (*participation*), which is determined on the basis of the profit generated by all Sanofi's French entities. This plan uses a special calculation method that is more advantageous for employees than the method prescribed by law.
- The second is voluntary profit-sharing (*intéressement*). At Sanofi, this is covered by a three-year agreement (from 2017 to 2019) with trade unions. Sanofi's management and the trade unions determine the key performance indicators (KPIs) to be taken into account, and the aggregate amount to be distributed to the employees who worked for Sanofi during the year in question.

The amount distributed to employees in France under the voluntary and statutory profit-sharing schemes for the last three years, and the minimum and maximum individual amounts paid, are set forth below.

Collective variable compensation (France)[(a)]	2017	Change (%)	2016	Change (%)	2015
Voluntary + statutory profit-sharing (€ million)	165.7	+2.0%	162.4	+5.9%	153.4
Minimum voluntary + statutory payment made (€)	5,299	0.0%	5,301	+4.6%	5,069
Maximum voluntary + statutory payment made (€)	8,451	+0.3%	8,425	+9.6%	7,690

(a) The amount distributed to employees in France under the voluntary and statutory profit-sharing schemes includes the Animal Health business.

The minimum amount of collective variable compensation paid by Sanofi in France represents the equivalent of 2.7 months of base pay for the lowest-paid employees.

Finally, Sanofi also tops up employees' voluntary contributions to the employee savings plan ("PEG") and the optional collective retirement savings plan ("PERCO") in France. After including "PEG" and "PERCO" top-up contributions, the collective variable compensation paid by Sanofi in France represents the equivalent of 3.96 months of base pay for the lowest-paid employees and 1.07 months for the highest paid.

4.1.2. Social dialogue

In all countries where Sanofi operates, we strive to combine economic performance with good employee relations, which we believe are inseparable.

With regard to respect for people, Sanofi's social responsibility is based on the basic principles of our Social Charter, which outlines the rights and duties of all our employees. The Social Charter addresses Sanofi's key commitments towards its workforce: equal opportunity for all people without discrimination, the right to health and safety, respect for privacy, the right to information and professional training, social protection for employees and their families, freedom of association and the right to collective bargaining, and respect for the principles contained in the Global Compact on labor relations and the International Labor Organization (ILO) conventions.

Labor relations within Sanofi are based on respect and dialogue. In this spirit, management and employee representatives meet regularly to exchange views, negotiate, sign agreements and ensure that agreements are being implemented. Social dialogue is structured differently from country to country, as local circumstances call for a differentiated approach. Information, consultation and negotiation processes may take place at national, regional or company level and may be organized on an interprofessional or sectoral basis, or both. Social dialogue may be informal or institutionalized, or a combination of both methods. Whatever the situation, Sanofi encourages employees to voice their opinions, help create a stimulating work environment and participate in decisions aimed at improving the way we work. These efforts reflect one of the principles of our Social Charter: that improvements in working conditions and the need to adapt to our environment go hand in hand.

Since 2015, Sanofi has applied a worldwide policy on freedom of association that applies to all employees (see Section "4.3.5 Initiatives to support human rights").

4.1.2.1. Social dialogue in Europe

Sanofi's European Works Council (EWC), which includes 40 members and 40 alternates, represents employees who work in European Union countries. In 2017, the EWC met in June and December to be informed about matters including financial results and performance; news about the company; ethics and compliance policy; the industrial master-plan for Europe; and biosimilars in Europe.

In addition, interim meetings with EWC officers provide an opportunity for regular or one-off briefings based on developments affecting Sanofi.

4.1.2.1.1. Social dialogue in France

The France Group Committee, made up of 25 members, 25 alternates and trade union representatives, met in February, May and December 2017. During those meetings, the Committee was informed about matters including the strategic orientations of Sanofi, the R&D pipeline, the employment situation, and the proposed divestment of the Generics business.

Overview of collective agreements in France

Six agreements were signed in 2017 including agreements on the voluntary profit-sharing scheme, quality of life at work, and medical/welfare benefits. In addition, 15 amendments to existing agreements were signed with trade unions representing Sanofi employees in France, covering issues such as long-term care and support for employees who are also carers and employee savings plans. In 2017, 100% of our employees in France were covered by collective agreements.

As part of the action plan implemented under the agreement on employment of young people and seniors (*contrat de génération*) signed in January 2017, Sanofi committed to at least 40% of new permanent contract hires being young people (aged 30 or under, with priority given to people reaching the end of existing work-study contracts) and 5% being seniors (aged 50 and over). By the end of December 2017, Sanofi had hired 995 people on permanent contracts in France, of whom 50% were aged below 30 and 4% were aged 50 and over.

4.1.2.1.2. Social dialogue in Germany

Employees are represented through the Works Council or the Employee Representatives Committee, delegates to which are elected by the employees for a four-year term under the social partnership in the German chemistry sector.

In 2017 constructive negotiations were successfully conducted with local and central Works Councils on a number of significant restructuring programs focused on industrial affairs (balance between the company's interests and those of the employees). Successful negotiations with the Works Council led to a collective agreement for the formation of Sanofi Business Services, with a view to establishing guidelines for new ways of working together. The rollout of new systems, such as Workday (recruitment) or One LMS (learning management), was also discussed with the Central Works Council. The carve-out process for the European Generics business began. In consultation with the Berlin Works Council, a pilot project to evaluate the feasibility of part-time sales force working was successfully launched. In addition, Sanofi took part in major initiatives focused on diversity and gender balance, and conducted a further demographic analysis to help prepare for demographic challenges in the near future.

4.1.2.2. Social dialogue in other countries

Brazil: Employees are represented by industry-wide trade unions. Trade union representatives are elected by pharmaceutical company employees for a term of four or five years; they have guaranteed job security, and cannot be dismissed by the company during their term of office.

Sanofi Brazil currently has 89 employees representing trade union organizations registered with the Labor Ministry. Their role is to conduct collective bargaining negotiations on issues such as wages and benefits.

In addition, Brazilian labor law requires companies to establish an internal committee, made up of employee representatives elected for a two-year term, to discuss and negotiate specific matters such as profit-sharing agreements and the prevention of workplace accidents. In 2017, 100% of employees were covered by collective agreements and 12 internal collective agreements were signed.

China: In accordance with the principle of freedom of association, Sanofi China has backed the implementation of employee representation at its industrial sites. Initiatives are devised and organized on a regular basis by employee volunteers, with the support of management at headquarters and at regional offices. Social media are also used to motivate younger generations of employees. In 2017, more than 70% of employees at industrial sites (versus 21% in 2016) were covered by collective agreements, and four internal collective agreements were signed.

United States: Federal, state and local statutes give employees the right and opportunity to voice their opinions with other employees, to management, and relevant governmental authorities. In addition, Sanofi provides many avenues for both informal and formal disclosures and issue resolution. Every year, all employees can sign up and belong to Employee Resource Groups that work on a variety of issues and initiatives to promote employee engagement, development and retention (see Section "4.1.4.4. Other measures to promote diversity and equal opportunity").

4.1.3. Training and career development

4.1.3.1. Training and career development strategy

Training, personal growth and career development are crucial for bolstering our employees' skills and nurturing in-house talent; these efforts play a vital role in our human resources strategy.

In recent years, Sanofi's human resources teams have introduced the One HR model to harmonize processes and practices across all our Global Business Units and Global Functions. The implementation of the Workday software solution has standardized our performance review and talent identification processes worldwide, instilling a shared culture that promotes career development.

In order to foster this culture of learning and career development, we have adopted principles that recognize the crucial role that managers play in the development of their teams, in particular through succession planning and internal mobility. In concrete terms, this involves regular discussions about performance, personal growth opportunities, career options, leadership development and succession planning. This is achieved through a combination of managerial assessment of upskilling progress and training programs.

During 2016, Sanofi established the foundations for a global approach to talent management, fostering the development of management and leadership skills and cross-disciplinary training programs, with the aim of optimizing our initiatives through the creation of "one voice of Sanofi leadership" and improving our operational efficacy.

The key objective of this global approach is to ensure that our leaders understand and develop the competencies and qualities that are essential to Sanofi's success. In parallel, our cross-disciplinary training programs are helping propagate Sanofi's culture in the areas with the greatest impact on the way our business is organized.

4.1.3.2. Principal developments in training programs and other resources

Our leadership training initiatives saw further developments in 2017, and now comprise the following programs:

"Business for Tomorrow" and **"Leading for Tomorrow":** These programs, launched in 2014, continue to reinforce and align management practices among our senior executives in today's market, where speed and agility are essential. So far, over 200 senior executives have engaged in the LFT and BFT programs.

"Evolution Center for Excellence" and **"Evolution Center For Leadership"**: Launched in 2013, these programs help Sanofi develop a pipeline of future leaders and provide a resource for in-house recruitment, while also giving our senior executives an opportunity for networking and for sharpening their career development objectives. So far, 344 senior executives have followed the ECE program, and 927 senior leaders have completed the ECL program.

"Impact", "Influence", **"Inspire"** and **"Insights":** These four programs, launched respectively in 2011, 2014, 2015 and 2017, are aimed at senior leaders. "Impact" helps them communicate more effectively. So far, almost 1,250 senior leaders have followed this program. "Influence" develops their capacity to work within a complex matrix-based organizational structure and influence others, while themselves remaining open to other influences. So far, almost 600 senior leaders have engaged in this program. "Inspire" is intended to develop authenticity in our senior leaders and make them better team leaders; so far, almost 350 leaders have benefited from this program. We also launched "Insights" for this population in 2017, targeting the development of strong strategic thinking and business acumen. Almost 50 participants engaged in the pilot and we look forward to full launch in 2018.

"Management Essentials": This program, covering 30 countries in six regions, was launched in 2015. Nearly 3,500 first-level managers have followed the "Management Essentials" program, to help them get the best performance from their teams and operate more effectively in a complex environment. This program harmonizes leadership development among first-level managers, promoting a culture of continuous training and feedback. As such, it is playing a key role in feeding our talent pipeline. A greater diversity of managers has now received training in leadership principles, helping Sanofi achieve more consistency and excellence in leadership.

"Leadership Essentials", our newest second-level manager program, was piloted in 2016 and launched globally in 2017 with 600 people who manage other managers. This program consolidates the basis for a future generation of authentic strategic leaders, and encourages commitment and upskilling among second-level managers.

"Challenge your bias" was devised to raise awareness among leaders of the importance of fostering a welcoming, inclusive work environment; a total of 1,003 participants attended this workshop during 2017.

"DEEP Conversations": This multi-modal learning journey was launched in 2017, focusing on how to build an environment of straight talk across Sanofi. The initial launch involved around 1,600 participants and fed into the planning of our Sanofi People Survey. We then enrolled 500 HR leaders into the program, to support managers in discussions during annual performance and development interviews.

"Reverse Mentoring": A reverse mentoring program is to be rolled out in support of Sanofi's digital transformation and the deployment of our digital strategy. A successful pilot was run during the first half of 2017 involving 23 mentorship pairings. Several senior executives took part, including the CEO of Sanofi. The program aims to build digital maturity among senior leaders by giving them the opportunity to be mentored by a millennial. Both sides benefited from this skills transfer. Digital natives from "Generation Y" obtained a better understanding of the needs of executives, broadened their network of contacts, learned from the experiences of their older colleagues, and deepened their own awareness of digital issues. The senior leaders found that the program helped them fulfil their role as ambassadors for Sanofi's digital transformation and strategy, learn about social media behavior and new information/communication technologies, and build digital into their daily lives. The program was spread over an average of six months, and comprised 11 modules covering issues such as an introduction to digital, to be or not to be on social media, the power of big data, and data security.

4.1.3.3. Transition towards a single shared platform

In 2017, the drive to streamline and improve our learning programs took a further step forward with the implementation of iLearn, a shared training platform to which all employees will ultimately have access. During 2018, the main focus will be the ongoing transition of our existing learning solutions to iLearn, and supporting the Sanofi academies as they build training programs that harness state-of-the-art technology to deliver highly relevant learning to our people. We aim to maximize the impact and experience of learning by establishing simpler processes.

The training data presented below relate to two training systems, each of which covers a representative portion of the total Sanofi employee population:

	Le@rn system		Foederis system	
	2017	2016	2017	2016
Number of training modules	19,346*	24,805*	1,347	1,359
Number of employees trained	42,229*	44,228*	19,495	21,063
Total number of hours of training	613,988*	541,650*	514,455	471,511

* *Includes subcontractors.*

- The Le@rn system is dedicated to training in Good Pharmaceutical Practices at Sanofi (such as Good Manufacturing Practices), and is deployed worldwide.
- The Foederis system is dedicated to employees working in France, and covers training in a number of areas:
  - Business: Marketing, Production, Human Resources, Procurement, Public Affairs, etc.;
  - Regulatory: Health & Safety, Quality; and
  - Transverse: Management and Leadership, Personal Development, Languages, Office Applications.

Health & Safety and Compliance programs are discussed in Sections "4.2.1.5 Training and awareness initiatives" and "4.3.3.1 Fair business practices", respectively.

4.1.4. Equal treatment

4.1.4.1. Diversity policy

We created our Diversity Department, which reports to our Executive Vice President Human Resources, in 2007, and we continue to harness the diversity of our workforce to drive the development of innovative solutions that better address the needs of patients.

Our diversity policy outlines our principal commitments (as expressed in our Code of Ethics) with regard to non-discrimination, equal opportunity and the promotion of diversity, as well as our commitment to monitoring the progress of our diversity measures on an annual basis. We can only deliver innovation, protect our image and be competitive if we allow talent to flourish, and develop the motivation and performance of our people. That is why we promote diversity right across our organization, and regard difference in colleagues and partners as essential to our success as a global business. Sanofi supports equality of opportunity for each employee or candidate in terms or recruitment, access to training, compensation, welfare, internal mobility and career development. Sanofi prohibits all forms of discrimination and any disrespectful behavior towards others.

Our diversity policy is implemented through our network of diversity delegates and partners. Outside France, this network comprises 51 diversity delegates in 44 countries. These delegates translate our overall policy into concrete measures adapted to the cultural, economic and business environment in

each country. Our diversity network in France comprises 32 diversity and/or disability delegates across all of our French sites and entities. In 2017, the entire French network was invited to take part in a two-day forum, which was attended by 54 employees representing over 20 of our French sites.

In-house communications and building awareness among all Sanofi employees about the importance of this policy continued during global events such as International Women's Day, as well as through local initiatives.

In 2016, we began a program of workshops targeting bias and stereotyping for all Executive Committee members and their teams. This program was rolled out more extensively around the world in 2017, with 80 sessions held involving more than 1,000 employees.

A diversity intranet and our corporate website ("Our Responsibility" pages) provide an opportunity to illustrate not just our commitments, but also examples of best practice from various countries and entities. These practices cover a broad range of subjects and showcase a variety of complementary initiatives.

4.1.4.2. Gender equality at work

The promotion of gender equality lies at the core of Sanofi's strategy, and bringing more female talent on board is one of the individual variable remuneration objectives for Executive Committee members. In 2017, we continued to uphold our commitment to promote gender equality at Sanofi. As of December 31, 2017, 46.2% of our workforce and 42.2% of managers (whose role involves supervising direct subordinates) were women, compared with 45.7% and 41.4%, respectively, in 2016 (see Section "4.1.1. Employment").

At the same date, women represented 27.5% of employees at Executive Level 1 or Executive Level 2 grade(1) within Sanofi, compared with 26.4% in 2016 (see Section "4.1.1. Employment").

Since 2014, our Global Gender Balance Board and its network have operated through correspondents across all of our regions and functions worldwide, helping implement local initiatives to promote gender balance and equality at work. The network is currently administered by a board of ten members, three of whom also sit on the Executive Committee.

Numerous initiatives to promote gender balance and equality at work were undertaken in 2017, in various countries and activities. For example:

- Support for gender equality campaigns: for the seventh consecutive year, Sanofi was a sponsor of the Women's Forum (held in Paris this year), and a delegation of 30 women and men from Sanofi attended the event. Since 2010, more than 200 employees have taken part in this event, giving them the opportunity to become ambassadors of this approach within Sanofi.
- Organizing events at country level, for example:
  - Sanofi hosted many events to mark International Women's Day including conferences and debates, meetings between female employees and management, examples of women's career paths within Sanofi, promoting women's and gender balance networks, and sharing information across various media.
  - For the second time, nine corporate charitable foundations, including Sanofi Espoir, got together to mark International Women's Day by releasing a landmark series of video portraits of inspirational women from around the world under the title *Elles ont toutes une histoire* ("We Are Women").
  - Sanofi was also involved in conferences and debates on gender balance issues, including a day-long event in Paris under the banner "Gender Balance, it is more than a woman issue" attended by several Executive Committee members.
  - In Germany, for the fourth consecutive year we included a special day devoted to gender balance issues as part of a special diversity week.
  - In Paris, with the support of Executive Committee members, we launched a fourth wave of the mentoring program within the WoMen@Sanofi network, which involved 50 mentor/mentee pairings. Since 2015, Sanofi has organized 12 mentoring programs in 8 countries, regions or functions; over 500 mentees have benefited from those programs.

4.1.4.3. Employment and integration of people with disabilities

Sanofi remains committed to employing people with disabilities, placing a particular emphasis on the following goals, while ensuring respect for local cultures and compliance with local regulations:

- priority support for employees with disabilities to ensure that they retain their jobs;
- depending on the job profile, the continued hiring of employees with disabilities, regardless of the nature of their disability;
- improved information and communication, as well as ongoing efforts to raise awareness about disabilities;
- maintaining ties with the sheltered employment sector; and
- ongoing actions to provide better accessibility to buildings and information.

In France, Sanofi employs 1,255 people with a disability (compared with 1,160 in 2016), including temporary staff.

(1) See methodological note, "4.5.5.6. Definition of Executive Level grades 1 and 2".

Initiatives taken in France during 2017

Events were organized at 22 Sanofi sites (the same number as in 2016) to mark Disability Employment Awareness Week in November 2017.

2017 also saw the implementation of the fourth group-wide agreement on retaining and recruiting people with disabilities, which runs from 2017 to 2020. It covers five areas: retention, hiring, employee awareness programs, collaboration with the sheltered employment sector, and accessibility (work-stations and information). Sanofi has committed to hire 75 people with disabilities during the term of the agreement. The agreement has been approved by DIRECCTE (the regional body responsible for employment matters).

Ahead of the International Day of Persons with Disabilities, Sanofi issued a special kit to each of its sites to help them prepare for the event. The kit included video testimonies by two employees with disabilities, produced as part of the Good Morning Sanofi series of diversity videos, plus a new version of our disability brochure updated to reflect the new agreement.

We are also continuing to tackle the issue of disabilities through the *Enfants de Sanofi* non-profit organization. During 2017, *Enfants de Sanofi* distributed 141 grants, 88 of which went to employees in 20 countries who have children with disabilities to provide support with healthcare, special education, institutional care and home care.

4.1.4.4. Other measures to promote diversity and equal opportunity

Sanofi has initiated projects in various areas to promote equal opportunity, prevent discrimination and foster an inclusive culture for all our employees. Examples include:

- Completion of the Good Morning Sanofi series of videos, made by and for our employees. These portray the diversity of our people throughout the world in terms of cultural diversity, work-life balance, gender equality and minorities, for example. Over 24 videos can now be viewed on our intranet sites, the corporate website and YouTube. The series has received five awards from external bodies.
- Our specific Lesbian, Gay, Bisexual and Transgender (LGBT) diversity policy, which aims to challenge stereotypes about sexual minorities, remains in place. A full-day awareness campaign was carried out at our Montpellier site in France, while numerous initiatives were taken in conjunction with civil society in the United States. In 2017, Sanofi's LGBT policy was marked 100/100 in the Corporate Equality Index for the second consecutive year.
- Introducing young people to the world of work regardless of their origins is a major challenge for the future. Sanofi is developing partnerships to help meet this challenge: internships, apprenticeships, work-study contracts and Volunteer for International Experience programs all give young people an insight into working life and how business works (see Section "4.1.2.1.1. Social dialogue in France").
- In France, 106 employees took part in sponsorship initiatives focused on equal opportunity. *Nos Quartiers ont des Talents* aims to make it easier for people from deprived neighborhoods to enter the workforce. The *Institut Télémaque* supports talented and motivated students from underprivileged backgrounds, while *Job dans la Ville* helps troubled young people find their place in society and begin their careers.
- In the United States, employees can volunteer to join one of nine Employee Resource Groups, each of which focuses on a specific issue such as Generation Y, cancer, diabetes, sexual orientation or help for carers.

4.2. Information on health, safety and the environment

Our methodology for reporting health, safety and environmental data is presented in Section "4.4.5. How corporate social responsibility information is reported: Methodological note").

4.2.1. General policy on health, safety and the environment

As a global healthcare player, we are committed to providing a safe and healthy workplace for all employees and contractors working at our sites, while minimizing the environmental footprint of our activities and products.

To deliver on this commitment, Sanofi has developed a Health, Safety & Environment (HSE) strategy based on a management system that is consistent with the challenges faced by the company in its activities, and draws upon support from right across the organization.

The policy is established by our HSE Department and signed off by our senior management. The HSE Department is one of our global support functions and covers all business segments and all geographies, and the entire life cycle of Sanofi products.

4.2.1.1. Presentation of our HSE policy

All of Sanofi's activities are subject to regulations, and also to ever-growing expectations on the part of stakeholders, in the field of HSE. To address these challenges, and to reiterate our commitment to our employees and to the environment, we issued an updated HSE policy in May 2017. The policy was signed by Olivier Brandicourt, our Chief Executive Officer, and was issued and promoted to all our activities throughout the world.

A cornerstone of the Sanofi HSE strategy, this policy is integral to our commitment to corporate social responsibility.

In implementing the policy, Sanofi has defined a series of HSE ambitions for 2025, which are being applied across all of our activities with a focus on four key areas:

1. Encourage change in attitudes to safety within Sanofi: a unified safety culture means we can commit to protecting life by ensuring that all our people enjoy safety in the workplace and arrive home safe and sound every day.
2. Make Sanofi a healthy community: protect the health of everyone working at Sanofi, by developing programs like "Take Care & Bwel!" that attract people to join us and encourage them to stay.
3. Minimize our environmental footprint: leverage our Planet Mobilization strategy to make Sanofi a beacon of corporate environmental management.
4. Strengthen HSE as a partner of our business operations: using HSE programs and transverse cooperation, transform HSE challenges into opportunities for our businesses and in our markets.

In all sites and all countries, our HSE Department has established a framework that covers all aspects of HSE: safety in the workplace, process safety, occupational health, and protection of the environment. These documents are reviewed on a regular basis, and distributed on all Sanofi sites.

The framework includes regulatory requirements and internal rules, the results of risk/opportunity analysis, and expectations on the part of stakeholders – including customers, NGOs, investors and civil society – and is translated into a set of compulsory standards and methodological guides.

The HSE Department carries out regular audits of Sanofi entities and subcontractors to check that the rules established centrally are being applied locally. Information relating to the audit process is set out in Section "4.2.1.3. Compliance and Audit" below. In addition, all assignments performed by the HSE Department in connection with establishing, implementing and checking the application of HSE policy may be subject to audit by our Internal Audit Department.

4.2.1.2. Remit and organization of the HSE function

The remit is to set up processes to control HSE risks and impacts and embed the Sanofi HSE culture at all levels of the organization, in a spirit of constant dynamic improvement.

In deploying the HSE strategy, our global HSE organization is based on three pillars, all under the direction of our Global Head HSE:

- global expertise: the global expertise functions support the activities of Sanofi and its partners by providing scientific and technical expertise, and develop global strategies;
- Business Partners: the HSE Business Partners within the Global Business Units (GBUs), R&D and Industrial Affairs are tasked with implementing specific strategies and monitoring performance;
- regions: regional HSE managers provide operational support aligned on global and business-specific strategies and on local regulations.

The global HSE function is backed up by:

- a dedicated HSE department within each of our industrial, research and tertiary sites, representing around 700 employees in total across 45 countries who run and implement HSE programs at site level;

- professional firefighters, at sites where this is required (such as those classified as "Seveso" because of hazardous substances); and
- occupational health services, either in-house or outsourced, offering medical coverage appropriate to the nature of occupational risks. Internationally, the HSE Department has a leadership team of eight Key Medical Doctors (KMDs), based in the regions of the world where we operate, who develop and harmonize occupational risk prevention and medical surveillance activities within Sanofi, in compliance with local regulations. In France, a collective agreement on the creation of an occupational health service at Sanofi was approved in November 2015, and has now been implemented. The aim is to standardize medical surveillance of our employees by increased coordination of medical services, without impairing the independence of occupational physicians.

Our HSE department heads up a number of expert committees that assess the impact and hazards of substances and biological agents (see Section "4.2.2.1.1. Managing risks associated with manufactured substances").

Sanofi also has in-house analytical laboratories, such as the Aramon laboratory in France staffed by a team of experts. Their occupational health role includes classifying people's level of exposure to active substances. From a safety standpoint, they assess hazards associated with processes, and classify types of dust and equipment. The Aramon laboratory is also developing specific analytical methods.

4.2.1.3. Compliance and audit

In addition to the regulatory watch role carried out by our global expertise teams within their sphere of competence, individual sites also monitor local HSE regulations and compliance with local administrative and HSE requirements.

Internal audit

The HSE Department runs audit programs to assess compliance with internal HSE rules.

The purpose of these audits is to:

- help our sites and activities establish HSE priorities and action plans;
- measure site performance against our internal rules and regulatory requirements;
- provide senior management with an objective and documented overview of how HSE policy is being applied, and of the performance of our sites and subsidiaries;
- identify, promote and organize good practices developed by our sites and subsidiaries; and
- check that HSE management systems and HSE programs are being implemented.

These HSE audits are performed throughout the year by Sanofi Lead Auditors certified by the International Register of Certified Auditors (IRCA). The Sanofi Lead Auditors are supported by other staff members who have recognized HSE experience and have followed a dedicated training program accredited by IRCA. Some of our internal auditors have individual IRCA accreditation.

Alongside the audits organized by the HSE Department itself, some Sanofi Internal Audit team members have received HSE audit training so that they can incorporate HSE issues into their general audits.

	2017	2016
Number of internal audits, including Biosafety	47	59
Number of auditors with IRCA accreditation	25	21
Number of auditors who have performed audits	85	94

Through our HSE policy and internal audits, we encourage adherence to our HSE standards, which are specifically tailored to our activities. By complying with these standards, sites may if they wish obtain official recognition of their commitment through international certifications: ISO 14001 (Environmental Management) and OHSAS 18001 (Occupational Health & Safety).

To further our commitment to energy management, we also encourage our sites to obtain ISO 50001 (Energy Management).

Similarly, as part of the tightening of our road safety policy from 2017 we are encouraging our sites to obtain ISO 39001 (Road Traffic Safety).

International standards	Number of sites certified
ISO 14001 (Environmental Management)	49
OHSAS 18001 (Occupational Health & Safety)	33
ISO 50001 (Energy Management)	24
ISO 39001 (Road Traffic Safety)	2

In addition to internal verifications and audits, Sanofi sites are also subject to regular inspections by local authorities and to regulatory verifications by third parties on specific issues. For example, around 200 visits were carried out by technical experts on behalf of Sanofi's insurers during 2017.

Audits of subcontractors

Sanofi also has a policy for conducting HSE audits of suppliers of active pharmaceutical ingredients (APIs) and contract manufacturing organizations (CMOs); see section "4.3.6.1. Social and environmental responsibility of suppliers and subcontractors".

Number of Sanofi CMO audits	70
Number of audits of API suppliers	88

4.2.1.4. Evaluation of risks and impacts

The risk management and identification process is critical to our global HSE management system. Its main objective is to identify hazards and risks and to evaluate their probability and potential effects, by carrying out global risk mapping and implementing risk control measures.

Each site has a comprehensive risk evaluation program covering all its activities. Sites systematically identify all HSE hazards and evaluate the associated risks and effects. The evaluation methodology aims to identify and quantify hazards and assess the level of risk in light of the extent to which the risk is controlled.

Depending on the nature of the site, some of the following issues may be more relevant than others:

- process safety and risk of explosions;
- fire risks;
- exposure to natural disasters (assessed with insurers if necessary);
- work-station risks;
- road safety;
- asphyxiation risks;
- biological risks;
- occupational disease risks; and
- environmental risks.

Each type of risk evaluation has its own methodologies, scope, and tools for determining priorities and acceptability (usually in the form of a risk matrix).

Risk evaluations are reviewed annually, and whenever there is a material change.

In deciding which risk mitigation techniques to use, the following hierarchy of preventive measures is used:

- firstly, elimination or substitution;
- secondly, prevention and/or protection using technical or organizational measures;
- and finally the use of collective (or failing that, individual) protection measures.

Each site establishes and maintains its own emergency response plan, adapted to reflect site-specific risks and the internal or external resources that would be deployed or called upon in response to those risks.

Special case: sites with "Seveso" classification (major risks):

The five European sites classified as Seveso III establishments have specialized response resources, implemented by standby crews and employees who have received second response training.

The chemical manufacturing sites in Aramon, Sisteron and Vertolaye (France), the facilities at our industrial platform in Frankfurt am Main (Germany), and our chemical production facility in Budapest (Hungary) are all classified as Seveso III (from the name of the European directive relating to potentially hazardous sites, providing a list of activities and substances and the associated classification thresholds). In accordance with French law on technological risk prevention, the three French sites mentioned above are subject to more stringent safety inspections due to the toxic or flammable materials stored on the sites and used in their operating processes.

Results from the evaluations are collated in a risk map, which identifies all types of risk associated with the site or activity. These risks are then ranked by priority, with the priorities signed off by management, first at site level and then at activity level.

All the risk maps are incorporated into a summary report. Action plans are then implemented accordingly, at the appropriate level (site, activity, or company-wide).

4.2.1.5. Training and awareness initiatives

We invest in training and awareness programs designed to embed environmental protection, and the prevention of health and safety risks, into everything we do.

In general, each new joiner receives initial HSE training appropriate for their job profile so that they can perform their work in strict compliance with the rules. Depending on their jobs, employees may then follow other training modules specifically related to what they do (such as eco-driving for medical and sales representatives, or chemical risks for employees handling chemical products).

Founded in 2012, the Sanofi HSE Academy enables all employees to access the training programs developed and approved by our HSE Department (other than regulatory training).

Number of participants[a]	2017	2016
Leadership training	2,912	1,239
Technical training	1,211	787
Driver training	3,329	2,204
Other e-learning modules	159	72

(a) The total number of participants may be higher than the total number of employees. For example, if one employee takes part in three training sessions, that counts as three participants.

New training modules developed in 2017 include extensions to the existing "Biosafety Expert" program; machine safety management; and the identification, regulation and transportation of hazardous materials.

These training programs are supported by various awareness initiatives delivered throughout the year via the HSE intranet, plus newsletters and one-off campaigns to highlight specific issues or events at site level. For example, in October 2017 more than 80 sites across the world held "Environmental Days".

4.2.2. Information on health and safety in the workplace

We have rigorous policies to identify and evaluate safety risks and to develop preventive measures, and methods for checking their efficacy. These policies are implemented on a worldwide scale to ensure the safety of all employees and to protect their health. Preventive measures are designed primarily to reduce the number and seriousness of occupational injuries and to minimize the exposure of permanent and temporary Sanofi employees as well as our subcontractors.

The health and safety programs followed by Sanofi employees are based partly on an analysis of the risks associated with the substances we manufacture (including active ingredients and medicines), and partly on the nature of the work done by all employees and contractors at our sites.

4.2.2.1. Health

4.2.2.1.1. Managing risks associated with manufactured substances

From the development of compounds to the commercial launch of new drugs, Sanofi research scientists continually assess the effects of products on human health, especially that of our employees. This expertise is made available to employees through committees responsible for chemical and biological risk assessments, which are used to determine adequate risk prevention and protection measures for employees. These committees are convened at global level, and pool the resources of our network of international experts; they reflect Sanofi standards and policies.

The COVALIS committee is responsible for hazard determination and classification for all the main active pharmaceutical ingredients and synthesis intermediates handled or manufactured at our sites. This includes all active ingredient production subcontracted to third parties under the Sanofi label. The COVALIS committee sets limits for workplace exposure that apply to all Sanofi sites.

The TRIBIO committee establishes the methodology for evaluating, classifying, consolidating and disseminating validated information about all biological agents handled within Sanofi facilities. The committee provides management with guidance on risks, preventive measures, controls, personal protection equipment, medical surveillance, and specific training programs associated with biological agents.

In addition, specific resources are allocated to the implementation of the European Union regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH). In compliance with the European CLP regulation on the classification, labeling and packaging of chemical substances, we have registered the relevant substances with the European Chemicals Agency (ECHA).

4.2.2.1.2. Managing work-station health risks

Each site prepares its own health risk analysis, and then defines and implements risk prevention programs and occupational health practices in accordance with Sanofi's HSE rules. This mainly involves containment measures, as well as individual and collective protection against exposure at all work-stations where chemical substances or biological agents are handled. Other risk factors associated with issues such as noise, vibration and ergonomics are also examined.

All personnel are monitored under medical surveillance programs that are based on the results of occupational risk assessments linked to their duties.

4.2.2.1.3. Occupational diseases

Occupational diseases and their causes are divided into categories based on international standards. For the purposes of prevention, the number of occupational diseases is consolidated for Sanofi as a whole on an annual basis, with the aim of improving the reporting of data based on local regulations that may vary greatly from country to country.

In line with European statistics (in particular those for France, Italy, Belgium and Spain), the principal type of occupational diseases recognized within Sanofi during 2017 was musculoskeletal disorders.

4.2.2.1.4. Health and wellness

"Take Care & Bwel!", Sanofi's employee wellness program initiated in 2012, aims to promote healthy lifestyles and prevent or delay the onset of chronic disease by focusing on four pillars: regular physical activity ("Move Often"), a balanced diet ("Eat Well"), sleep and stress management ("Feel Good"), and disease prevention ("Stay Healthy"). The program uses interventions developed with the help of in-house and external experts, and relies on dedicated resources and employee engagement.

By the end of 2017, the program had been rolled out in 47 countries and at 125 sites worldwide. Our goal is to continue expanding the program by supporting sites as they implement good practices. Other measures taken during 2017 included developing novel initiatives to help our employees to make lifestyle changes. These initiatives incorporate ground-breaking mobile apps developed in collaboration with the European Institute of Innovation and Technology for Health. Implementing these measures at industrial, administrative and R&D sites in France, China, the United Kingdom and Spain has led to significant changes in sedentary and sleep behaviors.

Rollout of "Take Care & Bwel!"	2017	2016
Number of sites	125	72
Number of countries	47	40

4.2.2.2. Occupational injury prevention programs

4.2.2.2.1. Preventing occupational injuries

Each project, whether in research, development or manufacturing, is subject to evaluation procedures incorporating the data on substances and on chemical and biological processes issued by the COVALIS and TRIBIO committees, as described in section "4.2.2.1.1 Managing risks associated with manufactured substances". Risk assessments of processes and installations are drawn up according to standards and internal guidelines that incorporate the best state-of-the-art benchmarks for the industry and international standards. Particular attention is paid to any risk-generating changes, such as process or installation changes, as well as changes in production scale and transfers between industrial or research units.

Sanofi has implemented a sophisticated real-time monitoring tool that alerts management as soon as possible after an accident has occurred, and tracks frequency rates. A monthly report is issued to operational managers, and a quarterly report is sent to the Chief Executive Officer and the Executive Committee members.

Periodic analysis of occupational injuries is used to guide the implementation of specific preventive programs, both locally and globally.

These programs may include technical, organizational and human measures. The Sanofi "Safety Culture" program urges all employees to take an active interest in their own safety and that of their colleagues by raising their awareness of the hazards and risks in their day-to-day environment and in their tasks, actions and practices.

The program encourages employees to flag up dangerous situations and near misses, alongside safety inspections and the sharing of good practice.

Sanofi has set a target for 2020:

- occupational injury frequency rate - any employee: < 2
- lost time injury frequency rate - any employee: < 1.4

4.2.2.2.2. Prevention of serious or potentially serious accidents

Our HSE Department has established criteria for determining the potential seriousness of occupational accidents. This has enabled us to take more targeted action to reduce the number of potentially serious accidents, and to take human and organizational factors into account for an in-depth analysis of such accidents. The ultimate aim is to focus our efforts on ways to prevent potentially serious accidents, rather than simply reacting after the event. Potentially serious accidents are systematically identified and reported, and are subject to in-depth analysis.

We have also taken steps to reinforce our preventive measures and fine-tune the analytical methodology used to assess the root causes of serious or potentially serious accidents. The goal is to prevent any recurrence of these events, and to embed a safety culture for all Sanofi employees, independent contractor staff and temporary staff.

4.2.2.2.3. Learning from experience (LEX)

To achieve further improvements in accident prevention, we have set up a learning from experience process aimed at achieving the following objectives:

- identify the contributing factors of incidents by going back to the root causes;
- prevent recurrence by analyzing past events, taking corrective action and sharing lessons from the experience;
- improve performances across the board by changing operating methods, sharing good practice, and taking account of all technical, human and organizational factors through collective in-depth analysis of incidents;
- value the positive contribution made by operational staff to the safety of work tasks, operations and installations.

Learning from experience is based on a dedicated reporting datasheet (known as LEX Alert or Vigilance) containing an analysis of the incident, the immediate and root causes, and actions to be taken (some of which, if the issue is serious enough, will have to be completed within a specified time-frame). The datasheets are prepared by experts and disseminated through the entire HSE network, and to operational and site managers (R&D, industrial and administrative). A total of 85 datasheets were distributed in 2017.

4.2.2.2.4. Road safety

In 2017, one sales manager at each of our subsidiaries worldwide was designated as "Road Safety Chairman", in order to give new impetus to country programs and reduce accidents. Under the slogan "Drive safely: the road to better customer service", a video was produced showing how a medical representative can be exposed to risk during a typical day on the road. The video was shared with Commercial Operations teams to further sensitize sales forces to the need to take more care when driving.

Hands-on training courses offered every three years help sales forces improve their techniques for emergency braking and driving in slippery conditions, and to better assess safe distances, while practicing on a closed track in a safe environment. A new training session focusing on distracted driving was released in Spain. These initiatives are backed up by online courses to refresh awareness of key road safety principles.

In April 2017, during a ceremony at the Carrousel du Louvre in Paris attended by senior executives from Sanofi, our Road Safety Committee presented awards to the best-performing medical representatives (from the United States, the United Kingdom and Russia), to regional managers (from India, Latvia and Spain) and to HSE managers (from Australia, Egypt, Taiwan and Vietnam) in recognition of their exemplary attitude to road safety.

4.2.2.2.5. Occupational injury indicators

	2017	2016	2015
Lost time injury frequency rate[(a)] – Sanofi personnel	1.6	1.7	1.7
Lost time injury frequency rate[(a)] – any employee[(b)]	1.9	1.7	1.8
Total occupational injury frequency rate[(c)] – Sanofi personnel	2.3	2.3	2.6
Total occupational injury frequency rate[(c)] – any employee[(b)]	2.7	2.5	2.9
Number of deaths	0	0	2
Number of occupational diseases reported	30	39	32

(a) Number of accidents resulting in lost time of one day or more within a 12-month period, per million hours worked. For non-mobile personnel, accidents occurring during the home-workplace commute are not included in this indicator. However, they are included for travelling medical representatives, in accordance with reporting rules. In the interests of comparability, the figures for 2016 have been restated to reflect the scope of the Sanofi group at the end of 2017.
(b) "Any employee" includes Sanofi employees, temporary workers and subcontractors.
(c) The total occupational injury frequency rate represents the number of reported occupational injuries with and without lost time within a 12-month period, per million hours worked. Occupational injuries without lost time are those that meet certain criteria established by Sanofi to distinguish them from accidents that required no more than first aid, which are not logged as reportable accidents.

Safety is a key issue for Sanofi. There have been no deaths in the last two years. The majority of lost time injuries are due to employees falling or slipping, or to accidents while travelling. A campaign has been launched to prevent trip and slip hazards, and the 2017 road safety campaign was a great success.

The number of occupational diseases is falling.

We have decided not to publish the severity rate calculated using the criteria defined by French regulations. Because this rate is calculated solely on the basis of the number of days of lost time, it does not reflect the actual severity of injuries from an international standpoint. This is because for a given injury, the number of days of lost time may vary considerably from one country to another depending on the applicable regulations and compensation systems. Consequently, we have decided to publish the total occupational injury frequency rate. This indicator takes into account occupational injuries with and without lost time (i.e. all serious accidents), thereby avoiding the discrepancies arising from country-specific regulatory systems as mentioned above.

4.2.3. Environmental information

4.2.3.1. Planet Mobilization road map: fresh momentum to 2025

We have embarked upon an ambitious policy to limit the direct and indirect impacts of our operations on the environment through every stage of the life cycle of our products. We have identified five key environmental issues associated with our operations: greenhouse gas emissions and climate change; water; pharmaceutical products in the environment; waste; and biodiversity.

In 2010, we made ambitious commitments for our industrial and R&D sites: to reduce scope 1 and 2 CO_2 emissions by 20% and water withdrawals by 25% (on a constant structure basis) by 2020.

Our existing initiatives are ongoing, but have been given fresh impetus through our Planet Mobilization program. Reflecting our broader environmental strategy, Planet Mobilization sets even more ambitious objectives for reducing environmental impacts across the entire value chain by 2025. Planet Mobilization is a company project that calls upon all our people to support the objectives and engage with our external partners.

The table below summarizes the objectives:

Environmental issue	Planet Mobilization commitment 2015 - 2025	Existing commitment 2010-2020
Scope	**Industrial, R&D and Tertiary sites (includes medical rep fleet) Scope 1 & 2**	**Industrial and R&D sites (excludes medical rep fleet)**
Carbon footprint (CO_2 emissions)	-50%	-20%
Water (withdrawal)	Management plan at all sites (priority to those in water stress zones)	-25%
Pharmaceutical products in the environment	Life cycle management plan and commitment to the "Anti-Microbial Resistance (AMR) Roadmap 2020"	Management plan
Waste	Reuse/recycle/recovery ("3R") rate > 90% Landfill disposal rate < 1%	
Biodiversity	Biodiversity awareness plan at all sites, risk evaluation and management at priority sites	

4.2.3.2. Carbon footprint

Our strategy to address climate change focuses mainly on energy consumption and greenhouse gas emissions.

Sanofi's new ambition, aligned on "Trajectory 2", is to become carbon neutral by 2050 in terms of emissions from industrial, R&D and administrative sites, and from medical representatives vehicle fleets (Scope 1 & 2). Our intermediate goal is to reduce our CO_2 emissions by 50% by 2025 (from a 2015 baseline) for the same scope. Our commitment is clear from our lead role in a working group set up by the Pharma Environmental Group, a consortium of around 20 pharmaceutical industry players, to establish Carbon Scope 3 accounting methods for the industry at a global level.

Sanofi is also an active participant in the Carbon Disclosure Project (CDP) Climate Change Questionnaire program. Our ambitious policy on managing greenhouse gas emissions was acknowledged in 2017 with an "A-" rating, one of the best in our industry.

4.2.3.2.1. Energy

Improving energy efficiency and encouraging the use of renewables

To address the challenges of diminishing fossil fuel resources and climate change, we have adopted a strategy based on the three objectives presented below. Efforts in this field are being led by our energy network, in coordination with our Environment Department.

Consume less

An energy conservation program has been implemented at all our sites, with a specific focus on the air treatment systems that ensure high-quality production environments in manufacturing and R&D buildings. These systems are some of our biggest users of energy, accounting for up to 70% of energy consumption at some of our pharmaceutical and vaccine manufacturing sites. Since 2013, an energy performance management tool has been in place at all our industrial sites to identify potential reductions in energy consumption. At the start of 2016, we held our first-ever energy performance workshop at our Injectables site in Maisons-Alfort (France). A total of 13 joint workshops have now been held. They have become a powerful lever for developing robust energy-saving plans for our sites, and for effective knowledge-sharing about workshop methodology and energy efficiency. To date, 15% of energy savings have been identified for the next three years.

Our energy efficiency approach extends to all our activities including our medical rep vehicle fleets, decisions on how we transport our products, and the architectural and functional design of new buildings.

Consume smarter

We use tools at our industrial sites that enable us to factor in the total cost of equipment ownership, especially for those items where energy costs represent the highest proportion of total cost of ownership (motors and lighting). In 2012, we signed a master service agreement with Engie to install high efficiency cogeneration units and/or heat production units at our European sites. In 2013, the term of the agreement was extended to 2017 and its scope was expanded to include sites in China, Latin America and North America. Cogeneration units went live in 2016 at four sites in Italy (Origgio, Anagni, Brindisi and Scoppito) and in Cologne, Germany.

Consume differently (use renewables)

As part of our strategy to reduce greenhouse gas emissions, we conduct regional assessments relating to the use of renewable energies, based on risk/opportunity analyses (risk of supply outages versus economic opportunities).

Energy consumption

Energy consumption (*MWh*)	2017	2016
Natural gas	2,263,258	2,313,091
Electricity	1,653,561	1,697,853
Liquid hydrocarbons (not including methanol)	56,020	70,140
Renewable fuels	10,792	40,989
Other (steam, thermal fluids, cooling water, compressed air)	310,408	264,290
Total	**4,294,039**	**4,386,363**

Energy consumption is stable relative to 2016 and lower than for 2015, the baseline year (Planet Mobilization commitment).

Energy from renewable sources accounted for 8.5% of our total energy consumption in 2017. This figure is derived from the renewable portion of each country's electricity mix (source: International Energy Agency), and from renewable-source energy consumed on Sanofi sites (geothermal, biomass, wind power, etc).

4.2.3.2.2. Greenhouse gas emissions

Emissions linked to energy consumption: scope 1 & 2

The Planet Mobilization project has set more ambitious targets for reducing scope 1 & 2 emissions, including not only industrial, R&D and tertiary sites but also our medical representatives vehicle fleet: a 50% reduction by 2025 from the 2015 baseline, with an interim target of 25% by the end of 2020.

Greenhouse gases (*Tonnes of CO_2e*)[(a)]	2017	2016
Direct emissions: Scope 1	426,598	438,893
Indirect emissions: Scope 2	443,198	473,430
Total	**869,796**	**912,323**

(a) CO_2e = CO_2 equivalent.

We reduced our total direct CO_2 emissions (including the medical representatives vehicle fleet) by around 2% in 2017 relative to 2016. For the medical representatives fleet specifically, we achieved a 6% reduction, thanks to eco-driving action plans and procurement rules that favor the selection of low-emission vehicles.

Compared to the 2015 baseline year, direct and indirect emissions linked to energy consumption (scope 1 & 2) are down 7%; on the basis of our 2010 commitments, CO_2 emissions have been reduced by 23%.

Indirect emissions: scope 3

Scope 3 has been calculated for 11 significant categories from among the 15 listed in the Greenhouse Gas (GHG) protocol. Six categories accounted for over 90% of our scope 3 greenhouse gas emissions in 2017.

The 16% reduction in emissions between 2016 and 2017 is mainly due to better understanding of input data, and improvements in the calculation process (reduction of 39% in Category 1, Purchased goods and services).

The six categories are listed below, in descending order of the volume of emissions.

Category 1 - Purchased goods and services (38% of 2017 emissions)

The most substantial items are purchases of customized products, chemical raw materials, packaging, and medical devices.

Category 11 - Use of sold products (18% of 2017 emissions)

The quantity of pharmaceutical products (mainly vaccines) that requires constant refrigeration until the point of use was stable overall. The other main source of emissions is aerosol propellants, the quantity of which increased between 2016 and 2017.

The metrics for this category are still subject to considerable uncertainty (such as modelling healthcare delivery, and assumptions about refrigeration), but we have already identified areas for improvement such as developing products that are less cold chain dependent.

Category 9 - Downstream transportation and distribution (14% of 2017 emissions)

This category consists of transportation and storage not directly managed or operated by Sanofi, such as patients driving to pharmacies or cold storage of vaccines.

The source data are of only average quality, and an action plan to obtain more precise data is being developed with our Logistics Department.

Category 2 - Capital goods (9% of 2017 emissions)

This relates to emissions generated to produce capital goods bought or acquired by Sanofi.

Category 5 - Waste generated in operations (6% of 2017 emissions)

This category includes emissions arising from the treatment of solid or liquid waste generated, handled or controlled by Sanofi.

Category 3 - Fuel and energy-related activities (5% of 2017 emissions)

This category is closely related to scope 1 and 2 energy consumption levels, and is on a downtrend due to action plans already in place (see Section “4.2.3.2.1 Energy”).

Scope 3 *(Tonnes of CO_2e)*[(a)]	2017	2016
Category 1. Purchased goods and services[(b)]	2,883,850	4,717,338
Category 2. Capital goods[(c)]	708,993	558,069
Category 3. Fuel and energy-related activities[(c)]	377,687	405,878
Category 4. Upstream transportation and distribution[(c)]	172,395	193,546
Category 5. Waste generated in operations[(c)]	417,021	319,393
Category 6. Business travel[(c)]	111,439	117,722
Category 7. Employee commuting[(c)]	167,823	165,227
Category 9. Downstream transportation and distribution[(b)&(c)]	1,021,046	772,237
Category 10. Processing of sold products[(c)]	111,722	170,555
Category 11. Use of sold products[(c)]	1,359,430	1,294,407
Category 12. End-of-life treatment of sold products[(b)]	198,853	234,167
TOTAL[(d)]	**7,530,260**	**8,948,538**

(a) CO_2e = CO_2 equivalent.
(b) Qualitative improvement in metrics
(c) Change in nature of operations
(d) GHG Protocol emission categories 8 and 13 (upstream and downstream leased assets) and 14 (franchises) are not material. We consider Category 15 (Investments) to be non-applicable, since emissions relating to products and services bought and sold in this way are already included in the other categories.

4.2.3.2.3. Optimization of the use of solvents and control over emissions of volatile organic compounds

Solvents, primarily used for production of active ingredients and for transformation into pharmaceutical products, are governed by company-wide recommendations on their use.

Solvents used in the production process are either purchased (consumed quantities), or regenerated at Sanofi sites. We encourage process optimization, regeneration (when possible) and waste-to-energy technology in an effort to reduce consumption.

(Tonnes)	2017	2016
Solvents used	209,155	205,948
Percentage of regenerated solvents	66%	61%

Controlling volatile organic compound (VOC) emissions from drug synthesis and manufacturing activities is a priority for Sanofi. An integrated approach is applied at each stage of product development, from research to production, aimed at:

- reducing organic solvent usage by implementing green chemistry techniques, and through the use of key process performance indicators by our R&D teams;
- reducing emissions at source through specific adjustments to manufacturing processes and maximum containment of solvent use; and
- capturing and treating residual VOC emissions at special treatment facilities using the best available techniques for the specific physico-chemical properties of the VOCs emitted (cryogenic capture, gas scrubbers, thermal oxidizers, etc.).

(Tonnes)	2017	2016
VOCs (estimated)	3,385	3,124

(Tonnes of SO_x)	2017	2016
Direct emissions	102	30

(Tonnes of NO_x)	2017	2016
Direct emissions	402	405

4.2.3.2.4. Adapting to the consequences of climate change(1)

Extreme weather caused by climate change could present a risk both to our production facilities and to our supply chain, right up to delivery of our products to patients. To guard against these risks, our facilities are constructed to the highest standards, using state-of-the-art engineering techniques and taking maximum constraints into account in the design phase. In addition, during site visits, technical experts from our insurers issue recommendations for dealing with extreme weather conditions, such as putting in place emergency flood risk plans. Risks related to natural disasters are taken into consideration in our crisis management plan, across all levels of our production sites and supply chains.

4.2.3.2.5. Raising awareness about climate-related health challenges

We are committed to working on the issue of climate disruption and raising awareness among stakeholders about its impact on health. In 2015 we set up an advisory board of climate and health experts tasked with identifying the challenges related to climate change and health, and ensuring that we have a coherent strategy. As a sign of our commitment, Sanofi was an official partner of the 21st Conference of the Parties (COP 21) to the United Nations Framework Convention on Climate Change that took place in Paris during November and December 2015. To coincide with COP 21, our CEO joined 38 other French business leaders in signing a call for action to curb climate change. This commitment was reiterated in December 2017 with the publication of the French Business Climate Pledge, at the international One Planet Summit hosted by France. The pledge reaffirmed the desire to reduce the effects of climate change by limiting the rise in temperatures to 2°C by 2100. We publicly share our achievements in limiting our environmental footprint on a regular basis, and on our strategy for anticipating the health impact of climate change in areas such as pollution-related allergies and vector-borne diseases like dengue and malaria.

In 2017, Sanofi employees were given an update on these issues at the worldwide environment day held at our sites. The main issue addressed was the impact of pollution on health, and specifically on allergies and respiratory diseases.

(1) This paragraph contains the information required under the application decree of Article 173 of French law no 2015-992 on energy transition for green growth.

4.2.3.3. Water

We are committed to managing water resources sustainably. To help us deliver on this commitment, we require each site to establish a water resource management plan. Particular attention is focused on sites located in water stress zones.

Sanofi has been an active participant in the Carbon Disclosure Project (CDP) Water Questionnaire program since its inception. Our ambitious policy on managing water resources, and in particular our risk-based approach, was acknowledged in 2017 with an "A" rating – one of the best in our (and indeed any) industry.

In addition, our Planet Mobilization project calls for strategic thinking on how to manage the water footprint within the Sanofi value chain, especially in terms of relations with our principal suppliers.

4.2.3.3.1. Water consumption and water resource management plan

Water consumption

Water used during manufacturing (for fermentation in particular) and heat exchange (cooling for processes, with no contact with manufacturing) is essentially withdrawn from available watercourses and groundwater. We have specific operating procedures for effectively managing our use of water, and for reducing our consumption through moderation and recycling.

Water consumption (m^3)	2017	2016
Withdrawal of surface water (lakes, rivers, etc.)	9,003,566	10,403,834
Withdrawal of groundwater	23,505,550	24,318,903
Withdrawal of water from public supply	8,170,129	8,979,021
Total	**40,679,245**	**43,701,758**

Water consumption fell by 6.5% in 2017 relative to 2016, reflecting reduced consumption at five sites: Frankfurt Chemistry, Brindisi, Elbeuf, Vertolaye and Toronto. This was partly due to programs aimed at reducing water consumption (Toronto, for example), but also to changes in the nature of operations at Brindisi, Frankfurt and Vertolaye.

Measured against our Planet Mobilization commitment (baseline 2015), water withdrawals had fallen by 6.2% to end 2017; measured against our 2010 commitment of 25%, the reduction achieved to end 2017 was 22.6% on a like-for-like basis.

Water resource management plan

Water is needed for many processes in the production of medicines and vaccines, often in order to meet very stringent quality standards. We are committed to managing this vital resource responsibly, particularly in areas where water supplies are limited.

Our internal HSE standards require all of our sites to create and follow a water management plan. In addition, our internal rules require any sites at potential risk from water scarcity to establish and comply with a plan for reducing water consumption that is tailored to the site's local context and industrial characteristics. This reduction plan must set appropriate goals for reducing water consumption and ensure they are monitored, in association with any specific investments.

Every site for which local water availability might be inadequate or that consumes more than one million m^3 per year must perform an appropriate study in order to determine and document whether it is at potential risk from water scarcity. In some cases, sites may be required to conduct in-depth studies on the local water supply situation.

In 2014, we revised and fine-tuned our approach at potentially water-sensitive sites, taking into account the absolute volume of water withdrawn by the site, absolute water stress, and relative water scarcity affecting the site locally.

Further investigations comparing our own local data with a comprehensive independent review have been carried out, enabling us to fine-tune our list of sites potentially at risk from water scarcity and those where additional investigation is needed at local level to confirm the situation. Following a more in-depth analysis of local conditions, the list of sites was updated in 2017. Only four sites are still considered to be priority at-risk sites: Brindisi (Italy), Vertolaye (France), Karachi (Pakistan) and Jakarta (Indonesia). A further 13 sites are on the watch list.

Together, these sites consume 7.9 million m^3 of water, or 20% of Sanofi's total water consumption.

4.2.3.3.2. Managing wastewater discharge

Industrial effluent wastewater is treated either on-site at our in-house facilities or at municipal water treatment plants under agreements signed with third-party urban or industrial operators. The data reported correspond to effluents after internal and/or external treatment. Chemical oxygen demand (COD) is the primary environmental indicator of effluents. If no information on external treatment is available, a 50% purification rate is assumed. All in-house wastewater treatment facilities, regardless of type – membrane bioreactors, conventional biological or physico-chemical – undergo continuous improvement: sorting of effluents at source and separate upstream treatment for certain waste flows, and optimization of biological treatment with support from our in-house environmental laboratories.

The data reported relate to our Chemistry and Biotech facilities, which generate the majority of the effluents produced by Sanofi.

Wastewater discharge (Tonnes)	2017	2016
COD	2,054	2,492

COD fell by 15.3% between 2016 and 2017, mainly as a result of a significant reduction at our site in Elbeuf (France) as a new in-house treatment facility was brought into service.

At local level, each site is responsible for determining its own effluent management program, based on environmental impact assessments and regulatory impact analyses; see Section "4.2.1.4. Evaluation of risks and impacts". These programs involve:

- characterizing the principal pollutants and sources of effluents;
- determining the technologies required for each type of effluent; and
- monitoring discharge and performance at treatment facilities.

4.2.3.4. Pharmaceutical products in the environment

The management of pharmaceutical products in the environment throughout their life cycle is part of our Planet Mobilization commitments, adding to the commitments previously made in 2010.

This global approach focuses on three key issues:

- deepening our understanding of the environmental impact of our products, by analyzing their potentially hazardous properties and evaluating the risk to the environment of their use by patients. We are looking beyond regulatory assessments – which apply mainly to new medicines – to proactively assess the impact of all of our commercialized and strategic products. Our efforts in this field are being supported by research partnerships with various stakeholders, including universities and other manufacturers;
- evaluating the environmental risks associated with potential discharge of pharmaceutical substances in wastewater from our manufacturing sites, and implementing appropriate mitigation measures if necessary. A study program carried out at our chemical and biochemical sites between 2012 and 2015 found no evidence of any risk to the environment for the levels of discharge measured. Starting in 2016, we have extended this program to our other sites, beginning with pharmaceutical manufacturing sites. The program was implemented at eight sites in 2017; and
- encouraging appropriate use of medicines and helping to implement collection programs for unused or date-expired medicines. To this end, we have developed a list of tips for patients on "What to do with your unused medicines".

In line with this approach, we have also signed up to the "AMR Roadmap 2020" to help combat microbial resistance to antibiotics. This initiative brings together 13 major players in the pharmaceutical industry to collaboratively produce guidance and reference frameworks for the sustainable management of antibiotics within the industry. It includes a specific commitment relating to antibiotics manufacturing sites operated by signatories and their suppliers, involving the definition and implementation of a common framework for managing potential discharges and the setting of environmental limits.

4.2.3.5. Waste

The key to our policy is to reduce waste generation at source, followed by a systematic examination of recycling possibilities before waste is disposed of in any other manner. We have set further objectives out to 2025 as part of Planet Mobilization: to reach a reuse/recycle/recovery (3R) rate of over 90%, and to reduce the rate of landfill disposal to 1%.

4.2.3.5.1. Waste management principles and programs

Inspired by the circular economy, each site manages its waste according to the following principles:

- reduce waste at source;
- reuse, recycle or recover on-site or with selected contractors;
- incinerate, with energy recovery wherever possible; and
- send waste to landfills as a last resort, provided that the landfill is properly regulated and monitored. Landfills used for hazardous waste are audited annually, and those used for non-hazardous waste are audited every three years.

Our waste management program includes procedures to categorize and identify waste generated by each process, and then to collect, sort, store, transport and treat each type of waste appropriately. In addition, we keep records of all waste management documents to ensure traceability up to final treatment.

Prior to engaging a new waste contractor, the contractor's qualifications, competence and compliance with regulations are thoroughly verified for each class of waste.

Integrated country-wide waste management approaches have been implemented in those countries where we have our biggest industrial footprint or where the potential synergies are greatest (for example France, Canada and the United States).

Initiatives to reduce food waste

Many of our industrial, R&D and tertiary premises in France have already taken measures to cut food waste in three key areas:

- Reducing waste at source. This is promoted by enforcing precise contractual specifications on portion size and conducting regular surveys, especially in advance of periods when canteen footfall is expected to be low.
- Responsible food management. This includes matching quantities to needs and using just-in-time techniques for some outlets; charging users for bread so that users do not automatically take bread without eating it; reducing the range of options available towards the end of mealtimes; and charging users by weight for items such as salad and prepared fruit.
- Managing leftovers and waste: This is helped by recovering leftover vegetables for reuse the next day; introducing sort bins to facilitate recycling of waste; and setting up food donation agreements with charities to help the needy.

We also conduct regular awareness campaigns at our French sites. These include weighing leftovers (especially bread) and informing canteen users of the results, using sort bins as a hook for campaigns about the benefits of sorting waste, and sharing information about good practice in preventing food waste.

4.2.3.5.2. Waste generated

Hazardous waste (Tonnes)	2017	2016
Recycled hazardous waste	34,785	36,089
Hazardous waste incinerated with thermal recovery	52,385	48,615
Hazardous waste incinerated without thermal recovery	52,402	110,420
Hazardous waste sent to authorized landfills	3,338	3,027
Total	**142,910**	**198,151**

The 28% fall in the volume of hazardous waste between 2016 and 2017 is explained partly by greater efficiency of egg residue drying systems at the Swiftwater facility (United States), and partly by the in-house biological waste treatment plant at the Elbeuf site (France) coming into service.

Hazardous waste sent to specialist landfills represents 2.3% of the total hazardous waste produced by Sanofi. This means of disposal is used only as a last resort when local incineration plants are unavailable, or for dry salts.

Non-hazardous waste (Tonnes)	2017	2016
Recycled non-hazardous waste	102,913	103,781
Non-hazardous waste incinerated with thermal recovery	28,245	24,558
Non-hazardous waste incinerated without thermal recovery	4,772	3,771
Non-hazardous waste sent to authorized landfills	20,783	18,878
Total	**156,713**	**150,988**

The quantity of non-hazardous waste was slightly higher (by 3.8%) than in 2016. This was mainly due to an increase in non-hazardous waste at the Elbeuf site in France, associated with sludge produced by the new waste treatment facility.

Overall, total waste generated by Sanofi was 14.2% lower than in 2016.

Building waste is not included in the data reported above, although we make every effort to maximize post-treatment recovery of such waste.

To end 2017, measured against our Planet Mobilization objectives, the reuse/recycle/recovery (“3R”) rate is 73% and the landfill disposal rate is 8%. The “3R” rate does not include solvents recycled on site, 66% of which by volume feeds into an internal regeneration cycle (see Section “4.2.3.2.3. Optimization of the use of solvents and control over emissions of volatile organic compounds”).

4.2.3.6. Biodiversity

Sanofi is aware that natural resources (plants, animals, etc.) from ecosystems are potential sources of innovative new medicines that could prevent or cure diseases. Consequently, we acknowledge the need to protect and conserve all natural resources, and preserve the ecosystems that provide biodiversity. We comply with a number of global conventions that lay down principles relating to the preservation of biodiversity:

- the Convention on Biological Diversity, part of the United Nations Environment Programme (UNEP), which arose out of the 1992 Rio de Janeiro Earth Summit, and more specifically the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (2010);

- Human Rights principles, in particular the rights of indigenous peoples to retain, protect and develop their intellectual property rights over cultural heritage, traditional knowledge and traditional cultural expressions; and
- the United Nations Global Compact and Sustainable Development Goals.

We are aware that unapproved or excessive exploitation of natural resources, as well as production activities that cause pollution, may jeopardize the ecology and economy of the affected countries.

We are developing processes to protect and preserve biodiversity that call for:

- respect for national biodiversity access rights, and equitable sharing of the profits earned from commercializing medicines derived from natural resources;
- monitoring suppliers responsible for collecting natural resources used in research projects to discover new medicines;
- sourcing biological materials and related services from suppliers who apply appropriate environmental and biodiversity preservation standards;
- understanding the effects of the production and use of our medicines on natural resources through a review (initiated in 2013) of the active substances used at our production sites for industrial purposes. Based on the information collected to date, no plants or animals included in the CITES (Convention on International Trade in Endangered Species) lists are used in our production activities; and
- conserving habitats and species around Sanofi sites in sensitive sites around the world, and promoting biodiversity initiatives at all our sites.

4.2.3.6.1. The Sanofi Biodiversity Monitoring plan

We have a global commitment to manage the biodiversity of our sites. The first step was to perform a sensitivity analysis of all our non-urban sites. This identified a list of priority sites that required further assessment, and potentially risk management plans. All priority sites identified as “at risk” will have to have a management plan by 2020. And by 2025, all of our sites will have embarked on a biodiversity awareness program for their employees.

In 2014, we commissioned an independent firm to conduct a document-based assessment of the biodiversity sensitivity of our non-urban sites. The results showed that seven of our sites (four of them in Europe) have high sensitivity in terms of biodiversity.

In accordance with our Planet Mobilization commitment, biodiversity sensitivity at an initial priority site (Csanik, Hungary) was assessed in 2017, to confirm the analytical methodology to be used. A monitoring plan is currently under preparation and pending validation.

4.2.3.6.2. Biodiversity awareness plan

A good practice guide to promote biodiversity at Sanofi sites was issued in 2013.

A worldwide environment day was organized within Sanofi in October 2017. Over 150 sites took part. The event provided an opportunity to explain the biodiversity management objectives in Planet Mobilization, and to raise awareness among large numbers of our employees.

A particular highlight was the presentation of “Plan Bee”, a program to install hives at Sanofi sites to help protect bees. To date, a total of 74 beehives are in place at 22 sites in France, the United States and Belgium. Our employees have been enthusiastic in volunteering to take part in this scheme, with more than 300 having already signed up. In 2017, we collected 267 kilograms of honey.

4.2.3.7. Other environmental issues

4.2.3.7.1. Programs and resources devoted to the prevention of environmental risks and pollution

In accordance with our own HSE policy and regulatory requirements, all our sites are equipped with containment systems and/or systems for collecting accidental releases to prevent them from penetrating the soil. All containment systems are built to the highest standards and are covered by appropriate maintenance programs to ensure the integrity of the sites’ effluent collection systems. Our sites are also equipped with emergency spill control kits wherever potentially hazardous substances are stored or handled.

We also have a systematic multi-year soil and groundwater monitoring and evaluation program for our sites, both for those with ongoing operations and those being sold. Where necessary, remediation work is carried out following detailed evaluations.

Capital and operating expenditures incurred on preventing environmental risks and contamination form part of the overall expenditures incurred on the implementation of Sanofi’s HSE policy.

HSE operating expenditures amounted to some €215 million in 2017. These included personnel costs for HSE staff; consumables, energy and labor at treatment installations; the cost of waste treatment and recycling; environmental taxes; studies; and audit services.

Environmental fines imposed on Sanofi in 2017 were immaterial.

4.2.3.7.2. Provisions and guarantees for environmental risks

Applicable environmental laws and regulations may require Sanofi to eliminate or reduce the effects of chemical substance discharge at our various sites. The sites in question may belong to Sanofi, and may be currently operational, or may have been owned or operational in the past. In this regard, Sanofi may be held liable for the costs of removal or remediation of hazardous substances on, under or in the sites concerned, or on sites where

waste from activities has been stored, without regard to whether the owner or operator knew of or under certain circumstances caused the presence of the contaminants, or at the time site operations occurred the discharge of those substances was authorized.

As is the case for a number of companies in the pharmaceutical, chemical and agrochemical industries, soil and groundwater contamination has occurred at some of our sites in the past, and may still occur or be discovered at others. In Sanofi's case, such sites are mainly located in the United States, Germany, France, Hungary, the Czech Republic, Italy and the United Kingdom. As part of a program of environmental surveys conducted over the last few years, detailed assessments of the risk of soil and groundwater contamination have been carried out at current and former Sanofi sites. In cooperation with national and local authorities, Sanofi regularly assesses the rehabilitation work required and carries out such work when appropriate. Long-term rehabilitation work is in progress or planned at Mount Pleasant, East Palo Alto and Portland in the United States; Barceloneta in Puerto Rico; Frankfurt in Germany; Brindisi in Italy; Dagenham in the United Kingdom; Ujpest in Hungary; Prague in the Czech Republic; Beaucaire, Valernes, Limay, Romainville, Neuville and Vitry in France; and at a number of sites divested to third parties and covered by contractual environmental guarantees granted by Sanofi.

We may also have potential liability for investigation and cleanup at several other sites. We have established provisions for the sites already identified and to cover contractual guarantees for environmental liabilities for sites that have been divested. In France specifically, we have provided the financial guarantees for environmental protection required under French regulations.

Potential environmental contingencies arising from certain business divestitures are described in Note D.22.d to our consolidated financial statements, included at Item 18 of our 2017 Annual Report on Form 20-F. In 2017, Sanofi spent €67 million on rehabilitating sites previously contaminated by soil or groundwater pollution.

Due to the changes in environmental regulations governing site remediation, our provisions for remediation obligations may not be adequate due to the multiple factors involved, such as the complexity of operational or previously operational sites, the nature of claims received, the rehabilitation techniques involved, the planned timetable for rehabilitation, and the outcome of discussions with national regulatory authorities or other potentially responsible parties, as in the case of multiparty sites. Given the long industrial history of some of our sites and the legacy obligations arising from the past involvement of Aventis in the chemical and agrochemical industries, it is impossible to quantify the future impact of these laws and regulations with precision.

We have established, in accordance with our current knowledge and projections, provisions for cases already identified and to cover contractual guarantees for environmental liabilities relating to sites that have been divested. In accordance with Sanofi standards, a comprehensive review is carried out once a year on the legacy of environmental pollution. In light of data collected during this review, we adjusted our provisions to €685 million as of December 31, 2017, compared with €732 million in 2016. The terms of certain business divestitures, and the environmental obligations and retained environmental liabilities relating thereto, are described in Note D.22. to our consolidated financial statements, included at Item 18 of our Annual Report on Form 20-F.

4.2.3.7.3. Noise and other forms of pollution

Our activities do not cause any major noise pollution or noxious smells.

The issue of noise pollution is mainly addressed in terms of the health risk to employees who work near machines. Noise measurements are taken around the periphery of our sites on a case-by-case basis, though not as part of an overall strategy. As an example, noise measurements taken around the periphery of a site in Canada led us to install noise barriers around cooling towers located at the edge of the site.

Any noxious smells are mainly confined to our fermentation activities. We are committed to responding to any complaints that may be voiced by neighbors in the immediate vicinity of our sites.

4.3. Information on societal commitments to promote sustainability

4.3.1. Dialogue with stakeholders

4.3.1.1. Dialogue with third parties

Each day across the globe, Sanofi interacts with a broad range of stakeholders in pursuance of various objectives:

- providing stakeholders with reliable, factual information (including information about the proper use of products marketed by Sanofi, products under development, financial and extra-financial information, etc.) via various communication tools, including brochures, dedicated websites, publicity campaigns, annual assessments, and responses to questionnaires and requests for information;
- conducting formalized dialogue and consultation processes to involve stakeholders in our strategic decisions via stakeholder panels and surveys, customer satisfaction surveys, an employee engagement survey, forums, residents' panels in communities adjacent to our sites, supplier ombudsman, patient associations, etc.;
- establishing partnership projects, particularly in the healthcare field: support for patient associations, humanitarian aid programs, partnerships with the academic world, clinical trial programs, etc.

4.3.1.2. CSR stakeholders panel

To support our global CSR strategy, we have set up a forum to create opportunities for formalized dialogue and consultation to obtain feedback from stakeholders on our CSR strategy and objectives, to make any necessary adjustments, and to shape a concerted vision of the CSR challenges facing Sanofi.

After four years of ongoing dialogue with our stakeholders in France, in 2016 we initiated formalized dialogue at international level in the form of a stakeholders panel. The panel provides a forum to discuss Sanofi's CSR issues and to involve stakeholders in a co-construction process geared toward producing tangible outcomes.

This international panel has around forty members, and includes people nominated by their organization as well as prominent individuals who attend in their own right. The panel includes representatives from humanitarian and environmental NGOs, patient associations, public bodies, healthcare professionals, university researchers in life sciences and healthcare, the business and financial community, socially responsible investment (SRI) funds, trade unions and the media. They are joined by around fifteen internal stakeholders representing Sanofi's operations and functions (R&D, Industrial Affairs, Diabetes & Cardiovascular Global Business Unit, Finance, External Affairs, Medical Affairs, Governmental Relations, Human Resources, Environment, Communication, Real Estate and Facility Management, and the CSR Department in its role as project leader).

The first meeting of the panel, which is chaired by an independent facilitator, highlighted four themes that external and internal stakeholders felt should be addressed as a priority. Working parties were set up to deal with each of those four issues:

- our local footprint: the ecosystem concept, and how to measure it around Sanofi sites;
- access to healthcare: what social enterprise model to use for vulnerable populations;
- pricing and the cost of innovation: what possible ways are there to make the price of innovation acceptable and sustainable; and
- R&D, ethics and investment decisions: building ethical and extra-financial criteria into investment decisions.

Experts on these issues were drafted onto the working parties, which met twice in 2017.

At the end of the dialogue cycle, the conclusions and recommendations of the four working parties were presented to a plenary session of the stakeholders panel and to the Sanofi Executive Committee (represented by the Executive Vice President, External Affairs).

Each working party formulated operational or strategic recommendations to improve what we do or how we communicate. Actual outcomes include a pilot project at two Sanofi sites (one industrial, one R&D) to test and implement the recommendations of the Local Footprint working party. The aim is to measure the impact of Sanofi's operations on local ecosystems, so that recommendations can be put forward on a larger scale for all of our sites.

The recommendations from the other working parties call for further detailed thinking within Sanofi, but we have committed to provide stakeholders with regular progress reports.

In line with our commitment to transparency, summaries of the plenary sessions are posted on a dedicated stakeholder digital platform. Discussions are governed by the Chatham House Rule, under which there is transparency in reporting what is discussed but the identity of the participants remains confidential.

In addition, to help our subsidiaries engage with their internal and external stakeholders our CSR Department has updated a toolkit they can use to perform their own materiality tests to identify local CSR priorities. In 2017, Russia finalized its action plan using the materiality test carried out in 2016, and Germany used the toolkit to identify material issues.

4.3.2. Access to healthcare programs

4.3.2.1. Partnerships

Corporate social responsibility poses complex challenges, particularly when it comes to ensuring access to healthcare for all patients across the globe, that the pharmaceutical industry cannot tackle alone. This is why we pool our expertise and know-how with that of a wide range of partners from the private, public and non-profit sectors to provide the most effective response to some of the major health-related challenges facing society.

Although we outline examples of key initiatives below, they are not an exhaustive portrayal of the multitude of projects undertaken by Sanofi. For more information about our partnerships, refer to our CSR documents, available at www.sanofi.com.

4.3.2.1.1. Partnerships in infectious diseases

Neglected tropical diseases (NTDs)

Initiated in 2001 with a program to combat Human African Trypanosomiasis (or sleeping sickness), Sanofi's partnership with the World Health Organization (WHO) was renewed in 2006 and expanded to include other NTDs: leishmaniosis, Buruli ulcer, and Chagas disease. For Sanofi, this commitment represents financial support of approximately $80 million, or $5 million annually over the period from 2001 through 2017.

Since the beginning of this collaboration with the WHO, over 36 million people have been screened for sleeping sickness and nearly 210,000 patients have been treated for the disease, which is nearly always fatal if left untreated. Thanks to this partnership, reported new cases fell from 30,000 in 2001 to less than 7,200 in 2010(1). Since then the figures have fallen still further to 2,804 in 2015 and 2,184 in 2016(2), on track for achieving the WHO objective of eradicating sleeping sickness by 2020. The latest figure is the lowest number of new cases since a reliable reporting method was instituted 75 years ago. Active and passive screening efforts continue, with the aim of reaching the 2020 goals set by the WHO.

On January 31, 2018, Sanofi submitted fexinidazole for evaluation by the European Medicines Agency as a treatment for sleeping sickness. Fexinidazole is being developed in collaboration with the Drugs for Neglected Diseases Initiative (DNDi). It would be the firstly wholly oral-administered treatment to be developed to treat the form of sleeping sickness caused by the trypanosoma brucei gambiense parasite (g-HAT), and could contribute to the eradication of the disease.

On January 30, 2012, Sanofi signed the London Declaration on NTDs alongside other pharmaceutical groups, representatives of the US and UK governments, the Bill & Melinda Gates Foundation, the World Bank and official representatives from countries where NTDs are endemic.

In October 2015, Sanofi and the Institut Pasteur in Tunis (IPT) signed a partnership agreement to combat leishmaniosis. Under the agreement, an awareness program about cutaneous leishmaniosis was launched from 2016 onward in schools. Nearly 40,000 educational comic books have been distributed to students in their final primary school year, in seven governorates where the disease is endemic. Reading this comic book has had a positive impact on awareness of the disease, as indicated by the findings of an evaluation presented by the IPT at the World Leishmaniosis Congress in Toledo (Spain) in May 2017. Transmitted to humans through insect bites, cutaneous leishmaniosis is a parasitic, non-communicable disease that constitutes a major public health problem in Tunisia, where around 3,000 new cases are reported each year.

Latent tuberculosis infection (LTBI)

On November 25, 2014, the United States Food and Drug Administration (FDA) approved a new indication for Priftin® (rifapentine) based on a pivotal study conducted by the Centers for Disease Control and Prevention (CDC) in Atlanta (United States) under the public/private partnership between Sanofi and the CDC. This drug is now indicated for use in combination with isoniazid for the treatment of latent tuberculosis infection (LTBI) in patients over two years of age exposed to a high risk of active tuberculosis. Approved in the United States since 1998, Priftin® is an antimycobacterial used in conjunction with one or more anti-tuberculosis drugs for the treatment of active pulmonary tuberculosis caused by mycobacterium tuberculosis. In 2015, the WHO added rifapentine to its List of Essential Medicines for adults and children, and included it in its guidelines on the management of latent tuberculosis infection in high-income and upper middle-income countries with estimated tuberculosis incidence of less than 100 per 100,000 people. Since 2016, Sanofi – which has been involved in research into anti-tuberculosis drugs for more than half a century – has applied to register rifapentine for LTBI in seven new countries (South Africa, South Korea, Hong Kong, Indonesia, the Philippines, Singapore and Taiwan). Taiwan and Hong Kong approved rifapentine in this indication during 2017.

(1) Programs that the WHO was able to undertake or extend thanks to Sanofi's support are described in the activity report for 2006-2011: WHO – Sanofi Collaborative Report: "A Partnership to Save Lives" (available online).

(2) WHO website – Article published June 14, 2017: "Eliminating sleeping sickness as a public health problem is on track" (available online).

Sanofi Pasteur's commitment to combat infectious diseases

Sanofi contributes to the Innovative Medicines Initiative (IMI). Europe's largest public/private partnership for the development of vaccines, medicines and therapeutic solutions to combat infectious diseases, the IMI has a €3.3 billion budget spread over a 10-year period (2014 – 2024).

In 2017, Sanofi Pasteur renewed its commitment to the Vaccine Development Program (VxDP) in partnership with the Bill & Melinda Gates Foundation, working via the Global Health Vaccine Center of Innovation (GHVCI) – launched at the end of 2015 – to bring forward the development of candidate vaccines (enterotoxigenic escherichia coli, for example) and develop technologies (such as a thermostable formulation of yellow fever vaccine) that are appropriate to developing countries.

Sanofi Pasteur also continues to contribute to the Coalition for Epidemic Preparedness Innovations (CEPI), set up in 2016 under the auspices of the WHO to finance and coordinate the development of novel vaccines in preparation for the emergence of epidemic diseases.

Finally, Sanofi Pasteur is still an active player in the Pox-Protein Public Private Partnership (P5) to develop an HIV vaccine. The other partners in the project are the US National Institute of Allergy and Infectious Diseases (NIAID), the Bill & Melinda Gates Foundation, the South African Medical Research Council, the HIV Vaccine Trials Network (HVTN), the US Military HIV Research Program and GlaxoSmithKline.

Sanofi Pasteur's commitment to combat polio

Sanofi Pasteur has been involved in the Global Polio Eradication Initiative (GPEI) ever since it was launched by the WHO in 1988. During that period, the GPEI has slashed the incidence of polio by 99.9%, from 350,000 cases a year to 21 in 2017. With nearly four billion doses produced during the last four years, Sanofi Pasteur is one of the main suppliers of oral polio vaccine (OPV), which has been used on a massive scale to halt the spread of the virus in virtually every country in the world. To finally eradicate the disease, the WHO recommended in 2013 that OPV be gradually phased out in favor of the inclusion in the vaccination schedule of a dose of inactivated polio vaccine (IPV) in all low-income and middle-income countries. Sanofi Pasteur has invested in expanding its IPV production capacities and in a vast regulatory licensing program, and is now capable of delivering volumes that meet UNICEF's requirement for a universal dose of IPV, pending recommendations on the vaccine programs that will be put in place for the post-eradication period.

4.3.2.1.2. Partnerships in non-communicable diseases (NCDs)

Sanofi is committed to working in partnership to combat NCDs including cardiovascular diseases, type 2 diabetes, hypertension and infant pneumonia.

At the January 2017 Davos World Economic Forum, Sanofi and 21 other pharmaceutical companies joined with the World Bank and the Union for International Cancer Control (UICC) to launch the Access Accelerated Initiative (AAI), a new coalition to address the burden of NCDs in low and middle income countries. Through the launch of the AAI, the companies are committing their resources and expertise towards achieving one of the United Nations Sustainable Development Goals: to reduce premature deaths from NCDs by one-third by 2030. Sanofi is working with its industry peers, the World Bank and the UICC to:

- share best practice gathered from our longstanding commitments and projects;
- design and implement targeted pilot projects, and scale them up over time;
- identify what is working and what isn't so that we can collectively improve on our efforts to overcome barriers to primary care delivery for NCD patients; and
- nurture disease-specific partnerships, starting with the development of effective, sustainable cancer care delivery models in a number of pilot cities.

A key feature of the initiative is that our efforts will be evaluated with the support of independent academic experts at Boston University to establish a framework for progress, measure effectiveness and deliver ongoing reporting.

Our AAI commitment includes four flagship programs:

- FAST (Fight Against STigma) in mental health, a joint initiative with the World Association of Social Psychiatry founded in 2008 to improve access to mental healthcare in low and middle income countries;
- the My Child Matters program in childhood cancers, a collaboration with international and local organizations(1) to expand access to cancer treatment;
- the Kids and Diabetes in Schools (KiDS) program, in partnership with the International Diabetes Federation and the International Society for Pediatric and Adolescent Diabetes, to support children with type 1 diabetes and raise awareness of healthy lifestyle among schoolchildren; and
- the Access and Affordability Initiative, backed among others by a number of pharmaceutical companies (including Sanofi), the Ghanaian government and the Bill & Melinda Gates Foundation. The objective is to test the impact of differential pricing on NCD treatment in Ghana and the Philippines, using different levels of pricing within a single country that reflect the economic situation of patients.

(1) Union Against Cancer, St Jude Hospital, the International Society of Pediatric Oncology, the Alliance for Global Cancer Control and the Franco-African Pediatric Oncology Group.

4.3.2.2. The Sanofi Espoir Foundation

We created the Sanofi Espoir Foundation to bolster our commitment to international and national solidarity, and to clarify its importance for all our stakeholders. The Foundation's mission is to help reduce healthcare inequalities among the world's poorest communities. In addition to coordinating initiatives in response to humanitarian crises, the Foundation works to ensure a lasting impact in three areas: fighting childhood cancers in under-resourced countries, improving maternal and neonatal health in developing countries, and improving access to healthcare among the most disadvantaged populations in France.

In 2017, the Foundation gave its support for the launch and/or development of 34 multi-year programs with 35 key partners in 32 countries. To ensure continuous access to care for injured or displaced persons, the Foundation organized initiatives in response to humanitarian crises in six countries and donations of medicines and vaccines to five countries.

4.3.2.2.1. Fighting childhood cancers in low- and middle-income countries

The My Child Matters program was launched by the Foundation in 2006 to provide better diagnosis and care for young cancer patients in low and middle income countries in Africa, Asia and Latin America. Run in partnership with St. Jude Children's Research Hospital, the International Society of Pediatric Oncology (SIOP), the Union for International Cancer Control (UICC), the Franco-African Pediatric Oncology Group (GFAOP), the Children's Cancer Institute (CCI) and the Alliance for Global Cancer Control (AMCC), the program focuses on building the capacities of local teams. Over nearly 12 years, the program has supported 55 projects in 42 countries, the treatment of 70,000 children, and the training of 20,000 healthcare professionals. The Foundation's involvement includes organizing a project bid cycle every three years, building contacts between project teams and international experts, developing a mentorship program, offering training for project teams, and sharing good practices. During 2017, 16 projects were ongoing in Asia, Africa and Latin America.

4.3.2.2.2. Improving maternal and neonatal health

Since 2010, the Sanofi Espoir Foundation has been supporting and jointly developing projects to improve maternal and neonatal health in developing countries, especially in Africa. The Foundation has set three priorities:

- promoting joined-up healthcare and multi-disciplinary management of pregnancy and birth;
- improving the skills of carers, especially midwives through the Midwives for Life initiative; and
- mobilizing communities and raising awareness among families.

During 2017, 10 projects were ongoing in Asia, Africa and Latin America.

At the end of 2017, further projects were added to the Foundation's portfolio, in new but complementary areas: combatting maternal and neonatal infections through partnerships with UNICEF West Africa and Jhpiego, an NGO specializing in maternal health; a WHO project to develop tools regarded as public health assets for the implementation of new prenatal care guidelines in francophone Africa; and an ambitious e-health project using an exponential community to design a low-cost, open-source miniaturized echo-stethoscope to improve pregnancy care in parts of the world where access to state-of-the-art technologies remains problematic (pilot project in Madagascar).

4.3.2.2.3. Access to healthcare for the underserved

To improve medical care for vulnerable people in France, the Foundation has joined forces with 11 field-based partners: the French Red Cross, Médecins du Monde, Samu Social Paris, the Centre d'Action Sociale Protestant, COMEDE (which campaigns for better healthcare for refugees), the Apprentis d'Auteuil, the Maison des Femmes (a women's refuge charity), Emmaus Défi and Aux Captifs la libération (both of which help rough sleepers), ADSF (a women's health charity) and Intermed. The selected programs share a common theme: women and children.

During 2017, eight projects were ongoing in France.

4.3.2.3. Responding to humanitarian crises

4.3.2.3.1. Sanofi Espoir Foundation

In a humanitarian crisis, healthcare is one of the most vital needs. During 2017, we took action alongside non-profit partners in Bangladesh, Libya, Yemen and France, providing aid to around 640,000 people. The Sanofi Espoir Foundation responded to the October 2017 humanitarian crisis in Bangladesh by supporting two complementary projects supplying first aid to Rohingya refugees: one organized within the camps by the Medical Team charity, and the other organized by the Friendship charity to reach the most deprived people in the remotest regions.

In northern France, the Foundation has been supporting the CAMINOR project, set up by Gynécologie Sans Frontières (GSF) to look after migrant women and their children as they attempt to reach the United Kingdom. GSF's peripatetic teams are providing medical care and psycho social support.

In response to other humanitarian crises and in accordance with the provisions of the Foundation's charter governing donations of medicines and vaccines, around 100,000 packs of drugs/doses of vaccines were donated by Sanofi in 2017 to five countries (Colombia, India, Mexico, Peru and Yemen).

4.3.2.3.2. Sanofi Cares North America

Sanofi US has a historical commitment to helping victims of natural disasters in the United States. In the fall of 2017, during an unprecedented hurricane season, the three major storms Harvey, Irma and Maria hit Texas, Louisiana, Florida, and Puerto Rico over a period of a few weeks. Sanofi US helped patients in need and supported its NGO partners in their efforts to provide emergency relief to affected communities.

Sanofi Cares North America contributed $420,000 in financial support to the emergency and recovery efforts of our NGO partners Direct Relief, Americares and Heart to Heart International. A special dollar-for-dollar matching gifts campaign was set up with the American Red Cross, in which more than 1,300 employees participated. Sanofi Cares North America matched their support, donating an additional $177,000.

Because having access to our products is crucial for the patients who rely on them in emergency situations, we donated 75,050 doses of tetanus vaccine, 25,000 doses of meningitis vaccine, 144,650 doses of flu vaccine, 32,000 insulin vials, 9,380 insulin pens, 15,000 insulin cooling cases, 340 doses of rabies vaccine, and 100 units of enoxaparin to our NGO partners. Our product donations helped over 286,000 patients(1).

4.3.3. Fair business practices and transparency

4.3.3.1. Business ethics

4.3.3.1.1. Fighting corruption

All stakeholders are aware not only of the harmful economic consequences of corruption but also of its potential to seriously impede development, particularly in emerging countries.

Fighting corruption calls for international rules that are adhered to by as many countries as possible, combined with effective anti-corruption legislation enforced nationally. The adoption of the Organisation for Economic Co-operation and Development (OECD) Anti-Bribery Convention and the United Nations Convention against Corruption are helping to achieve this goal. In this, they are being backed by far-reaching national laws in countries such as France (via the Penal Code, Article 17 of the law of December 9, 2016 on transparency, and the “Sapin 2” law on corruption and the modernization of the economy); the United States (via the US Foreign Corrupt Practices Act); and the United Kingdom, via the Bribery Act.

Multinational companies also have a responsibility to actively fight corruption. In line with our ethical approach, we adhere to the following regulations and principles:

- the reference principles of the United Nations Global Compact (Principle 10): https://www.unglobalcompact.org/what-is-gc/mission/principles/principle-10;
- the United Nations Convention against Corruption, adopted on October 31, 2003: http://www.unodc.org/unodc/en/corruption/uncac.html;
- the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions: http://www.oecd.org/corruption/oecdantibriberyconvention.htm; and
- the measures adopted pursuant to Article 301 of the US Sarbanes-Oxley Act.

In recent years, the anti-corruption authorities in several European countries and in the United States have increased their scrutiny of companies in some business sectors. Healthcare companies have been the focus of particular attention over the past few years due to their interactions with a wide range of stakeholders, such as physicians and government agencies.

For some years, we have been responding to this growing pressure by developing and implementing measures and systems to prevent and fight all forms of corruption everywhere we do business.

Our corruption prevention program is based on two core texts:

- our Code of Ethics: all new joiners receive compulsory training on the Code, and refresher courses are organized by our subsidiaries; and
- an anti-corruption policy available to all employees via Sanofi’s intranet, which sets out what employees are expected to do to prevent and combat corruption. This policy is the keynote document for other policies on related topics such as due diligence and involvement in organizing events with third parties such as healthcare professionals.

The principles contained in these documents are promoted throughout the Sanofi organization by our Ethics & Business Integrity department. This department operates at headquarters, regional, business unit, support function and country levels, primarily in a training role. Employees receive anti-corruption training on a regular basis, and an e-learning library with several modules on this subject is available to all employees via the Ethics & Business Integrity intranet.

(1) Estimate, based on the assumption that each dose, vial or insulin pen equals 1 patient.

We also have a Compliance Executive Committee chaired by our CEO, which oversees the effectiveness of all aspects of our compliance program and facilitates the implementation of, and adherence to, the program. The Committee plays a leading role in recommending and reviewing actions taken to support the programs implemented by Sanofi's Ethics & Business Integrity Department and to foster employees' adherence to our values.

Sanofi subsidiaries are required to establish local compliance committees to ensure compliance with our Code of Ethics, our policies and procedures, legal and regulatory requirements, and industry standards. Best practices, and recommendations for a model Local Compliance Committee Charter, have been issued to subsidiaries in all countries where Sanofi operates.

Sanofi has operated a whistleblowing system since 2006, in line with our Code of Ethics. Any employee can use the system to report a breach of the rules and principles contained in the Code to our Ethics & Business Integrity Department. All the alleged breaches flagged up by this system to our Ethics & Business Integrity Department in 2017 were investigated. Where internal investigations conducted by the Department confirmed the allegation, various sanctions were applied ranging from a simple warning to contract termination.

Rigorous selection of third parties (such as service providers and suppliers) is a key element in preventing corruption, since Sanofi may be exposed to risk through their interactions with public officials and administrations. Sanofi systematically applies a pre-vetting process to third parties, taking into account many factors such as the nature of the business, the local environment, the type of relationship, and the nature and scope of the work to be carried out.

In 2017, a total of 96,598 employees followed one or more of our 38 training modules:

- anti-corruption training: 68,951 employees;
- Code of Ethics training: 27,647 employees, mainly in the United States.

4.3.3.1.2. Promotional information about our products

As a global pharmaceutical company, Sanofi adheres to the codes on promotional activities governing our industry in Europe (EFPIA), the United States (PhRMA) and worldwide (IFPMA). Sanofi's internal codes are based on these codes and refer to them explicitly.

Our Regulatory Affairs and Ethics & Business Integrity Departments have established procedures and directives that comply with international standards:

- on scientific information provided via promotional or non-promotional materials: best practice guidelines on the use of promotional documents or materials to communicate information about medicines and healthcare products, and on the provision of items of medical utility, etc;
- on using websites to provide scientific and promotional information: our Internet Committee has established an approval procedure covering all websites developed by Sanofi and its subsidiaries worldwide; and
- on interactions with healthcare professionals: hospitality rules associated with scientific events, and rules governing the remuneration and selection of experts with whom we contract to provide services.

To ensure that our ethical principles are applied in practice, we are also committed to:

- providing continuing professional education for sales reps, and assessing our sales visit activities;
- applying the strictest ethical standards on scientific materials;
- providing precise, up-to-date and objective scientific information so that our employees are knowledgeable in their interactions with healthcare professionals and comply with the relevant regulatory requirements;
- supplying documentation that enables healthcare professionals to make objective assessments about the quality of our products and the uses for which they were developed;
- ensuring that information about our products is based on scientifically proven results; and
- conducting internal audits to ensure that our subsidiaries are in compliance with the approval procedures for scientific materials, and with internal and external codes of conduct and currently applicable laws and regulations governing promotion.

4.3.3.2. Medical ethics and bioethics

4.3.3.2.1. Sanofi's Bioethics Committee

Sanofi set up an internal Bioethics Committee in 2012 to ensure that we conduct our research and clinical trials in compliance with high ethical standards, and in the interests of constant improvement. The Committee is chaired by our Chief Medical Officer (Ameet Nathwani), who reports to the CEO.

In 2017, bioethics governance at Sanofi was reviewed in a project sponsored by the Bioethics Committee. The aim was to take greater account of stakeholder expectations and improve transparency. The review looked at practices adopted in the pharmaceutical sector, and was informed by input from Bioethics Committee members and independent experts. The main outcome was the formation of a new Board, to consist mainly of independent members with acknowledged expertise in bioethics. The Board will give advice on key bioethics issues, so that Sanofi can improve its practices. Sanofi is committed to taking account of the recommendations, and to explaining its position on issues examined by the Board. The existing Bioethics Committee will continue to establish Sanofi's position on bioethics, and ensure that its policies are implemented operationally. Another decisive outcome of the 2017 review is a reaffirmation of Sanofi's determination to move towards greater transparency on clinical trials and on policies adopted by the Bioethics Committee.

Concrete change will become apparent in 2018, with input from independent bioethicists and the publication on our website of major policies approved by the Bioethics Committee.

4.3.3.2.2. Medical ethics and clinical trials

Clinical trials are a mandatory part of the approval process for any new drug, and may also be carried out post-marketing to monitor product safety and develop new indications. The purpose of clinical trials is to collect data about the efficacy and safety of products in healthy subjects and patients. Sanofi organizes clinical trials all over the world, including in developing countries and emerging markets.

When implementing and monitoring clinical trials anywhere in the world, Sanofi applies international standards: the Declaration of Helsinki, the recommendations of the International Conference on Harmonization (ICH), and in particular Good Clinical Practices (GCP). In addition to these international standards, Sanofi complies with all national and international rules and laws applicable to clinical trials including European Directives 2001/20/EC and 2005/28/EC; the CFR21 regulations issued by the US Food and Drug Administration (FDA); and the regulations issued by the Japanese Ministry of Health, Labor and Welfare (MHLW).

Sanofi ensures that all participants (or their legal representatives) enrolled in clinical trials give their free and informed consent. Consent must be given before any procedure or intervention required by the study protocol is carried out on a participant, and before any data are collected. All documents related to clinical trials, in particular the consent form, must comply with applicable legislation and must provide participants with exhaustive, easily understandable information. To help them design consent forms, Sanofi teams use an internal reference document that was subject to a comprehensive review by a project team from 2015 to 2017. The aim was to simplify the form supplied to participants and to reflect recent major changes in the ethical environment, especially in terms of informed consent. A new, thoroughly revised version was issued to our teams in February 2017. It is updated on a regular basis to reflect new policies approved by our Bioethics Committee. At the end of 2017, amendments were made to reflect policies on “conditions for access by clinical trial participants to products under development” and “accidental discoveries”.

Sanofi has for many years implemented an internal audit program covering clinical trials, associated systems and any subcontractors involved in the conduct of trials. The aim is to obtain assurance that the conduct of trials complies with our quality standards and the applicable regulations, and to continually improve our practices. Our audit program is designed to cover trials conducted in various countries and regions all over the world. Sanofi is also subject to health authority inspections to ensure that we are complying with ethical standards and legislation governing clinical trials. None of the 101 inspections conducted on our clinical research activities in 2017 resulted in regulatory action.

4.3.3.2.3. Medical ethics and transparency of medical and clinical data

Sanofi is committed to being transparent about our medical research and to providing healthcare professionals and patients with all useful information about our development projects and products so that they can make informed medical decisions. This applies not just to information provided in advance of clinical trials (as described in the previous section), but also to the sharing of the data generated by those trials.

Sanofi abides by the principles on the responsible sharing of information about medicines, adopted by PhRMA and EFPIA members in July 2013 (www.phrma.org/about/codes-and-guidelines). In addition to those core principles, a new policy on sharing and transparency of clinical data was adopted by our Bioethics Committee in 2017.

Key figures on data transparency are provided below:

- Publication of clinical data: 48 clinical trials were registered and 105 clinical trial results posted in 2017.
- Sharing of clinical data: between January 1, 2014 and December 31, 2017, Sanofi received 49 requests from 12 countries to share data relating to 116 clinical trials. Of those 116 clinical trials:
  - Data sharing was approved for 46 clinical trials:
    - data from 11 clinical trials were released under a data sharing agreement (the research projects involved are ongoing or completed);
    - data from 5 clinical trials are being prepared for sharing;
    - for the other 30 clinical trials, data sharing agreements are still being negotiated, or have been rejected or abandoned by the researchers making the request.
  - 61 clinical trials have been excluded from the data sharing program for legal and/or data protection reasons. Reasons for exclusion may include: Sanofi is not the sponsor of the clinical trial; Sanofi is not legally entitled to share the data; or it is not possible to provide adequate protection for patients’ personal data.
  - 9 clinical trials are being assessed for a potential data sharing agreement.
- Number of scientific papers published in 2017: 560 scientific and medical papers sponsored or signed by Sanofi were included in the PubMed database, which referenced over 5,600 journals in 2017.

4.3.3.3. Transparency in our relations with third parties

4.3.3.3.1. Patient associations

Sanofi is committed to working with patient associations all over the world, taking their priorities into account with a view to discovering improved healthcare solutions that better reflect the needs of patients, friends and families throughout the patient’s journey.

We encourage open dialogue so that we can listen to our patients and gain a better understanding of their expectations. Our collaborations with patient associations are guided by a spirit of partnership, mutual respect and trust, but without ever undermining an association’s independence. We operate a global policy to ensure that our relations with patient associations are

ethical, responsible and transparent. Our Public Affairs department has set up a network of correspondents that covers all the countries in which we operate. We have also committed to working with many patient associations in various regions to empower patients and exchange ideas on issues such as diabetes, cardiovascular diseases, rheumatoid arthritis, atopic dermatitis and asthma.

Committed to the principle of transparency that helps build trust in our relations with stakeholders, the public and most importantly the patient, we have been disclosing the amounts we pay to patient associations based in Europe since 2010 and in Australia, Brazil, Canada, the United States and Japan since 2011.

4.3.3.3.2. Healthcare professionals

Partnering with healthcare professionals is integral to the development of new medicines and treatments. Working with healthcare professionals generates valuable feedback and improvements, and provides a conduit for learning about the latest medical information, scientific progress, and the development of new medicines; it is crucial to innovation in our industry. We work with healthcare professionals every day to advance biomedical research and support the proper use of our healthcare products and services. For example, we collaborate with healthcare professionals in order to:

- better understand diseases, and further our knowledge of disease physiopathology and the mechanism of action of new compounds;
- design and conduct clinical trials on compounds under development and marketed products, to evaluate their safety and efficacy;
- draw upon their expertise to adapt our projects in the interest of patients;
- encourage proper use of our products; and
- organize scientific briefings on pathologies, related issues, and the healthcare products we commercialize.

As a patient-centered healthcare company, we conduct our business in line with the highest standards of ethics and integrity. This is our number one priority in implementing our transparency policy on disclosures of interest. Over the last ten years, several countries and industry bodies have incorporated transparency on disclosures of interest into regulations governing the healthcare industry, including France, the United Kingdom, the United States, Japan, and the 33 European countries(1) covered by the EFPIA Code on Disclosure of Transfers of Value from Pharmaceutical Companies to Healthcare Professionals and Healthcare Organizations, commonly referred to as the "Disclosure Code". Many other countries, including Canada and South Korea, have declared their intention to introduce laws on transparency. We are committed to complying with all national and international regulations governing relationships with healthcare professionals, and provide all our employees with appropriate information and training on this issue. Employee engagement is crucial, and goes hand in hand with our responsibility as a global leader in the healthcare industry.

We apply strict internal rules that aim to ensure scientific quality while providing fair and reasonable remuneration for the expertise supplied. Healthcare experts are chosen on the basis of objective criteria related to the purpose of the scientific assignment for which they are retained. This process enables us to verify an expert's credentials in terms of medical specialization, publications, research and teaching. The information we provide to experts must not impair their objectivity or the scientific quality of their work.

Benefits such as hospitality (meals and accomodation) are always incidental to the scientific purpose of the assignment, and are granted in strict compliance with Sanofi's internal procedures and with external rules.

Further information is provided in our 2017 Annual Report on Form 20-F, in "Item 4 – B.6.3.7. Transparency and public access to documents" and "B.6.3.8 – Other new legislation proposed or pending implementation".

4.3.4. Patient safety

The pharmaceutical industry operates in a highly regulated environment (see "Item 4 – B.6.3. Regulatory Framework" of our 2017 Annual Report on Form 20-F). As a global healthcare player focused on patient needs Sanofi develops, manufactures and markets a wide range of healthcare products worldwide, including a broad-based portfolio of prescription medicines, consumer healthcare products, vaccines, generics and medical devices.

Before products can be brought to market, numerous clinical trials and laboratory studies must be conducted to assess and in some cases improve their benefit/risk profile. Those trials and studies must be carried out in compliance with the Good Clinical Practices and Good Laboratory Practices promoted by the French National Agency for Drug and Health Product Safety (ANSM) and other local and international health authorities.

Good Manufacturing Practices must also be strictly applied at each stage in the manufacturing of a product so as to ensure that the products supplied meet exacting quality standards.

Compliance with Good Distribution Practices is also essential, to protect quality and guarantee the traceability of products from the distribution center to the final point of delivery: wholesaler, dispensing pharmacy, hospital pharmacy.

(1) Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine and the United Kingdom.

Patient safety is an absolute priority for Sanofi. Our approach to patient safety is built on guidelines for quality and continuous improvement covering each phase of the product life cycle, and services associated with our products. To deliver on this approach, we have mechanisms in place to:

- ensure the safety of patients taking part in clinical trials;
- guarantee the quality of products under development or on the market, and of our regulated activities, via our dedicated Quality organization;
- apply pharmacovigilance procedures to continually monitor and evaluate the benefit/risk profile of our products;
- actively combat counterfeiting of our products; and
- ensure continuity of supply of our products.

See also "Item 4 – B.6.3.6. Transparency and Public Access to Documents" and "B.6.3.7. Other New Legislation Proposed or Pending Implementation" in our 2017 Annual Report on Form 20-F.

4.3.4.1. Quality

4.3.4.1.1. A dedicated Quality organization

Sanofi's senior management is firmly committed to providing products throughout the world for which (when used in accordance with the product information) the benefits outweigh the risks. Those products are developed, manufactured, distributed and marketed in full compliance with regulatory requirements and our own corporate values.

To this end, our Chief Quality Officer (CQO), who has direct access to the CEO, is in charge of our Global Quality function, which unifies all the quality teams within our R&D and Industrial Affairs operations and our commercial operations at country level. Global Quality ensures that our quality policy is implemented consistently throughout the product life cycle and that the same high quality standards are applied worldwide, to provide products for which the benefits outweigh the risks and which meet stakeholders' expectations.

Our global quality policy is available to all our employees throughout the world, in 27 languages. The latest version of this policy, signed jointly by the CEO and CQO, was issued in 2017. It reaffirms our commitment to patients and the global reach of our quality principles, and stresses how important it is for all our people to uphold the fundamentals of our quality culture. Quality managers are appointed in each operational unit and at each site or subsidiary involved in activities that could potentially impact product quality, patient safety or data integrity. They conduct and coordinate quality and compliance activities, ensuring that quality standards rules are observed not only within our own operations but also by our subcontractors and suppliers. They also prepare for and follow up on inspections by healthcare authorities. In 2017, healthcare authorities carried out a total of 302 regulatory inspections within Sanofi.

The effectiveness of our quality systems is monitored within each Sanofi entity using objective-based assessment, performance indicators and periodic quality reviews involving management and internal stakeholders.

4.3.4.1.2. Quality of marketed products and products in development

Medicines cannot be marketed without fulfilling a large number of constantly changing regulatory requirements, intended primarily to ensure optimal product quality.

Our quality system guarantees that for the products marketed by Sanofi, the benefits outweigh the risks.

The Sanofi quality system ensures that regulatory Good Manufacturing Practices and our own quality directives are applied strictly everywhere in the world, and that our subcontractors meet equivalent levels of quality.

Key measures embedded in our quality system include:

- for each batch produced, quality controls must be performed and documented at each stage in the manufacturing process before the batch is released;
- annual quality reviews are conducted for each marketed product to check that the manufacturing process is being complied with and is still valid, such that the process can be continuously improved;
- a system for monitoring quality issues reported by patients and healthcare professionals, so that claims can be investigated quickly and corrective and preventive action taken. In 2017, 0.11% of the batches sold by Sanofi were recalled;
- an audit strategy covering all activities associated with the manufacturing of our products, including related systems and any subcontractors that may be involved in such activities. These audits help us to meet our regulatory obligations and to continually improve our performance. 206 internal audits were carried out in 2017.

4.3.4.2. Pharmacovigilance

Sanofi's Global Pharmacovigilance (GPV) function is headed up by the Chief Safety Officer (CSO). The CSO reports to the Chief Medical Officer (CMO), who is responsible for medical affairs worldwide, who in turn reports directly to the CEO. These direct lines of communication ensure that information flows directly and rapidly to Sanofi's highest decision-making bodies, especially in the event of a potential or actual public health crisis.

The GPV function is Sanofi's center of excellence for assessing and monitoring the benefit/risk profile of our entire product portfolio. The Sanofi portfolio consists of a diverse range of therapeutic solutions, mainly comprising ethical prescription medicines, biological medicines to treat rare diseases and cancer, consumer healthcare medicines, vaccines, and medical devices. Sanofi also has various ranges of proprietary generics products.

All pharmacovigilance activities relating to the use of the portfolio fall under the sole responsibility of GPV. GPV staff are involved at all stages of the product life cycle, from pre-development to the end of the commercialization cycle.

To meet the expectations of the supervisory authorities, patients and healthcare professionals, GPV has specialist scientific and medical teams for each therapeutic range. Those teams are multi-disciplinary and highly qualified, enabling them to prepare the supporting evidence needed for monitoring the benefit/risk ratio and for identifying and assessing potential warning signals, and to implement any risk mitigation measures that may be required. We use a pragmatic, evidence-based benefit/risk approach that protects patients by ensuring that our scientific communications are transparent, robust and credible.

GPV also has access at all times to specialist pharmaco-epidemiology teams reporting to our global Medical Affairs function. This team of epidemiologists is responsible for establishing the methods and/or scientific rationale to be applied in evaluating the efficacy, risk, benefit and use of our medicines in real-life situations, usually for large patient populations or via specialist databases.

Our GPV teams are trained and specialized to fulfil one of two roles:

- The role of the operational teams is to control inputs from the various potential sources of pharmacovigilance data, using an evaluation system centralized within GPV. This unified system enables pharmacovigilance information and individual data sets to be collated from multiple sources around the world, so that it can be analyzed and declared to the supervisory authorities within the required time-frame. To do this, GPV and its network use high-powered, secure IT tools in the form of a unified pharmacovigilance database with the capability for data storage, searches, traceability, and individual or aggregated analyses. The operational arm of GPV is responsible for ensuring the integrity and compliance of this approved, secure system. Patient information is stored and retained in accordance with the relevant data protection regulations as they apply to patients and healthcare professionals.
- The main role of the scientific and medical teams is to develop iterative, proactive processes to continually analyze data collected during the development and marketing of Sanofi products. Their objective is to identify and interpret potential pharmacovigilance warning signals from reports of undesirable events. This process enables potential risks relating to the use of Sanofi products to be identified proactively.

  These medical and scientific teams, who operate within product-based business units, are also tasked with systematically and continuously assessing the benefit/risk profile of Sanofi products from preclinical phases to commercialization, and throughout a product's entire life cycle on the market. Sanofi has a specific internal Benefit/Risk Assessment Committee (BRAC) to address these issues. The BRAC is a permanent committee, chaired and run by our global Medical Affairs office.

A dedicated GPV team serves Europe, reporting to the Qualified Person Responsible for Pharmacovigilance (QPPV) whose remit is defined in EU regulations. The QPPV is officially registered with the European Medicines Agency (EMA) and the competent national authorities. Within Sanofi, the same person acts as QPPV for all our entities. The QPPV is assisted by our European Affairs office, which plays a key role in the event of inspections by the supervisory authorities, and operates using a robust and fully documented model of internal delegations. This team:

- ensures that control, documentation and governance of the Sanofi pharmacovigilance system complies with the good practices issued by the EMA;
- is required to keep itself informed of all significant events regarding the monitoring of Sanofi products that have European marketing approval.

GPV also has a global network of qualified local and regional pharmacovigilance staff reporting to managers who themselves report directly to the QPPV. These direct lines of communication make for effective monitoring of the network in terms of resources and qualifications, supervision of action plans and alignment on strategy, maintaining and sharing good practices, and relations with the supervisory authorities.

GPV proactively monitors national and international regulations and recommendations, drawing on support from a worldwide network of local and regional pharmacovigilance-trained staff. GPV provides a range of services to the network including resource allocation and budgeting, monitoring of good practices, regulatory compliance, training, and access to the tools needed for them to fulfil their duties in accordance with GPV quality standards. Sanofi systematically aligns on the most exacting standards of Good Pharmacovigilance Practices, regardless of requirements relating to local or regional practices. Those standards also apply to clinical trials and programs that are not directly conducted by Sanofi and to collaborative projects with NGOs.

Sanofi also has a world-class documentation architecture in place, to ensure that all our pharmacovigilance activities comply with official regulations.

Pharmacovigilance is among the most closely scrutinized of our activities, whether internally (audits) or externally (inspections by the supervisory authorities). GPV (and its commercial and development partners) are subject to regular internal audits. These audits check whether our worldwide pharmacovigilance system remains compliant, and whether actions taken are consistent with contractual obligations agreed between the parties and with the applicable regulations. Audits are frequently followed by the implementation of a continuous improvement process, which includes corrective and preventive measures overseen by the GPV Quality Department.

GPV also has a fully trained team dedicated to official inspections (whether routine or special-purpose). This team covers all aspects of such inspections including preparation, organization, performance, information and internal communication; it also handles relations with the supervisory authorities, in liaison with the Sanofi functions affected.

Overall, our pharmacovigilance approach illustrates the crucial importance our management attaches to this issue, as befits our status as a global player in the pharmaceutical industry. We have all the expertise and resources required to operate a governance model capable of meeting most stringent international standards and delivering maximum protection to our patients. Rapid decision-making and direct lines of reporting mean we can respond quickly and robustly to the expectations of patients, public health professionals and supervisory authorities in every country across the globe, especially as regards monitoring of the benefit/risk ratio.

(See also "Item 3 – Key Information – D. Risk factors", "Item 4 – B.5. Global Research & Development" and "Item 4 – B.6.3 Regulatory Framework" in our 2017 Annual Report on Form 20-F).

4.3.4.3. Fighting falsified medical products

Criminal activities involving falsified drugs are a major public health issue, and are estimated to be responsible for hundreds of thousands of deaths every year[1].We have been actively combatting this growing problem for many years, in order to ensure that patients throughout the world have access to quality drugs. All therapeutic product lines are potentially exposed to counterfeiting and all countries may be affected, whether through physical supply chains or over the internet.

We are taking a wide range of proactive measures at a worldwide level:

- Our anti-counterfeiting governance structure is built around a central coordinating team whose day-to-day role is to detect suspected cases of counterfeiting of our products (in the field or on the internet), investigate them, and take the necessary action. This team also supports healthcare and law enforcement agencies at national and international level, and works in conjunction with supranational bodies such as the OECD and the International Federation of Pharmaceutical Manufacturers and Associations (IFPMA).
- Sanofi's Central Anti-Counterfeit Laboratory (LCAC) has a dedicated team of specialists and state-of-the-art technologies to identify and analyze counterfeit products. Over the last ten years, we have tripled the number of people working at the LCAC (from 5 in 2008 to 15 in 2017), reflecting the importance we attach to anti-counterfeiting measures.
- Our actions in 2017 included identifying falsified products in Pakistan, Ukraine and China, enabling the authorities in those countries to dismantle criminal gangs involved in counterfeiting.
- Sanofi also uses industrial systems and processes to better combat falsification and rapidly establish product authenticity such as tamper-evident packaging, security labels, and the Data Matrix 2-dimensional barcode product ID system (serialization/aggregation).

In addition, an annual one-day internal awareness campaign directed at Sanofi employees throughout the world highlights the dangers of falsified medical products. During 2017, we also delivered training programs for pharmacology students and magistrates.

4.3.5. Initiatives to support human rights

Respect for human rights is one of the cornerstones of Corporate Social Responsibility for Sanofi. The principles underpinning human rights apply not only to people and nations but also, by extension, to businesses. Sanofi supports and applies the United Nations Guiding Principles on Business and Human Rights, and has for many years adopted a proactive vigilance approach to prevent our activities having negative impacts on human rights. Our main initiatives are described below.

Social Charter and Code of Ethics

Sanofi's Social Charter and Code of Ethics set out our commitments to respecting the fundamental rights of our employees under the fundamental ILO Conventions on:

- freedom of association and recognition of the right to collective bargaining (ILO conventions 87 and 98);
- elimination of all forms of forced labor (ILO conventions 29 and 105);
- effective elimination of child labor (ILO conventions 138 and 182);
- elimination of discrimination in employment (ILO conventions 100 and 111);
- wages and employee benefits (ILO conventions 95, 131 and 135); and
- weekly rest (ILO conventions 14 and 106).

(1) Institute of Research Against Counterfeit Medicines (IRACM) and OECD, 2013

Human rights in the value chain

Sanofi is committed to identifying human rights issues at every stage of the value chain, and has produced a guide entitled "Human Rights in Our Activities," which describes the four key steps in the life cycle of a drug. For each step, the guide includes information on respect for fundamental human rights principles, stakeholder expectations and a selection of Sanofi good practices. It was published in late 2013, and is made available to all Sanofi employees. To encourage uptake, the guide is supported by resources for managers (mini intranet site and presentation materials).

Self-assessment of internal practices

We perform self-assessments of our internal practices on a selection of key issues such as non-discrimination, the abolition of forced labor, the abolition of child labor, and freedom of association.

Adoption of targeted policies on the fundamental rights of employees, applicable to Sanofi and to our suppliers and subcontractors

In 2015, we approved and rolled out three internal policies on freedom of association, prohibition of forced labor and prohibition of child labor. These policies reiterate our commitments to employees, and establish processes to translate those commitments at operational level by identifying and controlling the risk of infringements of these rights and requiring the implementation of due diligence processes. They support our diversity policy (see Section "4.1.4.1. Diversity policy"), which is itself based on international standards that prohibit all forms of discrimination in recruitment and during execution of employment contracts.

To ensure that these policies are properly implemented, specific control points have been built into our internal control system, covering respect for freedom of association and the right to collective bargaining; the elimination of all forms of forced labor; the abolition of child labor; the promotion of diversity; and wellness in the workplace.

Our policies also require Sanofi entities to have grievance mechanisms in place at operational level for potential victims, in addition to the early warning and whistleblowing systems specified in our Code of Ethics.

Finally, our policies also cover working conditions in our subcontractor chain and at our suppliers, complementing the evaluation of respect for human rights by our suppliers and contractors that we incorporate into our responsible procurement approach (see Section "4.3.6. Subcontracting and suppliers").

Evaluation and selection of suppliers

We take human rights issues into account in this process (see section "4.3.6. Subcontracting and suppliers");

Employee training

Since 2010, 167 managers and senior executives from over 25 corporate functions (including internal auditors) have followed a full-day training program on human rights in business, organized in conjunction with outside experts. In December 2016, we marked International Human Rights Day by making an e-learning awareness module available to all our employees via our corporate intranet.

Other initiatives

We contribute alongside other businesses to initiatives and working parties on human rights issues through "Entreprises pour les Droits de l'Homme" (EDH), a federation of French multinationals which Sanofi joined in 2007 as a founding member.

4.3.6. Subcontracting and suppliers

4.3.6.1. CSR at our suppliers and subcontractors

Sanofi purchases goods and services worth nearly €14 billion, which makes responsible procurement a major CSR issue and a key area for vigilance. Sanofi's Suppliers Code of Conduct lays down what we require in terms of human rights, health and safety, the environment and ethical conduct within our procurement processes.

As the department in charge of overseeing relations with our suppliers, the Sanofi Procurement function has since 2007 followed a responsible procurement procedure. Each category of goods and services bought is assessed in terms of CSR risk (procurement strategy and type of purchase, country, employee relations, environmental issues, ethical conduct, etc.). Suppliers identified as being in the twenty or so highest-risk categories are subject to annual evaluation by an external consultant. CSR evaluations are built into our procurement risk management model and processes, to ensure that our suppliers continue to make progress. More than 200 suppliers are subject to annual evaluations.

This approach is supplemented by HSE audits of the active pharmaceutical ingredient suppliers and external pharmaceutical manufacturers regarded as presenting the greatest risk in terms of health, safety and the environment. In 2017, this audit program covered 88 active pharmaceutical ingredient suppliers and 70 pharmaceutical manufacturers.

Our responsible procurement approach is supported by our membership of the Pharmaceutical Supply Chain Initiative (PSCI), which aims to improve practices at industry-specific suppliers by establishing common standards, pooling audits and support programs, and providing training to suppliers. We have also signed up to the Together for Sustainability (TfS) initiative, which is rolling out a worldwide program to encourage dialogue with suppliers and to evaluate and improve sustainable

procurement practices. Under the TfS initiative, supplier evaluations and audits are conducted by independent experts, with the results shared between TfS members via a collaborative online platform.

We reviewed our responsible procurement policy in 2017 in response to the introduction of new legislation in France on the duty of vigilance. Our supplier risk mapping was updated, and we improved the articulation between assessment campaigns and audits (see Section “4.4. Vigilance plan”).

4.3.6.2. Support for local economies and supplier diversity

A number of initiatives are in place to promote supplier diversity, reflecting our commitment to supporting the development of the local economies where Sanofi operates.

In France, we are working with around fifty start-ups and SMEs, helping them grow faster and hire more people. We have provided these businesses with funding, and also helped them to network with procurement and business development departments at other large companies. To assist them in hiring new staff, we have arranged for them to attend “First Job” forums organized by the French Pharmaceutical Companies Association (LEEM), and we have supported them with training by offering places on Sanofi professional education courses. Other areas in which we have helped included pro bono expertise and support with international expansion.

In 2017, Sanofi’s SME program in France was awarded an “A” rating by the SME Charter Observatory, and the company also had its “Responsible Supplier Relations” accreditation (first awarded in 2013) renewed by the French Ministry of the Economy and Business Ombudsman.

In October 2017, we invited around a hundred SME and start-up business leaders to an event in Lyon, alongside major players from business and the public sector. At this event, we outlined our SME and start-up plan via shared experience sessions.

To ensure our commitment to SMEs is translated into action on an impartial basis, we have since 2012 had an internal ombudsman who is independent of our Procurement Department. The primary roles of the ombudsman, who may be contacted by a supplier or a buyer, include alternative dispute resolution processes based on neutrality, impartiality and confidentiality; helping the parties identify a solution; working in the interests of a settlement rather than of the parties; and reporting on issues that arise and their outcomes so that we can continually improve.

Of the total value of purchases made in France during 2016, the percentage of purchases from French SMEs by value was 12.9%, compared with 13.2% in 2015.

In the United States, Sanofi is also committed to supporting SMEs, in particular those run by economically or socially disadvantaged people: minority-owned, disabled-owned, or veteran-owned businesses, and those located in historically underutilized business zones (HUBZones). This initiative further illustrates the importance we place on diversity and innovation in our supplier base.

4.4. Vigilance plan

We believe that vigilance about the consequences of our activities for people and the environment is essential to the sustainability of our business. In particular, issues specific to our industry – focused on protecting and recognizing the needs of patients – create an inherent need for us to be vigilant in identifying and managing the risks to which patients are exposed.

As part of our CSR approach, we set up a working group in 2016 to identify and analyze internal actions associated with vigilance on human rights, health and safety, and the environment. The results showed that some issues were already addressed, but that further action was needed to strengthen our existing policies. This work formed the basis for our global vigilance approach, which is being rolled out from the start of 2018.

This new approach meets French legal requirements on the duty of vigilance of parent companies and contracting undertakings[1]. It is built around eight major risks related to protecting patients, employees, the environment and local communities. This section of the CSR Report summarizes the key measures in our vigilance plan, which is in continuity with our existing policies.

4.4.1. Mapping of major risks

In identifying major risks to people or the environment, we drew upon feedback on our existing policies and internal processes, and in particular:

- the "Human Rights in Our Activities" guide (see Section "4.3.5. Initiatives to support human rights"), based on identifying human rights issues over the life cycle of a drug;
- our environmental policy (see Section "4.2.3. Environmental information");
- our health and safety policy (see Section "4.2.2. Information on health and safety in the workplace"); and
- our policy, reinforced in 2017, of identifying the highest-risk categories of purchases and hence of suppliers; this involves allocating each category a score in terms of inherent risk (to human rights, health and safety, and the environment), and then weighting that score to reflect country risk.

We benchmarked these analyses and then used them to identify the eight major risks liable to negatively impact on people or the environment, and the vigilance measures we need to take in response:

- **Risks relating to the protection of patients**:
  - ensure that patients are safe;
  - protect the physical integrity of participants in clinical trials; and
  - protect patients' personal data.
- **Risks relating to respect for employees**:
  - provide the best workplace health and safety conditions;
  - safeguard the fundamental rights of employees; and
  - protect employees' personal data.
- **Risks relating to respect for the environment and the rights of local communities**:
  - minimize environmental impacts and control the use of resources;
  - combat biopiracy.

These vigilance issues are related to Sanofi's activities, whether we carry out those activities ourselves or indirectly through parties with whom we do business.

4.4.2. Policies for managing major risks

We have already developed responses to manage these risks, some of which apply transversally across all issues and some of which relate to a specific risk.

4.4.2.1. Transverse initiatives

The Sanofi Code of Ethics explicitly defines our principles on human rights and on health, safety and the environment, with reference to international standards. The Code is deployed throughout Sanofi through compulsory training and the Sanofi compliance program; it is managed by the Ethics & Business Integrity Department and overseen by the Compliance Executive Committee, chaired by our CEO.

(1) Law no. 2017-399 of March 27, 2017.

Our Responsible Procurement approach (see Section "4.3.6. Subcontracting and suppliers"), which requires our suppliers to adhere to Sanofi's commitments on human rights, health and safety and the environment via the Suppliers Code of Conduct and also specifies CSR evaluations of our suppliers. This is backed up by our membership of industry initiatives such as TfS (Together for Sustainability) and PSCI (Pharmaceutical Supply Chain Initiative), which enable us to pool supplier audits and other measures to support suppliers. In 2017, we reviewed this approach to reflect the introduction of new French legal requirements on the duty of vigilance of parent companies and contracting undertakings(1); this included an overhaul of the supplier identification and scoring methodology. A number of priority actions were defined for 2018, including a revision of the responses required from buyers based on suppliers' risk scores (evaluations, contractual stipulations, audits, etc.) and amendments to the Suppliers Code of Conduct. The aim is to optimize and rationalize the way in which different Sanofi departments manage their suppliers by improving coordination and sharing best practice.

In terms of **personal data protection**, we have developed a global privacy and personal data protection policy that applies to all our activities, embracing data relating to employees, patients, and all other third parties.

4.4.2.2. Specific actions

4.4.2.2.1. Patient protection

Issues relating to patient safety are managed through our pharmacovigilance processes (which constantly monitor and evaluate the benefit/risk ratio of our products), plus measures related to the quality of our products and to combatting counterfeiting (see Section "4.3.4. Patient safety").

We also apply specific rules for **clinical trials** in line with international and national standards, in particular to ensure that participants give free and informed consent (see Section "4.3.3.2.2. Medical ethics and clinical trials"). We carry out a clinical trials audit program to check that we are in compliance with the relevant internal and external standards.

4.4.2.2.2. Respect for employee rights

We operate a rigorous health and safety policy aimed at ensuring the health and well-being of all our employees, and of contractors working at Sanofi sites. Managed by the Sanofi HSE Department and with its own governance structure, the HSE policy is rolled out across all our entities through operational rules focused on key areas of vigilance, backed up by an audit program and training and awareness initiatives (see Section "4.2.1. General policy on health, safety and the environment").

We pay particular attention to respect for the **fundamental rights of employees**, whether employed directly by Sanofi or indirectly by parties with whom we do business. Our internal policies ensure that our vigilance approach is pushed down to operational level by Sanofi entities (in terms of identifying and managing risks of harm), with reference to our commitments under ILO Conventions, and specifically:

- ILO Conventions 87 and 98 on freedom of association, protection of the right to organize and collective bargaining;
- ILO Conventions 138 and 182 on child labor; and
- ILO Conventions 29 and 105 on forced labor.

Monitoring the implementation of these policies is an integral part of Sanofi's internal control system.

4.4.2.2.3. Protecting the environment and local communities

Minimizing the use of natural resources in our activities, in particular water resources, is one of the objectives of our environmental policy (see Section "4.2.3. Environmental information"). Specific operating measures are in place to optimize water supply management and use of water in the manufacture of medicines and vaccines (see Section "4.2.3.3. Water").

Another objective of our environmental policy is to **reduce the environmental impacts of our operations**, in particular by preventing accidental pollution incidents and managing pharmaceutical residues in the environment. For example, each category of site (chemical and biochemical manufacturing, solid pharmaceuticals production, etc.) was assessed in order to identify specific tools and resources that can adequately manage medicinal substances in each category of site (see Section "4.2.3.4. Pharmaceutical products in the environment").

Sanofi is committed to complying with conventions on the protection of biodiversity and **combatting biopiracy**, and in particular to respecting the intellectual property rights of indigenous populations. We monitor our compliance with international standards by carrying out due diligence and conducting investigations, for example when we use a new product developed from natural sources by Sanofi R&D (see Section "4.2.3.6. Biodiversity").

(1) Law no. 2017-399 of March 27, 2017.

4.4.3. Whistleblowing and early warning procedures

A whistleblowing system has been in operation since 2006. Any employee can use the system to report a breach of our Code of Ethics. Reports from potential whistleblowers are processed and followed up by our Ethics & Business Integrity Department. This system complies with new French legal requirements on anti-corruption measures. It is available to any person whether inside or outside Sanofi.

Alongside this global whistleblowing system, Sanofi has specific mechanisms in place for patients to flag up issues and give early warnings about drug safety.

4.4.4. Global oversight and monitoring of the vigilance plan

Our vigilance approach is under the overall control of our heads of CSR and HSE. Global coordination is provided by the HSE Department, who ensure that the various measures in the vigilance approach fit together and are implemented.

The HSE Department works closely with our HSE, Procurement and Ethics & Business Integrity Departments in the inter-departmental Vigilance Working Group. This working group reviews and updates the risk mapping on a regular basis. Monitoring of risk management policies and whistleblowing systems is the responsibility of the specific departments concerned.

4.5. How corporate social responsibility information is reported: methodological note

4.5.1. Scope of consolidation

Unless otherwise specified:

- HR data are consolidated for all Sanofi companies worldwide that are fully consolidated for financial reporting purposes, regardless of their activity (industrial or research sites, commercial subsidiaries or administrative headquarters).
- Health and safety data (occupational injuries) are consolidated worldwide for all Sanofi companies, including joint ventures and companies consolidated for financial reporting purposes.

Environmental data:

- Environmental data (including expenditures) are consolidated for all industrial and R&D sites, and French administrative sites.
- The environmental impact of CO_2 emissions from our vehicle fleet covers all Pharmaceutical Operations subsidiaries (field sales force, but excluding management).

4.5.2. Changes in scope

The exchange of Sanofi's Animal Health business (Merial) for Boehringer Ingelheim's Consumer Healthcare business, and the integration of the former Sanofi Pasteur MSD joint venture, were completed on January 1, 2017 (see Note D.35. to our consolidated financial statements, included at Item 18 of our 2017 Annual Report on Form 20-F). Consequently, Merial data are no longer included in our figures for either 2016 or 2017. However, data for the Boehringer Ingelheim Consumer Healthcare business and Sanofi Pasteur MSD are included in the 2017 figures. See Section "4.1.1.1. Workforce".

Scope 1 CO_2 data (apart from the vehicle fleet), scope 2 CO_2 data and water data are reported on a proforma constant scope basis.

For HR data on new hires and departures: start-ups, closures, acquisitions or divestments in a given year are included in the figures for that year.

4.5.3. Reporting framework

We apply standard reporting frameworks for safety and environmental information, so that the indicators monitored across all our entities are consistent and reliable. Those frameworks specify the methodologies to be applied for reporting indicators throughout Sanofi and include definitions, methodological principles, calculation formulae and emission factors. We also use standard data collection tools:

- Human resources data: in 2017, our "Convergence" global HR platform covered virtually all of our workforce (98.8%). This platform was launched in 2011 to streamline personnel management and process implementation, and to provide managers and employees with access to a wide array of HR information and tools. Quality controls over data from the Convergence platform were enhanced in 2013 and continued throughout 2014, 2015, 2016 and 2017 both at global and individual entity level. Data from the Workday application are now uploaded to the Convergence platform to enable the compensation and total workforce processes to be run. Convergence will be replaced by Workday during 2018 and decommissioned.
- Safety data: our MSRS system was used to collect and consolidate safety data for 2017 across the entire reporting scope.
- Environmental data:
  - The SWORD system was used to collect and consolidate environmental data for 2017 across the reporting scope.
  - The reporting period for our 2017 environmental indicators runs from October 1, 2016 through September 30, 2017.
  - Results relative to 2010-2020 objectives are for the following scope: industrial sites and R&D sites (administrative sites and the medical rep vehicle fleet are not included).
  - Results relative to 2015-2025 objectives (Planet Mobilization) are for the following scope: industrial sites, R&D sites, French administrative sites and the medical rep vehicle fleet, unless otherwise mentioned.

4.5.4. Additional information and methodological limitations

The methodologies applied for some human resources and HSE indicators may be subject to limitations as a result of:

- the lack of nationally and/or internationally recognized definitions, in particular for different types of employment contract;
- reliance on estimates and on representative rather than actual metrics, and limited availability of external data required for calculations;
- practical arrangements for the collection and input of data; and
- the fact that HSE operating expenditures are extracted from the SWORD reporting software and input by HSE correspondents at each site.

This is why to the extent possible, we specify the definitions and methodologies used for each of the indicators listed below, and any margin of uncertainty.

4.5.5. Human resources indicators

4.5.5.1. Worldwide workforce

Employees under contract include all employees who have a contract with Sanofi, including apprentices.

External staff, including temporary staff and third party sales forces, also contribute to Sanofi's activities.

Employees are treated as "under contract" if they have an employment contract (permanent or fixed-term) with a Sanofi company on the last calendar day of the year. The figures are expressed in numbers of employees, regardless of hours worked or the date of hiring during the month.

4.5.5.2. Regions

The regions shown in the workforce data tables are defined as follows:

- Europe: Western Europe and Eastern Europe excluding Eurasia (Russia, Ukraine, Georgia, Belarus, Armenia and Turkey).
- Emerging Markets: World excluding United States, Canada, Europe, Japan, South Korea, Australia, New Zealand and Puerto Rico.
- Other Countries: Japan, South Korea, Canada, Australia, New Zealand and Puerto Rico.

4.5.5.3. Worldwide new hires and departures

New hires and departures for Sanofi as a whole exclude all intra-group movements such as international, inter-company or inter-site transfers.

In 2016, we applied a new methodology and carried out specific procedures to exclude all intra-group movements. We have also taken steps to enhance the reliability of movement-related data from the Convergence platform. Data on movements (new hires and departures) cover more than 98% of the reporting scope, and include new hires and departures for companies that were consolidated for the first time or acquired during the year. Conversions of fixed-term contracts into permanent contracts are not counted unless there is a gap of more than one day between the two contracts, in which case they are counted as a departure and a new hire.

4.5.5.4. Social dialogue

Social dialogue data are provided by the human resources departments in each of the five major countries (Brazil, China, France, Germany and the United States). Collective bargaining agreements are defined as those that have been signed by the company itself or by employers' organizations to which it belongs. If the same agreement has been signed by several sites or entities, it is counted only once.

4.5.5.5. Hours of training

In 2017 Sanofi installed iLearn, a single training platform intended to house all our existing systems. Migration of our existing systems began in 2017 but is not complete, meaning that we cannot yet consolidate our figures on a global basis.

For 2017, we have therefore decided to report training hours from two of our biggest training systems:

- Le@rn, a system dedicated to training in good pharmaceutical practices at Sanofi, which is deployed worldwide; and
- Foederis, specific to employees located in France, which covers training in a number of fields: Business, Regulatory, and Transverse (Management & Leadership / Personal Development / Languages / Office Applications)

4.5.5.6. Definition of Executive Level grades 1 and 2

- Executive Level grade 2: in charge of alignment on corporate strategy, with a critical impact on return indicators and corporate image, and a solid contribution to Executive Committee orientations.
- Executive Level grade 1: in charge of translating and implementing corporate strategy, with a critical impact on the results and competitiveness of a Global Business Unit or Global Support Function and an important impact on the overall results of Sanofi.

4.5.6. Safety indicators

4.5.6.1. Lost time injury frequency rate

The lost time injury frequency rate is the number of accidents resulting in lost time of one day or more within a 12-month period, per million hours worked.

For employees working in a fixed location, accidents occurring during the home-workplace commute are not included in this indicator. However, they are included for travelling medical representatives, in accordance with our internal reporting rules.

If additional accidents are identified that had not been recorded by the end of the reporting period, or if the classification of an accident is changed after the end of the reporting period, the frequency rate is adjusted retrospectively.

4.5.6.2. Total occupational injury frequency rate

We have decided not to publish the severity rate calculated using the criteria defined by French regulations. Because this rate is calculated solely on the basis of the number of days of lost time, it does not reflect the actual severity of injuries from an international standpoint.

This is because for a given injury, the number of days of lost time may vary considerably from one country to another depending on the applicable regulations and compensation systems. Consequently, we have decided to publish the total occupational injury frequency rate.

The total occupational injury frequency rate is the number of occupational injuries with or without lost time, per million hours worked.

4.5.6.3. Motor vehicle accidents

A motor vehicle accident is any accident that occurs when the driver is at the wheel (driving or parking).

This indicator covers all road traffic accidents involving vehicles owned or leased by Sanofi, or owned by an employee and regularly driven for work purposes (medical sales representatives).

4.5.7. Environmental indicators

Environmental indicators are collected during an annual campaign, except for indicators relating to energy and water consumption which are collected quarterly.

4.5.7.1. Carbon footprint

Direct emissions are calculated on the basis of Greenhouse Gas (GHG) Protocol data. Indirect emissions from other energy sources purchased from external suppliers are accounted for as follows:

- emissions from electricity generation: emission factors are obtained from data published by the International Energy Agency (OECD/IEA 2016). We have only updated for relevant changes relating to 2014 emission factors (as published in 2016); historical data from before 2014 are unaltered. Consequently, these emission factors are applied for 2016 and 2017 data.
- emissions generated by the production of steam are calculated on the basis of site-specific factors, or estimated using our own internal standards; and
- emissions from our medical representatives vehicle fleet are included in Scope 1.

Indirect Scope 3 emissions are calculated in accordance with GHG protocol recommendations. We have updated emission factors by using factors from the ECOINVENT V3.3 database to calculate 2016 and 2017 emissions.

Data collection methods are consistent with our reporting rules (see Section “4.5.3 Reporting framework”), except for emissions relating to purchased goods and services which are based on our 2017 full-year budget. This approach was adopted firstly because our budget data are very close to our accounting data, and secondly because it allows for optimal modelling of this category (which is the biggest generator of Scope 3 emissions).

4.5.7.2. Wastewater discharge

The data presented correspond to effluents after internal and/or external treatment. In the absence of information on the effectiveness of external treatment, a purification rate of 50% is assumed for the purpose of calculating COD.

Only data from our chemistry and biotech facilities were collected. However, these account for the vast majority of our COD (approximately 80%).

4.5.7.3. Waste

The distinction between hazardous and non-hazardous waste corresponds to that used in European regulations for European Union member countries (Decision 2000/532/EC of May 3, 2000), and that used in local regulations for other countries. Waste arising from soil decontamination operations is not included in the published total for our operating activities. The recovery rate corresponds to waste that is recycled, or incinerated off-site using waste-to-energy technology.

The reuse/recycle/recovery (“3R”) rate used for the Planet Mobilization project is defined as the sum total of waste recycled externally plus waste subject to energy recovery, as a proportion of the total amount of waste and solvents recycled on site. Waste includes both hazardous and non-hazardous waste.

4.5.8. Consolidation and internal controls

Data are consolidated by our global HR and HSE functions on the basis of information provided by industrial and research sites, Sanofi subsidiaries and administrative headquarters throughout the world.

When sites house more than one function, environmental impact is either attributed to the one with the greatest impact or shared among the functions. Safety and environmental data are systematically checked by HSE coordinators within each activity before being submitted for consolidation. In addition, our global HR and HSE functions perform consistency controls on data during the consolidation process.

These controls include comparisons with prior-year data; any significant variances are investigated.

Workforce data are compared with consolidated data in the finance database.

To ensure that site correspondents have properly understood the HSE indicators and that the right data are being reported, controls over selected HSE reporting data are performed during internal audits conducted at Sanofi sites.

4.6. Report by independent third party

Year ended December 31, 2017

Independent verifier's report on consolidated social, environmental and societal information presented in the management report

This is a free translation into English of the original report issued in the French language and it is provided solely for the convenience of English speaking users. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

To the shareholders,

In our quality as an independent verifier accredited by the COFRAC[1], under the number n° 3-1050, and as a member of the network of one of the statutory auditors of the company Sanofi, we present our report on the consolidated social, environmental and societal information established for the year ended on December 31, 2017, presented in the management report, hereafter referred to as the "CSR Information," pursuant to the provisions of the article L.225-102-1 of the French Commercial code (*Code de commerce*).

Responsibility of the company

It is the responsibility of the Board of Directors to establish a management report including CSR Information referred to in the article R. 225-105 of the French Commercial code (*Code de commerce*), in accordance with the guidelines used by the company (hereafter referred to as the "Criteria"), and of which a summary is included in the "Methodological note" of the management report and available on request at the company's headquarters.

Independence and quality control

Our independence is defined by regulatory requirements, the Code of Ethics of our profession as well as the provisions in the article L. 822-11-3 of the French Commercial code (*Code de commerce*). In addition, we have implemented a quality control system, including documented policies and procedures to ensure compliance with ethical standards, professional standards and applicable laws and regulations.

Responsibility of the independent verifier

It is our role, based on our work:

- To attest whether the required CSR Information is present in the management report or, in the case of its omission, that an appropriate explanation has been provided, in accordance with the third paragraph of R. 225-105 of the French Commercial code (*Code de commerce*) (Attestation of presence of CSR Information);
- To express a limited assurance conclusion, that the CSR Information, overall, is fairly presented, in all material aspects, in according with the Criteria.

Nonetheless, it is not our role to give an opinion on the compliance with other legal dispositions where applicable, in particular those provided for in the Article L. 225-102-4 of the French Commercial Code (vigilance plan) and in the Sapin II law n°2016-1691 of 9 December 2016 (anti-corruption).

Our verification work mobilized the skills of ten people between October 2017 and the signature date of this report for an estimated duration of ten weeks.

We conducted the work described below in accordance with the professional standards applicable in France and the Order of May 13, 2013 determining the conditions under which an independent third-party verifier conducts its mission, and in relation to the opinion of fairness and the reasonable assurance report, in accordance with the international standard ISAE 30002.

1. Attestation of presence of CSR Information

Nature and scope of the work

We obtained an understanding of the company's CSR issues, based on interviews with the management of relevant departments, a presentation of the company's strategy on sustainable development based on the social and environmental consequences linked to the activities of the company and its societal commitments, as well as, where appropriate, resulting actions or programmes.

We have compared the information presented in the management report with the list as provided for in the Article R. 225-105-1 of the French Commercial code *(Code de commerce)*.

In the absence of certain consolidated information, we have verified that the explanations were provided in accordance with the provisions in Article R. 225-105-1, paragraph 3, of the French Commercial code *(Code de commerce)*.

We verified that the information covers the scope of consolidation, namely the reporting entity and its subsidiaries (within the meaning of Article L.223.1 of the French Commercial code *(Code de commerce)* and the entities which the reporting entity controls (within the meaning of Article L.223.3 of the French Commercial code), subject to the limitations specified in the Methodological note of the management report.

Conclusion

Based on this work, and given the limitations mentioned above we confirm the presence in the management report of the required CSR information.

1 *Scope available at www.cofrac.fr*
2 *ISAE 3000 – Assurance engagements other than audits or reviews of historical information*

2. Limited assurance on CSR Information

Nature and scope of the work

We undertook about thirty interviews with people responsible for the preparation of the CSR Information in the different departments in charge of the data collection process and, if applicable, the people responsible for internal control processes and risk management, in order to:

- Assess the suitability of the Criteria for reporting, in relation to their relevance, completeness, reliability, neutrality, and understandability, taking into consideration, if relevant, industry standards;
- Verify the implementation of the process for the collection, compilation, processing and control for completeness and consistency of the CSR Information and identify the procedures for internal control and risk management related to the preparation of the CSR Information.

We determined the nature and extent of our tests and inspections based on the nature and importance of the CSR Information, in relation to the characteristics of the Company, its social and environmental issues, its strategy in relation to sustainable development and industry best practices.

For the CSR Information which we considered the most important[3]:

- At the level of the consolidated entity, we consulted documentary sources and conducted interviews to corroborate the qualitative information (organisation, policies, actions, etc.), we implemented analytical procedures on the quantitative information and verified, on a test basis, the calculations and the compilation of the information, and also verified their coherence and consistency with the other information presented in the management report;
- At the level of the representative selection of sites that we selected[4], based on their activity, their contribution to the consolidated indicators, their location and a risk analysis, we undertook interviews to verify the correct application of the procedures and undertook detailed tests on the basis of samples, consisting in verifying the calculations made and linking them with supporting documentation. The sample selected therefore represented on average 24% of the total workforce and between 18% and 32% of the quantitative environmental information.

For the other consolidated CSR information, we assessed their consistency in relation to our knowledge of the company.

Finally, we assessed the relevance of the explanations provided, if appropriate, in the partial or total absence of certain information.

We consider that the sample methods and sizes of the samples that we considered by exercising our professional judgment allow us to express a limited assurance conclusion; an assurance of a higher level would have required more extensive verification work. Due to the necessary use of sampling techniques and other limitations inherent in the functioning of any information and internal control system, the risk of non-detection of a significant anomaly in the CSR Information cannot be entirely eliminated.

3 **Quantitative social information**: *Headcount and breakdown by gender, age and geographic area; Number of hires and departures, and breakdown by reason; Number of training hours from Le@rn, Foederis and Compliance systems; Number of employees with disabilities in France; Percentage of women in executive positions; Percentage of women in the executive committee; Lost time injury frequency rate (Sanofi workforce and all employees); Total occupational injury frequency rate (Sanofi workforce and all employees); Number of occupational diseases recognized.*
Qualitative social information: *Training policy; Anti-discrimination policy; Remuneration policy; Health and safety at the workplace.*
Quantitative environmental information: *Solvents used; Share of regenerated solvents; Emissions into the air (VOC); Wastewater discharge (COD); Total quantities of hazardous and non-hazardous waste, and breakdown by processing type; Total water consumption, and breakdown by water source; Percentage reduction in water consumption compared to reference years 2010 and 2015; Percentage of water consumed by sites located in water scarcity and water stress area; Total energy consumption, and breakdown by type of energy; Direct and indirect greenhouse gas emissions (scopes 1 & 2); Percentage reduction in direct and indirect greenhouse gas emissions (scopes 1 & 2) compared to reference years 2010 and 2015; Significant greenhouse gas emissions generated as a result of the company's activities, including the following scope 3 sources: purchased goods and services (source 1), use of sold products (source 11), downstream transportation and distribution (source 9), capital goods (source 2), waste generated by operations (source 5), fuel and energy related activities (source 3).*
Qualitative environmental information: *General environmental policy; Preventive measures, recycling and waste management; Measures undertaken to improve energy efficiency and to promote the use of renewable energy; Preventive measures, reduction of and compensation for discharges into the air (the management of Volatile Organic Compounds) and water (the management of pharmaceuticals in the environment).*
Qualitative societal information: *Conditions for dialogue with the persons or organizations interested in the activity of the company; Consideration of environmental and social issues in purchasing policies; Actions undertaken on business ethics; Measures undertaken in favor of patients' health and safety: bioethics, pharmacovigilance, quality policy, anti-counterfeiting policy, access to healthcare.*

4 *For social data, we selected a sample of administrative management entities in France.*
For environmental and health and safety at the workplace data: AJPAC region, including sites of Hangzhou and Shenzhen (China), as well as the Singapore Pharma site (Singapore); Europe B region, including the sites of Frankfurt Biotech (Germany), Ujpest and Veresegyhaz (Hungary); as well as the site of Sisteron (France).

Conclusion

Based on our work, we have not identified any significant misstatement that causes us to believe that the CSR Information, taken together, has not been fairly presented, in compliance with the Criteria.

Paris-La Défense, March 6, 2018

French original signed by:

Independent Verifier
ERNST & YOUNG et Associés

Partner, Sustainable Development	Partner
Caroline Delerable	Bruno Perrin

4.7. Table of indicators for French legal entities

	Sanofi Aventis Groupe (SAG)		Sanofi Aventis France		Sanofi Chimie		Sanofi Pasteur		Sanofi Winthrop Industrie		Sanofi Aventis R&D	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Organization of work												
Employees under contract	3,617	3,107	2,234	2,113	3,273	3,461	6,491	6,392	4,902	5,089	4,234	4,364
Distribution by gender												
Women	1,961	1,691	1,510	1,457	793	839	3,239	3,225	2,272	2,367	2,619	2,691
Men	1,656	1,416	724	656	2,480	2,622	3,252	3,167	2,630	2,722	1,615	1,673
Women as % of total	54.2%	54.4%	67.6%	69.0%	24.2%	24.2%	49.9%	50.5%	46.3%	46.5%	61.9%	61.7%
Distribution by age bracket												
Under 21 years	0.3%	0.5%	0.2%	0.0%	0.8%	1.4%	0.7%	0.5%	0.6%	0.8%	1.1%	0.9%
21 to 30 years	9.6%	10.2%	6.7%	7.2%	13.9%	15.7%	13.3%	13.9%	13.7%	12.5%	9.6%	9.7%
31 to 40 years	17.4%	18.3%	8.6%	7.4%	21.4%	21.9%	31.8%	34.1%	24.1%	24.4%	17.2%	18.7%
41 to 50 years	36.1%	36.5%	28.6%	31.7%	32.1%	31.7%	37.6%	36.4%	32.2%	32.9%	35.6%	37.5%
51 to 60 years	34.1%	32.9%	55.2%	53.2%	30.4%	28.3%	16.1%	14.6%	26.4%	26.6%	35.7%	32.7%
Over 60 years	2.4%	1.6%	0.8%	0.4%	1.3%	1.0%	0.4%	0.5%	3.0%	2.8%	0.9%	0.5%
Number of new hires and departures[a]												
Total number of new hires	947	556	390[b]	162	492	592	1,885[c]	1,035	743	615	362	486
Total number of departures	436	427	269	267	681	601	1,148	1,027	929	760	492	573
of which layoffs	18	7	5	5	4	5	18	14	12	8	7	7
Distribution by type of contract												
Permanent contracts	93.3%	92.1%	93.6%	93.0%	93.3%	87.2%	90.8%	89.4%	92.5%	91.3%	92.6%	92.4%
Fixed-term & work-study contracts	6.7%	7.9%	6.4%	7.0%	6.7%	12.8%	9.2%	10.6%	7.5%	8.7%	7.4%	7.6%
Organization of working time												
Number of part-time employees	439	203	753	595	364	351	1,082	1,042	833	396	317	335
Full time equivalent	119.5	136.1	323.9	342.5	116.8	126.1	748.3	726.3	136.1	176.8	193.5	206.0
Number of temporary staff[d]	150.1	139.4	38.7	13.3	284.7	116.7	283.6	254.5	787.3	497.0	2.4	25.5
Investment in training												
Number of employees trained	1,436	1,374	1,206	1,917	2,834	3,139	6,285	6,153	3,790	4,479	3,358	3,431
Number of training hours	44,914	33,179	33,788	47,901	74,891	76,954	147,289	123,328	81,392	85,236	116,348	90,946
Environment												
Water consumption (thousands of m³, except SAG: m³)												
Surface water consumption	0	0	N/A	N/A	4,073.8	4,590.9	0	0	0	0	941.9	971.4
Ground water consumption	0	0	N/A	N/A	17,202.6	17,426.4	0	0	89.9	88.8	0.23	0.24
Mains water consumption	59.2	75.2	N/A	N/A	351.9	410.1	608.9	612.7	357.2	374.3	240.2	285.2
Total	59.2	75.2	N/A	N/A	21,628.3	22,427.4	608.9	612.7	447.1	463.1	1,182.3	1,256.9

(a) These indicators include intercompany transfers in France.
(b) Includes 165 from Boehringer Ingelheim following the exchange with Merial.
(c) Includes 42 from the integration of the Sanofi Pasteur MSD joint venture.
(d) Number of temporary staff on full time equivalent basis in December.

	Sanofi Aventis Groupe (SAG)		Sanofi Aventis France		Sanofi Chimie		Sanofi Pasteur		Sanofi Winthrop Industrie		Sanofi Aventis R&D	
	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016	2017	2016
Energy consumption (MWh)												
Natural gas	4,182	3,766	0	0	326,694	341,742	197,230	203,178	111,669	113,300	132,233	132,970
Electricity	25,364	27,621	0	0	267,748	265,492	182,165	185,540	148,045	147,330	117,091	124,066
Coal	0	0	0	0	0	0	0	0	0	0	0	0
Liquid hydrocarbons (excl. fuel for vehicle fleet)	0	0	35,210	45,959	788	1,482	1,387	1,491	387	49	231	507
Renewable fuels	0	0	0	0	9,455	28,793	0	0	0	0	0	0
Other (steam, thermal fluids, cooling water)	3,607	2,608	0	0	-48,906	-90,513	-8,604	-8,422	1,108	825	1,515	1,515
Total	33,153	33,995	35,210	45,959	555,779	546,996	372,178	381,787	261,209	261,504	251,070	259,058
Use of solvents and VOC emissions (Tonnes)												
Use of solvents	N/A	N/A	N/A	N/A	132,840	114,870	91	82	2,469	2,415	N/A	N/A
VOC emitted	N/A	N/A	N/A	N/A	1,068	1,061	38	30	114	98	N/A	N/A
Greenhouse gas emissions (Tonnes of CO_2eq, except SAG: CO_2eq)												
Fuel (direct)	762	686	N/A	N/A	61,815	65,274	42,095	43,540	22,610	22,995	24,838	26,739
Production of electricity and other forms of energy (indirect)	1,944	1,971	N/A	N/A	10,790	11,424	11,659	11,276	9,284	9,429	8,370	8,756
Total	2,706	2,657	N/A	N/A	72,605	76,698	53,754	54,816	31,894	32,424	33,208	35,495
Medical rep vehicle fleet (estimate)	N/A	N/A	8,040	10,502	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wastewater discharge (Tonnes)												
Chemical oxygen demand (COD)	N/A	N/A	N/A	N/A	1,173	1,531	N/A	N/A	N/A	N/A	N/A	N/A
Elimination of hazardous waste (Tonnes)												
Recycled hazardous waste	8	18	N/A	N/A	23,413	25,373	100	95	367	169	19	42
Hazardous waste incinerated with thermal recovery	2	2	N/A	N/A	28,551	34,104	2,378	2,250	991	1,383	231	266
Hazardous waste incinerated without thermal recovery	N/A	N/A	N/A	N/A	36,723	57,573	10	0	201	229	123	96
Hazardous waste sent to authorized landfills	5	0	N/A	N/A	250	148	27	0	3	85	3	0
Total	15	20	N/A	N/A	88,937	117,198	2,515	2,345	1,562	1,866	376	404
Elimination of non-hazardous waste (Tonnes)												
Recycled non-hazardous waste	487	361	N/A	N/A	47,861	48,645	1,851	2,426	15,524	15,069	232	280
Non-hazardous waste incinerated with thermal recovery	460	324	N/A	N/A	14,275	11,670	4,264	4,136	3,515	3,207	395	391
Non-hazardous waste incinerated without thermal recovery	0	0	N/A	N/A	3,349	2,443	10	0	2	0	0	0
Non-hazardous waste sent to authorized landfills	26	81	N/A	N/A	3,381	470	27	0	117	25	37	33
Total	973	766	N/A	N/A	68,866	63,228	6,152	6,562	19,158	18,301	664	704

N/A: non applicable (data not reported)

SANOFI

54, rue La Boétie 75008 Paris – France – Tél. : +33 (0)1 53 77 40 00 – www.sanofi.com