CORPORATE SOCIAL RESPONSIBILTY

CHAPTER 4 OF 2019
DOCUMENT D'ENREGISTREMENT UNIVERSEL

2019

SANOFI

4

Corporate Social Responsibility

Chapter 4 of 2019 Document d'Enregistrement Universel*

*This is a free translation into English of the "Chapitre 4, Responsabilité Sociale, Environnementale et Sociétale" of our 2019 Document d'enregistrement universel issued in French. It is provided solely for the convenience of English-speaking readers.

This chapter sets out for 2019 [GRI 102-51] the material issues facing Sanofi in terms of Corporate Social Responsibility (CSR) and the identified risks, in accordance with :

- Articles L. 225-102-1 and R. 225-104 to R. 225-105-2 of the French Commercial Code, which introduced a requirement to publish a statement of extra-financial performance (SEFP) in order to transpose into French law European Directive 2014/95/EU on the publication of non-financial information; and
- Law no. 2017-399 of March 27, 2017 on the duty of vigilance of parent companies and companies acting as principals.

Tables cross-referencing the contents of this chapter to those legal disclosure requirements are provided in section 4.7, “Corporate social responsibility cross-reference tables”.

Our extra-financial reporting principles are based on the guidelines of the Global Reporting Initiative (GRI) standards, under the “Core” option first attained by Sanofi in 2015. Some GRI indicators are identified in the body of this report within square brackets. A full cross-reference table, the “GRI Content Index”, is available via the Document Center at www.sanofi.com.

Sanofi is also a signatory of the United Nations Global Compact, and as such discloses annually the progress achieved against the principles contained in the Compact.

A methodological note on how we report our data is provided in Section 4.5.

This chapter forms an integral part of the French-language *Rapport de Gestion* (Management Report). It has been verified by an independent third party, whose report is presented in Section 4.6.

4.1. Statement of Extra-Financial Performance and Vigilance Plan

[GRI 102-11]

4.1.1. Methodology for selecting risks and issues for the Statement of Extra-Financial Performance (SEFP)

The principal SEFP risks and issues were identified by our Corporate Social Responsibility (CSR) department, in collaboration with our Risk Management department, on the basis of (i) Sanofi’s material risks and issues and (ii) material issues identified in the industry-specific standard (Biotechnology & Pharmaceuticals) issued by the Sustainability Accounting Standards Board (SASB). The list of principal extra-financial risks has been validated by the Sanofi Risk Committee.

To rank the CSR impact of these risks and issues to external stakeholders, we used results obtained from nine multi-disciplinary working groups, each tasked with assessing the importance of each risk or issue to one or more specific stakeholder groups: employees; patients; healthcare professionals; health authorities and payors; business partners; investors; local communities; international and local organizations; and the media. The outcome of this process is a list of eight SEFP risks and three SEFP issues. These are summarized in the table in section 4.1.3., and classified into the extra-financial risk categories specified in the legislation: social and societal; human rights; anti-corruption; and the environment. The table also shows SEFP requirements relating to topics not identified as principal risks for Sanofi, but on which disclosure is required in the SEFP.

Policies and action plans for each of those risks are described in section 4.2.

A cross-reference table showing all the information required in the SEFP, including the presentation of the business model, is provided in section 4.7., “Corporate social responsibility cross-reference tables”.

4.1.2. Methodology for selecting risks for the Duty of Vigilance (DV)

[GRI 308-2]

Sanofi believes that the risk identification principles applied for SEFP purposes and those applied for duty of vigilance purposes do not wholly overlap. Consequently, we conducted two risk identification exercises in parallel, using the same basic methodological framework but applying criteria specific to each of the two pieces of legislation. Risk identification for SEFP purposes sought to take account of the impacts on Sanofi and its stakeholders, while for the duty of vigilance the emphasis was on the impacts on people and the environment.

This means that although the risk mapping exercises are complementary, and to a large extent overlap, there are some risks that are specific to just one of the two pieces of legislation. A list of those risks is presented in the table in section 4.1.3., and the related policies and action plans are described in section 4.2., “Detailed description of issues and risks”.

Our methodology involved three steps:

- identify major issues inherent to the sector in which we operate;
- classify and evaluate, at business unit and support function level, the criticality of the risks associated with each major issue; and

- evaluate the level of control over those risks, and prepare action plans to manage them.

In determining major risks to people or the environment, we applied a sector-based approach to identify which of our stakeholders are potentially affected, and our major vigilance issues. For this, we drew largely upon feedback on our existing policies and internal processes, and in particular:

- the “Human Rights in Our Activities” guide, which identifies key human rights issues over the life cycle of our products; and
- our practice, 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.

Based on this analysis, backed up by external data – sourced from industry initiatives such as Together for Sustainability (TfS) and Pharma Supply Chain Initiative (PSCI), international research studies and a peer benchmarking exercise – we were able to identify major vigilance issues relating to the protection of patients, our employees, the environment, and local communities. These vigilance issues are related to Sanofi’s activities, whether we carry out those activities ourselves or through our direct commercial relationships.

For each issue identified, we assessed our existing risk management actions against criteria such as the existence and implementation of a policy (from definition of the commitments underpinning the policy, through to controls over its application) or of a company-wide action plan. Based on this assessment of the level of control, we were able to rank the residual risk and establish adequate action plans.

The Vigilance Plan covers the operations of Sanofi and of entities fully consolidated by Sanofi for financial reporting purposes, as well as the operations of our Tier 1 suppliers and subcontractors.

The duty of vigilance issues identified in the chapter are those we regard as major; for a presentation of all the issues related to our duty of vigilance, refer to the *Plan de Vigilance* (Vigilance Plan) factsheet, available (in French only) via the Document Center on www.sanofi.com.

A cross-reference table showing all the information required by the duty of vigilance is provided in section 4.7., “Corporate social responsibility cross-reference tables”.

4.1.3. Table of SEFP and DV risks and issues

[GRI 102-46, GRI 103-1]

Category	Field or activity	Regulation[1]	Description	Risk mentioned in Item 3.D, "Risk Factors", of our 2019 Annual Report on Form 20-F	Section in this chapter
Social	**Human capital**	SEFP issue	We rely on the commitment and expertise of our people to attain our strategic objectives in a fast-changing, highly-competitive environment.		4.2.1. Human capital
	Attracting and retaining talent	SEFP risk	Risk that we will be unable to attract, integrate or retain people with the necessary profiles and skillsets, which could adversely our ability to implement our strategy and attain our objectives.	x	4.2.1. Human capital
	Diversity and inclusion	SEFP requirement	Diversity embraces every facet of the people who make up our organization: culture, religion, ethnic origin, education, career path, nationality, sexual orientation, personality and opinions. Commitment to diversity and inclusion can unlock possibilities for growth and innovation.		4.2.1.2.3.3. Diversity and inclusion
	Social dialogue	SEFP requirement	Social dialogue includes all forms of negotiation, consultation and information-sharing between representatives of the employer and of the employees, on issues of mutual interest relating to the company's economic and social policy. It contributes to the effective resolution of serious issues while promoting good governance, social stability, and the economic growth of the company.		4.2.1.2.4. Maximizing organizational effectiveness
	Employee health and safety*	DV risk	Risk that we may fail to provide a safe work environment and cause harm to our employees, suppliers or subcontractors, with immediate or future consequences for their health.		4.2.2. Employee health and safety
Societal	**Access to healthcare for the underserved**	SEFP issue	An integrated approach to access to healthcare for the underserved, combined with philanthropy, can generate opportunities for growth, innovation, and unique partnerships.		4.2.3. Access to healthcare for the underserved
	Product pricing	SEFP risk	Risk that our pricing policy will mean access to our products does not meet the expectations of certain stakeholders and/or the market, undermining our commitment to patients and the healthcare system.	x	4.2.4. Product pricing
	Product quality*	SEFP risk	Risk that we will fail to comply with good clinical, laboratory, manufacturing, distribution and pharmacovigilance practices and other regulatory requirements relating to product quality through the entire life cycle of our healthcare products, or that other quality issues will arise that could have an adverse effect on patients or healthcare professionals.	x	4.2.5. Product quality
	Product safety for patients and consumers*	SEFP & DV risk	Risk of product safety breaches, from first administration in clinical trials on humans through to the end of the product's life cycle, that could have an adverse effect on patients or healthcare professionals.	x	4.2.6. Product safety for patients and consumers
	Patient safety in clinical trials*	SEFP & DV risk	Risk that we will breach ethical standards (informed consent, transparency of results), which could have an adverse effect on patient safety or lead to a loss of public confidence.		4.2.7. Medical ethics and bioethics
	Animal Protection*	SEFP requirement	We must comply with ethical standards and principles that are essential to the responsible use of animals in scientific and medical activities.		4.2.7.2. Animal protection
	Biopiracy*	DV risk	Risk that we will fail to respect state sovereignty or the intellectual property rights of indigenous peoples when obtaining patents and commercializing endemic resources identified as a result of bio-prospecting traditional practices and know-how.		4.2.8. Biopiracy
	Personal data protection*	DV risk	Risk that the integrity, confidentiality or accessibility of personal data will be compromised.	x	4.2.9. Personal data protection
	Supply chain continuity*	SEFP risk	Risk of supply chain interruptions, product recalls or loss of inventories due to unforeseen events, which could harm society (patients and healthcare professionals) and damage our reputation.	x	4.2.10. Supply chain continuity
Human rights actions	**Human rights***	SEFP requirement and DV risk	Risk that human rights will be breached as a result of our operations, or those of our suppliers or subcontractors, potentially causing harm to the people affected.		4.2.11. Human rights
Combatting corruption and tax evasion	**Ethics and Business integrity**	SEFP risk	Risk of non-compliance with the laws and regulations applicable to our operations in jurisdictions where we do business, in particular those relating to combatting and preventing corruption and fraud; and also of non-compliance with pharmaceutical industry codes of conduct or our own values and ethical policies.	x	4.2.12. Ethics and business integrity
	Tax Policy	SEFP requirement	We must apply applicable tax laws and regulations, paying the appropriate amounts of taxes and duties as they fall due, in countries where we do business.		4.2.13. Tax policy
Environment	**Climate change and carbon footprint**	SEFP issue	Climate change generates risks as diverse as the impact of extreme weather events on our infrastructure and supply chain; scarcity of resources; carbon taxes, and their financial impact; and the direct or indirect repercussions for human health.		4.2.14.2. Climate change: towards carbon neutrality
	Water resource management	DV risk	Risk that we will withdraw too much water relative to the capacity of the ecosystem and the needs of other users, especially the most vulnerable.		4.2.14.3. Water: a sustainable and renewable energy source
	Circular economy	SEFP requirement	The term "circular economy" refers to an economic model that aims to produce goods and services sustainably, by limiting consumption and wastage of resources (raw materials, water, energy) and producing less waste.		4.2.14.4. Waste: towards a circular economy
	Reducing food waste	SEFP requirement	Food waste refers to any food intended for human consumption that is lost, discarded or becomes unusable at any point in the food chain.		4.2.14.4.3. Initiatives to reduce food waste
	Environmental releases*	SEFP & DV risk	Risk that discharges and emissions from our industrial and R&D operations will adversely affect the environment or human health, or will not be appropriately managed by our own staff or by our suppliers or subcontractors.	x	4.2.14.5. Environmental releases

* *Indicates risks that apply not only to our own operations, but also to those of our suppliers, subcontractors and partners. See Section 4.2.15, "Procurement and subcontracting", for measures taken to manage risks within our supply chain relating to employee health and safety, environmental releases and human rights.*

(1) SEFP risk: major risk for Sanofi, as identified for SEFP purposes.
SEFP issue: major issue for Sanofi, as identified for SEFP purposes.
SEFP requirement: topic not identified as a major risk for Sanofi, but on which disclosure is required in the SEFP.
DV risk: risk for Sanofi, as identified for duty of vigilance purposes.

4.2. Detailed description of issues and risks

[GRI 103-1, GRI 103-2, GRI 103-3]

4.2.1. Human capital

Our ambition to 2025 is for Sanofi to be an innovative global biopharmaceuticals leader focused on human health, supported by digital solutions, and delivering growth for our three Global Business Units (Specialty Care, Vaccines and General Medicine) and our standalone Consumer Healthcare entity.

To achieve this ambition, we face major challenges in terms of human resources, such as developing the skillsets of our employees in a fast-changing environment. Striking the right balance between science, innovation, technological progress and personal commitment is key.

4.2.1.1. Organization and strategy

In this fast-changing environment, Human Resources functions as a strategic partner and catalyst for change.

Our Human Resources function is organized around a “One HR” global model, using standardized processes across the whole of Sanofi. Shared tools and systems are deployed throughout the organization.

Our Human Capital roadmap focuses on the following strategic areas:

- developing the skills needed for growth;
- developing Sanofi leaders;
- moving the Sanofi culture forward; and
- maximizing our organizational effectiveness.

The compensation policy for members of our Executive Committee supports those strategic objectives: 20% of their variable compensation is linked to the attainment of collective objectives such as talent and critical skills management (including hirings in critical areas for the Group); talent retention; increase in the proportion of women in senior management positions; and promotion of high potential individuals.

For each of the strategic areas, we have devised policies and performance indicators, and implemented action plans.

These are described below.

4.2.1.2. Policies, action plans and performance indicators

4.2.1.2.1. Developing the skills needed for growth

4.2.1.2.1.1. Talent and key skills management plan

To meet the challenges arising from our business transformation and product launches, we have since 2016 systematically used Strategic Workforce Planning (SWP) to determine the capabilities needed for future growth, assess our competencies, and develop appropriate learning solutions at every level of our organization.

For 2019, the Executive Committee identified four key work areas (Phase II R&D, Medical Affairs, Marketing, and Business Support), alongside those identified in previous years including Market Access, Biology, and Phase I R&D.

The SWP process involves analyzing our strategic objectives, assessing how these will impact on our operations, and then making concrete plans to meet the identified needs in both quantitative and qualitative terms: what workforce will we need, with what skills and organizational structure, and in what location? The aim is to achieve the best possible allocation of resources to meet business needs in our Global Business Units and geographies.

A multi-level governance structure has been set up to optimize rollout of SWP projects. This is headed up by the SWP expertise center, which:

- provides quarterly projects progress reports to the Executive Committee;
- heads up the network of SWP project managers working at GBU/activity level, in order to harmonize methodologies, share good practices and measure progress; and
- co-ordinates the dissemination of information to regions and key geographies, so that they can share the information and support local implementation as necessary.

This governance structure provides an enhanced interface and better communication between work areas on the one hand, and global/local organizations on the other.

To date, in addition to the four global SWP projects directly monitored by the Executive Committee, around 25 SWP projects are ongoing within Sanofi at various levels in a range of work areas and organizations.

Four priority departments have been set the goal of finalizing the successive phases of their SWPs:

- integrating the strategic roadmap;
- forecasting workforce requirements;
- preparing skillset lists that build in future needs;
- carrying out skills gap analysis;
- drafting action plans to bridge skills gaps (such as leadership or vocational training via the academies set up at global support function level, external hires or organizational changes); and
- monitoring the action plans.

Action plans

2016 to mid-2018	Mid-2018 to 2021
- Define the overall SWP methodology and governance structure - Identify priority departments for analysis: Medical Affairs, Marketing, Market Access, Biology. - Executive Committee sign-off on priority areas, and on the SWP performance indicators to include in variable compensation of top management - Select IT solutions for quantitative and qualitative analysis	- Engage with Human Resources teams to set up dedicated SWP structure and network - Liaise with Talent Acquisition, People Development, Human Resources Business Partners (HRBPs), and business units. - Measure the impact (including internal job transfers, training and talent pool) - Predictive workforce analysis for all the departments, linked to the roadmap and business needs - Adopt predictive workforce analysis as a standard human resources tool

Rollout of these projects across the four priority departments counts for 5% of the variable compensation of Executive Committee members.

SWP has been an integral part of our human capital strategy since 2016. Successful implementation of SWP in priority functions/geographies has paved the way for a transformation of Human Resources.

SWP enables us to devise a human capital strategy that covers both in-house resources (performance and talent management) and the hiring of new talent from outside the company, while also taking account of new working methods (digital, analytics, etc.) and new areas of expertise (biology, immunology, etc.).

Within Sanofi, qualitative skills gap analysis helps optimize investment in training, especially for the in-house academies (training programs dedicated to a specific function), and encourages job transfers between departments (see section 4.2.1.2.1.2., “Training and career development”). It can also help in calibrating the number of in-house or external recruits needed and the skillsets required, identifying target entities/geographies, and focusing on people who match the desired profile (see section 4.2.1.2.3.1., “Attracting and retaining talent”). The ultimate aim is to be able to anticipate changes in skillset requirements, and be more aware of how each work area’s needs are evolving.

To date, over 50% of the Sanofi workforce has been subject to qualitative or quantitative analysis under the Strategic Workforce Planning program since 2016.

4.2.1.2.1.2. Training and career development

Our training and career development strategy is built around the One Learning Management System (One LMS) project. It aims to deliver flexible career development, adapted to the needs of a fast-changing business environment while meeting the personal aspirations of our employees.

Training that delivers a bigger impact on our people and our business: that is the goal of the holistic learning experience derived from the 70-20-10 model. This delivers benefits by a mix of formal training and informal learning through mentorship, experience-sharing and project collaboration. This model is generally regarded as the optimal learning strategy by training professionals. It is based on the fact that learning comes 70% from job-related experiences, 20% from interactions with others, and 10% from more formal training. The model was created in the 1980s by three researchers and authors working with the Center for Creative Leadership, a nonprofit educational institution in Greensboro, North Carolina.

We constantly strive to focus and improve our spend on training and career development, dovetailing our efforts with our talent management plan and skills gap analysis. Our aim is to streamline access to training. A key element in this is our centralized iLearn platform. Launched in 2017 and available to all our employees worldwide, the platform:

- ensures easy access to training for all our people;
- improves the visibility of training solutions across the whole of Sanofi;
- provides a single data source and analytical tool; and
- helps us understand how our investment in training is used and accessed, and what impact it has.

During 2019, we enhanced the governance process in order to optimize the learning experience and our spending decisions.

For example, in February 2019 we rolled out a catalogue of over 450 training programs related to cross-disciplinary skills. Since then, over 18% of employees have followed a program from the catalogue, and take-up is growing all the time.

We are also investing in technologies that will deliver high-impact, flexible and targeted learning solutions. One example is the "Winning Choices" solution introduced in our Consumer Healthcare business, which uses state-of-the art technology that combines hands-on experience with real-time virtual online learning.

Training performance indicators[a]:	2019	2018
Number of employees receiving training (based on the iLearn system)	106,288	113,605
Number of training modules		
iLearn[b]	8,544	2,629
Le@rn[c]	8,954	22,680
Peps[d]	109,458	109,921
Foederis[e]	-[e]	991
Number of training hours:		
iLearn	825,293	678,451
Le@rn	155,982	717,253
Peps	205,005	214,669
Foederis	-[e]	498,486

(a) These figures do not include training programs followed by subcontractors.

(b) iLearn delivers all compulsory and support function training:
- *Compliance: Ethics and Business Integrity, Pharmacovigilance.*
- *Quality.*
- *Workplace First-Aiders.*
- *Business, Management and Leadership Development.*

Ultimately, iLearn will deliver all Sanofi training programs.

(c) The Le@rn system is dedicated to training in Good Pharmaceutical Practices at Sanofi (such as Good Manufacturing Practices), and is deployed worldwide.

(d) Peps is a training system for our German employees.

(e) In 2019, Foederis (a training system specific to employees located in France) was integrated into iLearn.

In 2019, 44% of iLearn training hours were spent in face-to-face sessions, and 55% in distance learning sessions.

4.2.1.2.2. Developing Sanofi leaders

Our global leadership development (GLD) programs are designed to address:

- the business priorities identified through Strategic Workforce Planning (SWP) such as developing managerial capabilities in emerging markets, China and Latin America, and Senior Leader programs in the Europe-Middle East-Africa (EMEA) region. In 2019, the distribution of GLD programs between our regions, Global Business Units and Global Support Functions was broadly in line with their respective workforces; and
- our strategic priorities, in particular internal promotion of women (via the "Elevate" program), and diversity and inclusion (via the "Challenge your Bias" program).

In the People Survey conducted at the end of 2018, training and career development were perceived by our employees as one of the strengths of Sanofi.

The table below shows action plans and performance indicators for our leadership development programs:

Global Leadership Development action plan	Performance indicators		
	2019	2018	2017
High-impact leadership development programs and cross-disciplinary training opportunities, implemented consistently across regions.	Split of training development costs between Global and Local: 80%/20%	Split of training development costs between Global and Local: 78%/22%	Split of training development costs between Global and Local: 59%/41%
Global programs developed for first-line managers and managers of managers, helping them acquire the leadership qualities they need to meet the challenges of tomorrow and presenting them with a shared set of principles and tools.	1,450 managers of managers took part in training on the fundamentals of leadership. 10,241 first-line managers took part in training on the fundamentals of management.	555 managers of managers took part in training on the fundamentals of leadership. 2,292 first-line managers took part in training on the fundamentals of management.	610 managers of managers took part in training on the fundamentals of leadership. 2,367 first-line managers took part in training on the fundamentals of management.

4.2.1.2.3. Moving the Sanofi culture forward

On joining the company in September 2019, our new Chief Executive Officer reiterated the key role of corporate culture in meeting our growth challenges. He stressed that people are at the heart of what we do. Having a positive impact on people's lives is in our DNA. That guides our people in how they work and in how they behave day to day, so that they can conduct business with integrity and give of their best. These human values are the cornerstone of the Sanofi culture. Our employees play an absolutely essential role in our future, and are integral to our human capital strategy.

4.2.1.2.3.1. Attracting and retaining talent

Our Strategic Workforce Planning has demonstrated that the continued success of our business depends on key factors such as attracting, hiring and retaining talent, in a highly competitive market. This calls for a high level of commitment both internally (spotting and promoting in-house talent) and externally (finding and selecting new talent, with the emphasis on an inclusive, unbiased recruitment policy).

We have developed an Employee Value Proposition (EVP) to enhance our ability to attract, hire and retain talent in key markets. For external candidates, the EVP sets Sanofi apart from the competition by showing what they will gain by joining us rather than another major pharmaceutical, biotechnology or tech company. Internally, the EVP aims to retain and motivate talent. We also look to favor internal job transfers and promotions: recruiting in-house talent is one of the individual variable remuneration objectives for Executive Committee members.

The EVP is our promise to in-house and external candidates. Based on testimony from our employees, it summarizes the work experience we offer and our corporate values. It also helps us to target candidates with the right profile to meet the needs of specific regions and departments. It shapes the image that we seek to communicate as an employer, and reflects the values that unite us as we pursue our shared goals. Drawing on in-depth interviews with employees and senior executives, and with people from outside Sanofi such as job candidates and headhunters, the EVP was designed to dovetail with our Human Resources ambition of "Empowering People", which in turn is anchored in our overarching corporate ambition: "Empowering Life".

"Empowering People" is built on three pillars: engage for health / co-operate with passion / find your career direction. The EVP draws on testimony and true-life stories for employees that provide credible support for each of those three pillars.

In 2020, Sanofi obtained global Top Employer accreditation for the second successive year, thanks to accreditations for 22 subsidiaries (Argentina, Australia, Brazil, China, Colombia, Egypt, France, Germany, Hungary, India, Italy, Kazakhstan, Mexico, Poland, Russia, Singapore, Spain, South Africa, Turkey, United Kingdom, United Arab Emirates, Vietnam) and four regions (Europe, Middle East, Asia-Pacific, Latin America). "Top Employer" accreditation is awarded in recognition of efforts made by employers to improve working conditions for their employees.

Our performance indicators for external hires and internal job transfers/promotions are summarized in the table below:

	Target 2019	2019	2018
Internal transfers/promotions: Senior Leader posts[(a)]			
Executive posts[(b)]	80%	92%	81%
Grade 5 posts[(b)]	70%	66%	57%
Overall workforce		36%	31%
Other indicators			
Succession planning *Executive posts*		49%	55%
Inter-entity job transfers (c) (cross-GBU/GSF) *Employees eligible for variable compensation*		2,809	1,971
Staff turnover *Employees eligible for variable compensation*			
Voluntary[(d)]		7.3%	6.8%
Total[(e)]		12.3%	13.7%

(a) This indicator is included in the collective qualitative criteria for variable compensation of Executive Committee members (counts for 5%).

(b) See section 4.5.2.1.5., "Definition of grades".

(c) Inter-entity job transfers also includes corrections to organizational data, and movements due to the reorganization of our GBUs and global support functions (Diabetes-Cardiovascular -> Primary Care; General Medicine & Emerging Markets -> China & Emerging Markets; verticalization of the Medical Affairs function; and transfers from support functions to Business Transformation).

(d) Voluntary staff turnover = Voluntary departures of employees eligible for variable compensation / Total number of employees eligible for variable compensation at year-end.

(e) Total staff turnover = All departures of employees eligible for variable compensation / Total number of employees eligible for variable compensation at year-end.

4.2.1.2.3.2. Staff engagement

Our People Survey, rolled out Sanofi-wide in 2017, provides reference-based indicators against which we can measure our future development. The survey data helps us identify and prioritize opportunities to improve employee engagement and our corporate performance. Survey results are communicated to all our employees.

Performance indicators

2019	2017
2018 : Launch of second global People Survey in December - Response rate: 83% - Engagement index: 73% (measures the extent to which employees are engaged with their everyday work). 2019: Implementation and monitoring of action plans based on 2018 survey results.	First global People Survey in 2017. People Survey statistics: - Response rate: 73% - Engagement index: 69% (measures the extent to which employees are engaged with their everyday work).

4.2.1.2.3.3. Diversity and inclusion

[GRI 405-1]

Diversity and inclusion are at the heart of how we work, and are embedded in our core values: teamwork, courage, respect, integrity. We respect the diversity of backgrounds and life experiences of the people who work for us. We are convinced that if we are to make best use of the wealth that diversity brings us, we must encourage integration and create a workplace that optimize those differences. This will make life better for our employees, our patients and our customers.

The strategic pillars of our global Diversity & Inclusion department are:

- work on inclusion and engagement;
- promote cultural diversity in the workplace; and
- support our business and enhance our reputation.

4.2.1.2.3.3.1. Gender balance

Promoting gender balance is at the heart of our strategy. Bringing more female talent on board is one of the individual variable remuneration objectives for Executive Committee members. We have committed to achieving gender balance in our population of Senior Leaders by 2025.

In terms of governance, our Gender Balance Board consists of 10 senior executives (5 women and 5 men), 4 of whom are Executive Committee members. They support regional networks around the globe, sponsor initiatives to promote gender balance within Sanofi, and serve as role models.

Members of our Gender Balance Board and regional networks, alongside other Executive Committee members, show their commitment through participation in events such as International Women's Day, the Women's Forum and the World Economic Forum and our own in-house awareness campaigns like "I'm in" and "Challenge Your Bias". They also back local initiatives, such as mentorship and coaching programs.

To meet our objective of achieving gender balance by 2025, we are focusing on three priorities:

- the "I'm In" awareness program;
- mentorship and leadership training programs to prepare women to assume senior executive roles, including "Elevate", which is wholly devoted to the development and progression of women through the organization and reflecting their specific needs; and
- a more welcoming and inclusive workplace environment, as illustrated by the International Women's Day webcast, the "Women@Sanofi" posts on the intranet, and a dedicated Yammer group.

Gender balance	Performance indicators 2019	2018
Ambition		
Our ambition is to achieve gender balance in Sanofi Senior Leaders by 2025[(a)].	37.2% women	35.5% women
Action plan		
Policy requiring women to be integrated into the recruitment process for executive roles.	Policy rolled out	Policy put in place
In 2018, we rolled out "Elevate", a new program intended to prepare women to assume Senior Leader roles within Sanofi.	Number of sessions: 2 Number of women following the "Elevate" program: 93	Number of sessions: 1 Number of women following the "Elevate" program: 43

(a) This indicator is included in the collective qualitative criteria for variable compensation of Executive Committee members (counts for 5%).

- **Equal pay**

Sanofi aims 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 0.1% of the total budget is allocated to adjustments such as reducing the pay gap between men and women.

Sanofi is also one of the highest-ranked CAC 40 companies in the gender balance index first published in March 2018, with scores ranging from 84 to 98 out of 100 (versus an average of 83). In France, companies now have a legal obligation to deliver equal pay for equal work; previously, the only obligation was to have measures in place to achieve this. That obligation was introduced in new legislation on freedom of career choices, adopted in September 2018. The gender balance index enables companies with more than 1,000 employees to benchmark their performance. The index awards scores out of 100 on five key gender balance criteria: pay gap (basic and variable pay plus bonuses); gap in distribution of individual pay rises; gap in distribution of promotions; percentage of female employees receiving a pay rise on return from maternity leave; and number of women in the 10 highest-paid employees.

- **Gender balance by grade**

Employees under contract as of December 31	Worldwide		Non-manager		Manager[(a)]		Senior Leaders[(a)]		Executive posts[(a)]		Executive Committee	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Employees	100,409	104,226	81,043	84,379	19,366	19,847	2,066	2,028	488	484	14	16
% women	46.2%	46.2%	47.4%	47.4%	41.4%	40.7%	37.2%	35.5%	29.9%	29.3%	21.4%	18.8%
% men	53.8%	53.8%	52.6%	52.6%	58.6%	59.3%	62.8%	64.6%	70.1%	70.7%	78.6%	81.2%

(a) See section 4.5.2.1.5., "Definition of grades".

4.2.1.2.3.3.2. Inclusive work environment

Our inclusive work environment relies on working practices that strengthen our corporate culture, and that bring out the best in our people so they can engage and progress. It values, respects and draws benefits from the richness of diversity, and focuses on five areas:

- people with disabilities;
- LGBTI (lesbian, gay, bisexual, transgender and intersex) communities;
- gender balance;
- multi-cultural, multi-generational and multi-background; and
- providing an inclusive work space.

During 2019, a range of internal and external initiatives tackled these issues:

- the Global Flexible Work Culture initiative, signed off by our Executive Committee, supports flexible working through two global policies: Flex at Work (flexible hours, homeworking, etc.) and Flex From Work (time off for family reasons, parental leave, carers, etc). So far, these flexible working policies have been adopted by Sanofi in over 75 countries;
- Inclusion Nudges: built into HR processes to encourage managers to be inclusive, for example in job interviews, and performance or career development evaluations;
- Challenge Your Bias: a training and awareness program to counter bias, which has been followed by over 4,030 employees (including 70% of executive posts and 36% of Senior Leaders);
- The Playbook and Instructional Guide to Activate Inclusion, which defines our strategic pillars on diversity and inclusion and promotes cultural diversity in the workplace, with a positive impact on our business and reputation;
- external partnerships with the public and private sectors, and with not-for-profit organizations;

- quarterly Global I&D Insights Forums, attended by over 250 senior executives and colleagues from the 100 countries where we operate, which promote the adoption of the inclusion and diversity program in each country alongside other inclusive workplace initiatives;
- LGBTI and Disability Global Colleague Resource Groups, which encourage employee engagement and strengthen inclusivity practices in key communities within and outside Sanofi;
- Developing Inclusion & Diversity Capabilities Curriculum: this digital platform, offered by the Sanofi Human Resources Academy, raises awareness about inclusion and diversity and provides information to combat bias and help people communicate in a multi-cultural environment; and
- Inclusion & Diversity Playlist: selection of thought-provoking seminars, recent articles and discussion papers promoting inclusion at work.

A Diversity & Inclusion rating has been added to the People Survey. This will help track progress towards an inclusive work environment, and measure the extent to which employees are engaged and feel a sense of belonging and inclusivity. Sanofi also uses a human capital dashboard to track diversity indicators – gender, age, race/ethic origin (where appropriate) – and draw conclusions from it.

4.2.1.2.3.3.3. Focus on diversity and inclusion in France

Collective efforts are ongoing in France to support major initiatives, with our employees in the forefront. These include supporting young talents through apprenticeships; “Cancer at Work” helpdesks; the “PAQTE” program for deprived urban areas; and programs to provide employment for people with disabilities.

4.2.1.2.3.3.3.1. Cancer at work

Cancer & travail : agir ensemble (Tackling Cancer at Work) offers a helpdesk network to support and improve the lives of employees directly and indirectly affected by cancer, available at all Sanofi sites in France. Confidential and open to all, the helpdesks can be called upon at any time. Employees are seen personally, and advisers work with them to develop the support package they need. An exceptional level of engagement by Sanofi employees means there are now 29 helpdesks operating, manned by over 170 committed volunteers.

This initiative follows on from Sanofi France’s May 2017 signature of the French National Cancer Institute (INCA) charter, when the company signed up to 11 commitments to help support employees affected by cancer and to promote health.

Our short film on the theme of tackling cancer at work, *Le choix du lien*, was a prize-winner at both the *Grand Prix Stratégies de la Production Publicitaire* awards and the Deauville Green Awards.

4.2.1.2.3.3.3.2. Equality of opportunity

In France, we are stepping up our commitment to government’s “PAQTE” program to support deprived urban areas, through the many initiatives already in place on our sites. The focus is on four key areas:

- awareness: we are familiarizing youngsters with workplace life through work experience for 14-year-olds, sponsorship and tutorials;
- training: helping young people find work, especially through apprenticeships;
- hiring: encouraging non-discriminatory recruitment by hirers and managers; and
- purchasing: buying goods and services from SMEs in deprived urban areas to stimulate economic growth.

We feel it is essential to broaden the educational experience by opening our doors to young people. That’s why we welcomed over 150 school students from deprived urban areas onto our French sites in 2019. Our employees have also committed time to sponsorship initiatives focused on equal opportunity: 55 employees worked with the *Nos Quartiers ont des Talents* non-profit organization, which aims to make it easier for youngsters from deprived neighborhoods to enter the workforce; 54 with the *Institut Télémaque*, which supports talented and motivated young students from underprivileged backgrounds; and 15 with *Sport dans la Ville*, which helps struggling young people find their place in society and begin their careers; and 34 with *Capital Filles*, which supports girls from deprived urban and rural areas.

4.2.1.2.3.3.3.3. People with disabilities

We continue to deliver on our commitments under the 2017-2020 Disability Agreement, which focuses on five key areas:

- priority support for employees with disabilities with a view to them retaining their jobs;
- depending on the job profile, the continued hiring of employees with disabilities, regardless of the nature of their disability;
- better communication and information, via awareness campaigns including a call for disability project ideas from employees, and involvement of Sanofi sites in European Disability Employment Week;
- ongoing actions to provide better accessibility to workspaces and information, such as making the Tadéo® IT solution available to deaf or hearing-impaired employees; and
- maintaining ties with the sheltered employment sector.

A network of 30 on-site disability contacts provides local support.

In France, Sanofi employs 1,221 people with a disability (compared with 1,257 in 2018), including temporary staff.

4.2.1.2.4. Maximizing our organizational effectiveness

[GRI 102-41, GRI 403-4]

Sanofi's primary contribution is to serve patients' needs throughout their health journeys. The convergence of biology and technology opens new opportunities for achieving this. To remain a global healthcare player in the face of competition from our peers, we have adapted our structure and operational governance and the level of diversification in our portfolio, while improving our R&D productivity and enhancing our global processes and corporate culture. To meet the new challenges facing us, we have:

- strengthened our R&D system by focusing on the development of technological platforms such as monoclonals, bi-/tri-specifics, and nanobodies;
- transformed our Industrial Affairs network to become a global player in bio-production in just five years, while improving our worldwide manufacturing presence;
- altered the organizational structure of two of our Global Business Units so that one now focuses exclusively on mature markets and the other on emerging markets, with the new Primary Care and China & Emerging Markets GBUs fully operational since the start of 2019;
- set up Global Business Units to more closely align our commercial, R&D and medical activities; and
- accelerated our digital transformation by creating a Global Digital Office, and appointing our Chief Medical Officer to head it up.

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 our employees; see the Vigilance Plan, section 4.2.11, "Human rights".

In Europe, Sanofi's European Works Council (EWC), which includes 40 members and 40 alternates, represents employees who work in European Union countries. During 2019, the EWC met in March, April and July. As well as being informed about the latest Sanofi news, the EWC was told about the Horizon 2020 organizational projects; the Primary Care GBU; SCCORE (Global Supply Chain); digital at Sanofi; and diversity. At an EWC meeting on 19 December, our CEO Paul Hudson, accompanied by several members of the Executive Committee, outlined Sanofi's new strategy.

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

4.2.1.2.4.1. Organizational change and social dialogue in France

For some years, Sanofi has been faced with ever more restrictive governmental healthcare policies in France and around the world: lower drug prices, more complex approval processes, and mounting competition from biosimilars and generics.

In December 2018, Sanofi responded by launching Horizon 2020, a project designed to recalibrate and adapt the expertise provided by our global support functions and some Global Business Units. The project includes headcount adjustment measures to reflect changes to some job profiles, resulting not only from new technologies but also from better task-sharing and prioritization.

- No more than 700 job losses are proposed. The scheme is entirely voluntary, and gives the employees concerned the opportunity to be supported as they embark on a personal project or take retirement.
- It also includes a commitment to hire 100 new people with skills in emerging or developing fields such as data science, artificial intelligence, automation, marketing and bio-manufacturing.
- Employee representatives were consulted about the terms and timing of the project, and collective termination agreements were signed on February 28, 2019 within Sanofi-Aventis Groupe, Sanofi Pasteur and Sanofi-Aventis Recherche et Développement, the entities that house our global support functions.
- The project is still being rolled out, and by the end of 2019 663 employees had signed up to the voluntary redundancy scheme.
- As regards the Information Technology and Solutions function, Sanofi has embarked on a project to outsource the management and maintenance of some IT applications, along with project work involving mature technologies, to a third-party partner. France-based employees in these roles – employed by Sanofi-Aventis Groupe, Sanofi-Aventis Recherche & Développement and Sanofi Winthrop Industrie Siège – were given the option, again on a wholly voluntary basis, of transferring to the partner entity. Seven employees signed up for a transfer.

In March 2019, we initiated a project to reorganize and adapt our commercial operations in France:

- The project was designed to align our French organization on our global organizational principles, return to sustainable growth, and remain competitive. It included the launch of the new Primary Care Global Business Unit, created out of a merger of our Diabetes and Cardiovascular business units, and the optimization of our geographical footprint in Consumer Healthcare.
- As well as requiring some geographical mobility, this project could lead to net job losses of 232 posts at Sanofi. Following extensive discussions with employee representatives, an agreement on a support package was signed on July 4, 2019 by a majority of the trade unions, and the project is now in the rollout phase. So far 252 employees have signed up to an outplacement support scheme, and 24 new posts have been created and filled to set up the new organizational structure.

In June 2019, Sanofi senior management announced a reorganization of our R&D activities to support our global strategy.

- This will take R&D into a new transformational phase, focusing on therapeutic fields and projects that can change patients' lives in oncology, immunology, rare diseases and rare neurological disorders, and vaccines.
- With annual investment of over €2 billion, the France R&D Hub will continue to play a major role in our global R&D efforts. It will receive additional resources in priority therapeutic fields, and become one of our centers of excellence in rare neurological disorders and the development of technological platforms in biology, gene therapy and antibodies. And it will play a central role in implementing our R&D digital strategy, working alongside the specialist unit (based in the Greater Paris region) that coordinates all our digital and data science activities.

A majority collective agreement on the support package for voluntary redundancies and internal transfers under this project was signed on January 10, 2020. A €1 million retraining budget for the employees affected has already been announced.

Negotiations with the trade unions also covered the target organizational structures, including the workload of retained employees and the prioritization/allocation of tasks and objectives.

These reorganization projects in no way undermine our objectives and resource allocations in terms of training and skills development, especially within the framework of the strategic workforce planning process.

2019 was year 1 of the rollout of the agreement signed in France on June 18, 2018 on strategic workforce planning, which had three main goals:

- giving our employees visibility about future developments;
- implementing concrete action plans around career development paths for our employees; and
- strengthening in-house support for people whose roles are in decline.

In France, Sanofi has set up the Career Lab, a support platform to help employees reposition themselves if their roles are in decline or changing. The platform was piloted in our support functions before being rolled out to our commercial operations. More than 80 people signed up to the Career Lab in 2019. It is being extended to Sanofi-Aventis R&D in early 2020.

Two further negotiations are ongoing in France in connection with strategic workforce planning:

- a draft agreement on training, intended to support employees in their career path and to provide added resources for people whose roles are at risk or undergoing transformation; and
- a draft agreement under which employees whose roles are in decline can sign up for an outplacement program, if that is in line with their career aspirations.

4.2.1.2.4.2. Transformation and social dialogue in Germany

Employees are represented through the Works Council or the Employee Representatives Committee. Both bodies are affiliated to the German chemistry sector, and delegates are elected by the employees for a four-year term.

All discussions with these bodies are conducted so as to strike a balance between the interests of the employees and of the company.

During 2019, negotiations were conducted with these bodies on a range of issues:

- reorganization projects affecting global support functions, the Primary Care business unit, and senior management roles in subsidiaries. In R&D, negotiations with the local and central Works Councils concerned the loss of around 550 jobs and the related impacts;
- ongoing enhancements to our new systems (such as the Workday recruitment module and the One LMS learning management system), with the Central Works Council agreeing to the rollout of new functionalities;
- consultation with the central Works Council on the creation of new Marketing job profiles for all our Global Business Units; and
- agreement on a new salary structure for non-managerial staff, aligned on Sanofi's global staff grades.

As in previous years, Sanofi participated in major initiatives in Germany to promote diversity and gender balance. We also conducted in-depth analysis of employee demographics, to help us anticipate future demographic challenges.

4.2.1.3. The fundamentals: compensation and employee benefits

4.2.1.3.1. Compensation policy

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 2019 Annual Report on Form 20-F.

Our compensation policy has the following objectives:

- 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 2019 Annual Report on Form 20-F).

These principles are applicable essentially to all managers.

Compensation consists of the following components:

- 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.

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)	2019	2018	2017
Net sales	36,126	34,463	35,072
Personnel costs	9,139	9,269	9,321
Ratio of personnel costs to net sales	25.3%	26.9%	26.6%

4.2.1.3.2. 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. On a regular basis, we take part in a comprehensive market survey, conducted in over 70 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 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.

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).

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; 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 (e.g. diabetes and skin cancer), nutritional advice, well-being, etc. In the United States and many other countries, employees can sign up to "Take Care & Bwel!", Sanofi's complete employee wellness program.

This 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.

At end 2019, the program was operating in 62 countries (versus 59 in 2018) and at 140 sites (versus 136 in 2018) worldwide, representing 90% of audited sites with over 100 employees. Our goal is to continue with this program, supporting sites as they implement good practices adapted to a changing environment. Since 2017, we have developed novel initiatives to help our employees 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, as recorded in a published scientific paper (Montagni, 2019: *Effectiveness of a Blended Web-Based Intervention to Raise Sleep Awareness at Workplace: The WarmUapp™ Pilot Study. Journal of Occupational and Environmental Medicine)*. In 2019, we released a new digital app ("Walk Well") that our employees can use to organize walking challenges at all our sites. Over 40 challenges were set up, involving thousands of people.

4.2.1.4. Workforce

[GRI 102-8, GRI 405-1]

4.2.1.4.1. Workforce trends

Sanofi had 100,409 employees under contract at the end of 2019, 3.7% fewer than at end 2018. The reduction reflects a policy to control the size of the workforce by hiring fewer external candidates and prioritizing internal candidates.

External staff represented a total of 6,809 full time equivalents in 2019 (7,088 in 2018), comprising 5,220 temporary staff (5,211 in 2018) and 1,589 third party sales forces staff (1,877 in 2018).

Distribution of employees under contract by region

Employees under contract as of December 31	Worldwide		Europe[(a)]		United States[(a)]		Emerging Markets[(a)]		Other countries[(a)]	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Employees under contract	100,409	104,226	45,710	46,256	12,592	13,434	36,427	38,672	5,680	5,864
%	100.0%	100.0%	45.5%	44.4%	12.5%	12.9%	36.3%	37.1%	5.7%	5.6%

(a) For the allocation of countries to regions, refer to section 4.5.2.1.2., "Regions".

Distribution of employees under contract by activity

Employees under contract as of December 31	Worldwide		Pharmaceuticals		Vaccines		Consumer Healthcare		Other[(a)]	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Employees under contract	100,409	104,226	66,379	67,364	15,285	14,918	7,735	10,300	11,010	11,644
%	100.0%	100.0%	66.1%	64.6%	15.2%	14.3%	7.7%	9.9%	11.0%	11.2%

(a) Since 2017, the "Other" column has included 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.

Distribution of employees under contract by global function

Employees under contract as of December 31	2019	2018	2017	2016
Production	37,873	38,790	40,417	41,867
Research and development	15,538	15,140	14,764	15,148
Sales force	26,178	28,914	30,284	30,815
Marketing and support functions	20,820	21,382	21,101	19,029

Workforce in main countries where Sanofi operates

Employees under contract as of Dec. 31	Worldwide		France		United States		Germany		China		India		Brazil	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Employees under contract	100,409	104,226	25,174	25,215	12,592	13,434	9,113	9,355	8,098	9,159	5,412	5,285	3,374	3,772
% of total employees	100.0%	100.0%	25.1%	24.2%	12.5%	12.9%	9.1%	9.0%	8.1%	8.8%	5.4%	5.1%	3.4%	3.6%

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

Employees under contract as of December 31	Worldwide		Europe		United States		Emerging		Other Countries	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Distribution of employees under contract by gender										
Employees under contract	100,409	104,226	45,710	46,256	12,592	13,434	36,427	38,672	5,680	5,864
% women	46.2%	46.2%	48.2%	48.2%	50.2%	50.3%	43.1%	42.9%	41.2%	42.0%
% men	53.8%	53.8%	51.8%	51.8%	49.8%	49.7%	56.9%	57.1%	58.8%	58.0%
Distribution by type of contract, work time and gender										
Permanent contracts	88.7%	88.0%	93.8%	94.0%	99.8%	99.7%	77.4%	75.7%	95.3%	95.7%
% women	45.7%	45.6%	48.1%	48.1%	50.2%	50.3%	40.9%	40.7%	40.5%	41.4%
Temporary contracts	11.3%	12.0%	6.2%	6.0%	0.2%	0.3%	22.6%	24.3%	4.7%	4.3%
% women	50.5%	50.0%	49.2%	50.3%	75.9%	51.4%	50.8%	49.7%	55.1%	56.3%
Part-time employees	3,809	3,802	3681	3,673	60	77	15	2	53	50
Full time equivalents	2,943	2,923	2849	2,834	40	52	14	2	40	35
% women (full time equivalents)	87.3%	87.9%	87.4%	88%	85.1%	85.7%	65%	50%	84.7%	87.6%

Distribution of employees under contract by age bracket

Distribution of employees under contract by age bracket	Worldwide	
	2019	2018
Under 21 years	0.2%	0.2%
21 to 25 years	4.8%	4.9%
26 to 30 years	11.2%	12.0%
31 to 40 years	30.8%	31.0%
41 to 50 years	29.4%	29.6%
51 to 60 years	21.1%	20.1%
Over 60 years	2.5%	2.2%

The average age of our employees in 2019 was 41.7 years (versus 41.4 years in 2018).

Number of interns and apprentices hired (excludes apprentices in Germany):

	2019	2018
Apprentices	1,190	907
Interns	2,776	2,594

4.2.1.4.2. New hires and departures

New hires and departures by region[a] Workforce at December 31	Worldwide		Europe		United States		Emerging Markets		Other Countries	
	2019	2018	2019	2018	2019	2018	2019	2018	2019	2018
Employees under contract	**100,409**	104,226	**45,710**	46,256	**12,592**	13,434	**36,427**	38,672	**5,680**	5,864
Permanent staff[b]	88.7%	88.0%	93.8%	94.0%	99.8%	99.7%	77.4%	75.7%	95.3%	95.7%
Total number of new hires	12,494	14,639	3,615	4,769	1,581	2,005	6,789	7,276	509	589
of which permanent contracts	*5,917*	*7,717*	*1,300*	*2,165*	*1,570*	*1,976*	*2,681*	*3,140*	*366*	*436*
of which permanent contracts %	*47.4%*	*52.7%*	*36.0%*	*45.4%*	*99.3%*	*98.6%*	*39.5%*	*43.2%*	*71.9%*	*74.0%*
Total number of departures	16,467	17,173	4,238	7,030	2,486	2,304	9,091	7,061	652	778
of which permanent contracts	*10,167*	*11,432*	*2,473*	*4,524*	*2,474*	*2,286*	*4,659*	*3,943*	*561*	*679*
of which permanent contracts %	*61.7%*	*66.6%*	*58.4%*	*64.4%*	*99.5%*	*99.2%*	*51.2%*	*55.8%*	*86.0%*	*87.3%*
Resignation rate – permanent contracts[c]	5.4%	5.1%	2.0%	1.9%	10.5%	8.3%	8.3%	8.3%	5.8%	5.6%
Turnover – permanent contracts[d]	9.0%	10.4%	4.4%	7.7%	16.1%	15.9%	13.1%	12.1%	8.6%	10.1%

(a) Data on movements (new hires and departures) cover more than 99% of the reporting scope. Internal transfers are not included.
(b) Employees on permanent contracts.
(c) Resignation rate on permanent contracts = Voluntary departures of permanent staff / Total permanent staff at year-end
(d) Turnover of employees on permanent contracts = [(New hires of permanent staff + departures of permanent staff)/2] / Total permanent staff at year-end

Population of millennials	2019	2018
New hires of people under 30 as a % of total new hires	55%	43%

The percentage of new hires of people under 30 is rising, but barely compensates for the turnover of staff in this age bracket.

Sanofi hired a total of 12,494 new employees in 2019, 47.4% of them on permanent contracts.

Departures during the year (16,467 in total) related mainly to:

- voluntary departures under collective termination programs in France and Voluntary Early Exit Programs in the United States;
- the divestment of the Genfar industrial facility in Fareva, Colombia (398 employees); and
- the divestment of GlobalPharma in Dubai, UAE (119 employees).

Note that 2018 figures were impacted by the divestment of our Zentiva generics business, primarily in Eastern Europe.

Departures were due to resignations (46.9%), layoffs (37.8%), expiration of fixed-term contracts (11.3%), and retirement (3.2%):

Based on employees under contract as of December 31	Worldwide	
	2019	2018
Total number of departures	16,467	17,173
Resignations:	46.9%	40%
of which voluntary departures: temporary contract employees[a]	*37.5%*	*32.4%*
of which voluntary departures: permanent contract employees	*62.5%*	*67.6%*
Layoffs	37.8%	45.2%
Expiration of fixed-term contracts	11.3%	11.9%
Retirement	3.2%	2.9%
Other (death and incapacity)[b]	0.8%	N/A

(a) 90.6% of these were in China, where all new hires are generally on fixed-term renewable contracts.
(b) Up to and including 2018, death and incapacity (0.8%) were included within layoffs. From 2019 onwards, employees leaving by mutual agreement have been split between resignations (when initiated by the employee) and layoffs (when initiated by the employer).

4.2.2. Employee health and safety

[GRI 403-1, GRI 416-1]

The health and safety of our employees is addressed as part of our global Health, Safety and Environment (HSE) strategy.

4.2.2.1. Sanofi HSE strategy

4.2.2.1.1. Sanofi HSE policy

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 an HSE strategy based on a management system that is consistent with the issues faced by the company in its activities, and involves the whole organization. The policy is established by our HSE department, validated by our senior management, and signed off by our CEO.

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

- We constantly strive to embed an HSE culture where each person takes responsibility for preventing accidents and harm to health, promoting wellness at work, and reducing environmental impacts. This message is shared with everyone in Sanofi.
- Development projects and product launches are assessed for potential risks to health, safety and the environment. These assessments draw on all our scientific and technical knowledge, use the best technologies available, and take account of the life cycle of the product in question.
- To protect the environment, we pay close attention to the impacts of our operations and products by conserving water and energy, and reducing the impact of emissions, effluent and waste across all our industrial, R&D and commercial activities. We are also actively engaged in fighting climate change.
- We encourage our suppliers, co-contractors and subcontractors to apply our HSE rules; when assessing and referencing them, we use application of our HSE rules as a criterion.

We adopt a constructive approach to transparency and dialogue with third parties on our HSE policy.

4.2.2.1.2. Organization

In deploying the Sanofi HSE strategy, our global HSE organization is based on three pillars, all under the direction of our Global Head of HSE, who in turn reports to a member of our Executive Committee. Global HSE covers all business segments and geographies, and the entire life cycle of Sanofi products, and comprises:

- a global center of excellence, using scientific and technical expertise to develop global strategies across the whole of Sanofi, and providing support to our operations and partners;
- HSE Business Partners for our R&D and Industrial Affairs activities, subsidiaries and sales forces, tasked with cascading the global strategies down within their sphere of operations and monitoring performance; and
- regional HSE managers, who 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.

Our HSE department heads up a number of expert committees that assess the impacts and hazards of substances and biological agents.

Sanofi also has in-house analytical laboratories, such as the Aramon facility in France. Staffed by a team of experts, the lab classifies the level of exposure of people to active substances; analyses environmental discharges from our sites; evaluates dangers associated with processes, and classifies dust hazards and dust filtering equipment. The Aramon laboratory also develops specific analytical methods.

4.2.2.1.3. Managing HSE risks

Our HSE department has established a risk evaluation methodology that is applied to all our sites, and is consistent with Sanofi’s global risk evaluation methodology. The aim of this risk mapping process is to obtain a comprehensive overview, from site level upwards, of the criticality of the principal HSE risks to which Sanofi is exposed and the level of control over those risks.

Each site carries out a comprehensive risk evaluation program covering all its activities once a year or whenever a significant change occurs, which is signed off by management at site and activity level. The evaluation methodology identifies and quantifies hazards, and assesses the level of risk in light of the extent to which the risk is controlled and the nature of the site:

- evaluation of regulatory compliance including environmental permits, operating licenses, management of hazardous chemicals, transport of hazardous goods, and any regulated substances on the site;
- evaluation of the risk of exposure in occupational health terms including potential exposure to chemicals, biosafety hazards and radiation, and physical stress factors;
- evaluation of major risks affecting business continuity including process safety, risks of explosion or fire, and exposure to natural risks;
- evaluation of workplace risks including solitary work, road safety, asphyxia, hazardous machinery, the risk of working at heights, handling and lifting equipment, electricity, and managing hazardous work sites; and
- evaluation of environmental risks such as soil pollution, waste management, water and effluent management, atmospheric emissions and climate change.

A global HSE Risks Committee consolidates the site-level risk mapping and draws up a company-wide HSE risk map, which is then sent to Sanofi Risk Management.

All risk maps are translated into action plans, which are periodically monitored at site level.

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 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.

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.

4.2.2.1.4 HSE management system

Sanofi distributes an HSE policy reference manual to all sites.

The manual sets out measures to be applied so that activities can be managed in a way that minimizes risks and impacts. It describes Sanofi's standards and methodological tools, and builds in the results of risk/opportunity analysis and expectations on the part of stakeholders – including customers, NGOs, investors and civil society.

Seeking to improve at all times, the HSE department management has set out our HSE 2025 ambitions in a roadmap, backed by quantified objectives and action plans, that is shared across all levels of Sanofi.

Each site is subject to periodic monitoring to assess adherence to action plans and attainment of objectives.

The entire management system is reviewed regularly.

4.2.2.1.5. HSE compliance and internal audits

Wherever we do business, we are committed to complying with the HSE laws and regulations that apply to us and to implementing recommendations made by external audits conducted (for example) by our insurers, customers, or standards bodies.

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

The HSE department runs audit programs to assess compliance with internal HSE rules and standards.

Those audits are carried out by Sanofi Lead Auditors who are registered with the International Register of Certified Auditors (IRCA), supported by other staff members who have recognized HSE experience and have followed a dedicated training program accredited by IRCA. In advance of the periodic HSE audits, an independent expert conducts a compliance audit to check that local regulations are being applied. The HSE audit then checks that this was conducted properly, and that an action plan is in place to deal with any non-compliance.

	2019	2018
Number of internal HSE audits, including Biosafety	54	50
Number of auditors with IRCA accreditation	23	27
Number of auditors who have performed audits	81	87

By complying with Sanofi 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, we have been tightening our road safety policy since 2017 by encouraging our sites to obtain ISO 39001 (Road Traffic Safety). Two sites have already been awarded ISO 39001 certification.

In 2019, more than 50 of our sites had one or more certifications: ISO 14001 (42 sites), OHSAS or ISO 45000 (25 sites), and ISO 50001 (27 sites). That represents 71% of our employees in Industrial Affairs and R&D.

In addition to internal verifications and audits, our sites are also subject to regular inspections by local authorities and to regulatory verifications by third parties on specific issues. For example, 233 visits were carried out by technical experts on behalf of Sanofi's insurers during 2019.

4.2.2.2. Workplace health and safety programs

[GRI 403-2]

4.2.2.2.1. Occupational injury prevention

Preventive measures are designed primarily to reduce the number and severity of occupational injuries and to minimize the exposure of permanent and temporary Sanofi employees as well as our subcontractors.

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.

Analysis of occupational injuries includes a review of the root causes of serious and potentially serious accidents; identification of non-compliant situations and near misses; safety visits; and sharing of good practice. This helps guide the implementation of specific local or global preventive programs involving technical, organizational and people-based 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.

Learning from experience (incidents and good practices) is based on a dedicated reporting datasheet containing an analysis of significant incidents, 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 39 datasheets were distributed in 2019 to the whole global HSE network.

A campaign launched in 2018 focusing on preventing trip and slip hazards and other falls significantly reduced accidents of this kind in 2019.

Preventive measures are also taken at site level, based on their risk analyses and actual incidents.

4.2.2.2.2. Road safety

In 2019, each of our subsidiaries throughout the world bolstered its road safety program with joint initiatives by HSE managers and sales managers designated as "Road Safety Chair".

Hands-on training courses offered every three years help sales forces improve their techniques for emergency braking and driving in slippery conditions, improve their concentration to avoid being distracted and better assess safe distances, while practicing on a closed track in a safe environment. Similar courses adapted for motor-cyclists have been used in countries where this type of transport is common. These initiatives are backed up throughout the year by online courses to refresh awareness of key road safety principles. A new module has been rolled out in France, in which a coach works with employees involved in accidents to analyze the causes and identify preventive measures.

In April 2019, during a ceremony in Paris attended by senior executives from Sanofi, our Road Safety Committee presented awards to the best-performing medical reps (from Australia, Brazil and Ukraine) and regional directors (from India, the United States and Vietnam) and to HSE managers (from Spain, France and Turkey) in recognition of their exemplary attitude to road safety.

4.2.2.2.3. Occupational health

Based on an evaluation of health risks, each site implements risk prevention programs and occupational health practices in accordance with Sanofi's HSE rules. This mainly involves individual and collective containment and protection measures to prevent exposure at all work-stations where chemical substances or biological agents are handled.

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. These assessments form part of the work of two committees, covering chemical risks (COVALIS) and biological risks (TRIBIO), which determine adequate preventive and protective measures for our people. These committees pool the resources of our network of international experts, and draw upon Sanofi standards and policies.

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).

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.

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

In line with European statistics, the principal type of occupational disease recognized within Sanofi during 2019 was the musculoskeletal disorder category.

The number of occupational diseases is decreasing following the rollout of an ergonomics program to prevent such disorders.

4.2.2.2.4. Health and safety training

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

Each new employee receives initial health and safety 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.

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), supplementing training provided directly by local sites.

Highlights of 2019 include:

- a specific module on managerial safety visits was added to our leadership training program, and followed by over 600 employees;
- on the technical side, a machine safety course was followed by over 250 people worldwide;
- a special Safety Culture program ("Rules that Save Lives") was rolled out, and followed by 61,163 employees, or more than half our global workforce. This two-year program will continue through 2020; and
- we continued to promote e-learning courses (13,356 modules followed), with a special mention for the Eco Driving program that was followed by 7,391 people in China.

Rollout of the Managerial Safety Visits program continued in 2019 with new manager training sessions. It is now in place at all sites, with over 15,000 visits completed.

4.2.2.3 Occupational injury/disease indicators

Topic	Ambition	Progress 2019	Progress 2018	Contribution to SDGs
Health and safety in the workplace				
Decent work	Reduce the total occupational injury frequency rate (any employee) below 2 by 2020	2.1	2.4	**SDG 8: Decent work and economic growth** **SDG 8.8:** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
	Reduce the lost time injury frequency rate (any employee) below 1.4 by 2020	1.5	1.8	

Safety Indicators	2019	2018
Lost time injury frequency rate[(a)] – Sanofi personnel	1.3	1.6
Lost time injury frequency rate[(a)] – any employee[(b)]	1.5	1.8
Total occupational injury frequency rate – Sanofi personnel	1.7	2.2
Total occupational injury frequency rate – any employee[(b)]	2.1	2.4
Number of deaths[(c)]	2	0
Number of occupational diseases reported[(d)]	28	34

(a) For definitions, see section 4.5.2.2., "Safety Indicators".

(b) "Any employee" includes Sanofi employees, temporary workers and subcontractors.

(c) Although outside the scope of reported accidents, two deaths occurred in 2018 involving employees traveling by taxi or minicab.

(d) A change in software at the end of 2018 resulted in a data entry time-lag, which explains why the 2018 figure has been adjusted.

Rollout of the Safety Culture program (which incorporates routine managerial duties such as safety visits), reporting of low-level signals, and the launch of “Rules that Save Lives” all helped improve safety awareness among all Sanofi employees. This led to a significant fall in the frequency rate, although unfortunately two deaths were recorded.

4.2.3. Access to healthcare for the underserved

[GRI 203-1]

4.2.3.1. Context and approach

Access to healthcare is a priority for Sanofi. We are helping to improve access in various ways, from R&D to the fight against counterfeiting. We also operate a responsible pricing policy for our medicines to ensure that they are affordable for all (see section 4.2.4, “Product pricing”), and we design and conduct initiatives to assist vulnerable populations.

These initiatives focus on the most important healthcare needs in fields within our expertise, and target the most underserved populations, mainly in low-to-intermediate income countries. We act in collaboration with public- or private-sector partners or non-governmental organizations, aiming to achieve sustainable and measurable outcomes.

Sanofi’s strategy of improving access to healthcare for the underserved is as much about ending global epidemics of infectious diseases and avoiding their resurgence, as it is about meeting the growing needs of patients suffering from non-communicable diseases.

There are a number of obstacles to be cleared before access to healthcare can be improved. Our initiatives to tackle these obstacles fall into three categories:

- developing new treatments and solutions through R&D and innovation;
- making products, treatments and associated services more affordable; and
- strengthening local healthcare capabilities.

In low-to-intermediate income countries, up to 70% of the cost of medicines is met by patients themselves, so it is important to make access to healthcare fairer by applying differentiated pricing based on the country and socio-economic segment. For countries and pathologies identified in the “Access to Medicine” index as priorities, nearly 30% of our products are subject to a fair pricing regime.

Making products, treatments and associated services more affordable is just one aspect of improving access to healthcare. It also requires innovation that can address unmet medical needs, develop new solutions so that patients can get better access, and ensure that products and treatments reach patients by optimizing production, the supply chain, and access to the market. Improving access to healthcare also requires the capacity of healthcare systems and awareness campaigns to be stepped up. Sanofi is therefore developing programs which will apply various levers to help the underserved in low-to-intermediate income countries.

Those programs must meet the following criteria:

- They must meet public health needs in the target country, and be in a field where Sanofi has expertise.
- They must target underserved populations, such as:
  - the poorest socio-economic categories;
  - patients excluded from healthcare cover;
  - people in remote or underserved areas; and
  - vulnerable populations (seniors, children, pregnant women, people with disabilities, etc.).
- They must be based on solid partnerships, in collaboration with credible stakeholders and/or key players (such as the Ministry of Health, central government, NGOs or a private sector partner).
- The program must be sustainable, and include an exit strategy.
- It must include clear, achievable public health objectives and appropriate metrics, targets and indicators for monitoring delivery against those objectives.

Access to healthcare is embedded in our entire strategy, and implemented within each of our Global Business Units, regions and countries and in specific entities like Global Health and the Sanofi Espoir Foundation. Our programs are described below.

In 2019, we conducted 74 access to healthcare programs that reached nearly 98 million people in 84 countries, and provided training to over 363,000 healthcare professionals.

In some of our key programs, we have set ourselves longer-term goals:

- in 2020, eliminating sleeping sickness as a public health issue, through our major contribution to the multi-partner program led by the World Health Organization; and
- in 2021, providing care to 100,000 children with cancer and training 30,000 healthcare professionals through the “My Child Matters” pediatric oncology program and the Sanofi Espoir Foundation.

4.2.3.2. Infectious diseases

SDG 3.3: Between now and 2030, to end the Aids epidemic, tuberculosis, malaria and neglected tropical diseases, and combat hepatitis, water-borne diseases and other communicable diseases.

	Sleeping sickness and other neglected tropical diseases	Malaria and tuberculosis	Polio
Global context	More than one billion people are at risk of contracting neglected tropical diseases which cost the developing world billions of dollars every year. Sleeping sickness threatens millions of people in 36 sub-Saharan African countries. Sanofi has been collaborating with the WHO since 2001 in a bid to eradicate sleeping sickness by 2020. Since the start of Sanofi's collaboration with the WHO in 2001, the number of cases of sleeping sickness has dropped from 26,950 in 2001 to 977 in 2018 (a reduction of 470 versus 2017).	In 2018, there were 228 million recorded cases of malaria, and over 400,000 died from the disease. Children aged under 5 are the most vulnerable, and accounted for 67% (272,000) of malaria-related deaths worldwide. Eliminating malaria in at least 10 of the countries where it was still endemic in 2010 is one of the main interim objectives for 2020. At the current rate of progress, that target is likely to be met. In 2016, the WHO identified 21 countries with the potential to eliminate malaria by 2020. The WHO is working with the governments of these so-called "E-2020" countries to help them achieve their elimination targets. In the six countries of the Greater Mekong sub-region – Cambodia, China (Yunnan province), Laos, Myanmar, Thailand and Vietnam – the number of reported malaria cases fell by 76% between 2010 and 2018, while the number of malaria-related deaths fell by 95% over the same period. In 2018, Cambodia reported no malaria-related deaths for the first time in its history. In 2018, 10 million people contracted tuberculosis, and 1.4 million people died of the disease. On September 26, 2018 the first-ever UN General Assembly High-Level Meeting on tuberculosis took place in New York, underlining the need for immediate action to accelerate progress towards the objective of ending the tuberculosis epidemic by 2030 through: - providing diagnosis and treatment with the aim of successfully treating 40 million people with tuberculosis (including 3.5 million children) with drug-sensitive tuberculosis and 1.5 million people with drug-resistant tuberculosis by 2022; - preventing tuberculosis for those most at risk of falling ill so that at least 30 million people (4 million children under 5 years of age, 20 million other household contacts of people affected by tuberculosis, and 6 million people living with HIV) receive preventive treatment by 2022; and - mobilizing sufficient and sustainable financing for universal access to high-quality prevention, diagnosis, treatment and care of tuberculosis, from all sources, with the aim of increasing overall global investments for ending tuberculosis to at least $13 billion a year by 2022.	Polio mainly affects children under the age of 5. One infection in 200 causes irreversible paralysis. Under the Global Polio Eradication Initiative (GPEI: http://polioeradication.org/) set up in 1988, in which Sanofi Pasteur is an active participant, $11 billion has been invested, enabling 2.5 billion children to be vaccinated, thereby preventing more than 18 million cases of paralysis. The number of cases has fallen by more than 99%. The number of endemic countries has decreased from 125 in 1988 (estimated 350,000 cases) to 2 in 2019 (125 cases). The remaining 1% represent a significant challenge for the polio eradication community and its partners. Eradicating polio would lead to savings of $40 billion to $50 billion over the next 20 years.
	Source: WHO.		
Ambition	To help eradicate sleeping sickness by 2020.		To help eradicate polio.

	Sleeping sickness and other neglected tropical diseases	Malaria and tuberculosis	Polio
R&D and innovation	**Sleeping sickness:** Sanofi is collaborating with the Drugs for Neglected Diseases initiative (DNDi) to develop the first single-dose oral drug for the treatment of all stages of sleeping sickness. Fexinidazole could be a decisive advance in eradicating sleeping sickness in that it would simplify treatment, avoid systematic hospitalization and spare patients the ordeal of lumbar puncture tests. Sanofi is responsible for the development, industrial production and regulatory filing of the drug. In November 2018, an expert committee of the European Medicines Agency (EMA) recommended the approval of fexinidazole. The Democratic Republic of Congo (DRC) granted marketing approval for fexinidazole in December 2018; at the end of 2019, the first shipments of the drug arrived in Kinshasa (DRC) so treatment campaigns could begin. The drugs were donated by Sanofi.	**Malaria:** in collaboration with the Medicines for Malaria Venture (MMV), Sanofi is working to develop a OZ439/ferroquine association. This project is currently going through phase II clinical trials. **Tuberculosis:** Sanofi is working in partnerships to develop new regimes that will reduce the length of treatment for both active and latent tuberculosis. New pharmaceutical forms are also under development (a fixed combination, and a dispersible form for children).	
Affordability models	**Sleeping sickness:** since 2001 Sanofi has supported this initiative to the tune of nearly $80 million, or $5 million a year. More than 210,000 people have been treated since then.	**Malaria:** ASAQ Winthrop®, a drug developed with the Drugs for Neglected Diseases initiative (DNDi) which Sanofi has not patented, is distributed at preferential prices in compliance with the relevant local regulations. ASAQ Winthrop® has been used to treat over 500 million cases of malaria since it was launched in 2007, including more than 200 million babies and children aged under five thanks to our special pediatric formulation.	**Polio**: Sanofi Pasteur has partnered with the GPEI for nearly 30 years and supplies UNICEF with polio vaccines at preferential prices via GAVI, the Vaccine Alliance, which aims to vaccinate the populations of 73 of the poorest countries on the planet. In 2019, Sanofi Pasteur supplied 83 million doses of injectable polio vaccine (IPV) to UNICEF and to GAVI-eligible countries, enabling around 70 million children (or 87% of the children born in GAVI countries) to be vaccinated.
Strengthening local capabilities	**Sleeping sickness and leishmaniosis**: the collaboration between Sanofi and the WHO involves sponsoring programs to combat and treat those diseases. These interventions include awareness and screening campaigns among populations in endemic regions; the training of medical personnel; logistical and equipment support; and treatment resistance surveillance. Since 2001, some 40 million people have been screened for sleeping sickness under this scheme.	**Malaria:** Since 2001, in partnership with national anti-malaria programs in various African countries, we have developed training and awareness tools specifically for children, such as Moski Kit, a set of edutainment tools, the most recent of which is Moski Memory. In collaboration with anti-malaria programs, education ministries and NGOs, we have developed the “Schoolkids against malaria” program and deployed it in 17 countries to promote the adoption of preventive behaviors in sub-Saharan African schools. Sanofi is also a member of the second phase of RAI, the Global Fund’s Regional Artemisinin-resistance Initiative, which aims to eradicate malaria in the Mekong region.	

4.2.3.3. Non-communicable diseases

Globally, cardiovascular diseases, cancer, chronic respiratory diseases and diabetes are responsible for 43% of premature deaths before the age of 70.

Sanofi is a founder member of Access Accelerated (AA), an international coalition of major pharmaceutical companies working to reduce the burden of non-communicable diseases on low-income countries.

Our commitment within the AA is focused on five flagship programs:

- My Child Matters (childhood cancers), an initiative of the Sanofi Espoir Foundation;
- KiDS (Kids and Diabetes in School) (diabetes);
- FAST – Fight Against STigma (mental health);
- Ngao Ya Afya (Shield for Health) in Kenya (diabetes and cardiovascular diseases); and
- diabetes and hypertension clinics in sub-Saharan Africa.

SDG 3.4: By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment, and promote mental health and well-being.

	Diabetes and cardiovascular diseases	**Oncology**	**Mental health**
Global context	Every year diabetes and cardiovascular diseases together kill nearly 20 million people worldwide, which represents nearly half of deaths due to non-communicable diseases.	Worldwide, nearly 300,000 cases of cancer are diagnosed in children under 15. Nearly 80% of them live in countries with limited resources where cure rates are only 40%, or even 10%-20% in some sub-Saharan African countries, against 80% in developed countries (source: International Childhood Cancer Day).	Globally, mental or neurological disorders will affect one in four people at some time in their lives. Around 450 million are currently suffering from these pathologies, which makes mental disorders one of the main causes of morbidity and disability worldwide.
	Source: WHO.		
Ambition	To help reduce the burden on low-income countries of non-communicable diseases like childhood cancer, diabetes and mental health disorders.		
Affordability models	**Diabetes and cardiovascular diseases** Developing a pilot program in Kenya based on an innovative digital service model which provides full scope treatments for diabetes and high blood pressure by: - supplying quality care and treatments at affordable prices for low-to-intermediate income populations for these non-communicable diseases; - sharing data in near real time thanks to connections between patients, healthcare professionals and payers; - helping patients improve their treatment adherence; and - working with payers to secure the long-term sustainability of the model and its rollout across the country and in other countries (source: IFPMA Ya Afya Shield for Health).		

	Diabetes and cardiovascular diseases	Oncology	Mental health
Strengthening local capabilities	Diabetes **The KiDS project** was born of a partnership between the International Diabetes Federation (IDF) and the International Society for Pediatric and Adolescent Diabetes (ISPAD). It is a schools-based educational program designed to improve the treatment and integration of children with type 1 diabetes, and to increase awareness of the benefits of a balanced diet and physical activity in preventing the development of type 2 diabetes. The educational material comprises an information and awareness pack for teachers and school staff, and school children aged 6-14 and their parents, and is currently available in 16 languages. The project is up and running in 9 countries: India, Brazil, the United Arab Emirates, Pakistan, Egypt, Poland, Japan, Hungary, and Argentina (where it was launched in 2019). In 2019, the partnership with the UAE Ministry of Health and Prevention was extended to 2021, while in India a new partnership was signed with the government of Goa State to roll out the program in 2,000 schools over three years. The educational material is supplemented by a nutritional guide, providing information about the importance of healthy, balanced lifestyles in managing and preventing diabetes. The results of the pilots in Brazil and India have been published in the Journal of Clinical & Translational Endocrinology. **The diabetes and hypertension clinic program**, developed in Senegal, Ivory Coast and Cameroon in partnership with the Ministries of Health in those countries, is intended to create structures dedicated to monitoring these conditions. The project includes supplying diagnostic equipment, training healthcare professionals in monitoring diabetes and hypertension, and giving patients better information about these conditions. A digital dimension was recently added, so that electronic medical records can be kept for each patient. The project has been rolled out in 31 clinics, and has already reached over 50,000 patients. The ultimate aim is to decentralize and improve care, and reduce complications by closer monitoring.	**Oncology:** Since 2006, the Sanofi Espoir Foundation's My Child Matters program has been working to provide children with cancer with the same conditions for accessing healthcare whatever country they live in. The program provides improved access to early diagnosis and care. This involves working with local teams to deliver enhanced training for healthcare professionals; raise public awareness; improve the quality and speed of diagnosis; reduce defaulting from treatment; develop pain relief and palliative care; improve data collection through cancer registers, allowing for better epidemiological tracking; and appropriate advocacy with the healthcare authorities in the relevant countries. In the most recent call for projects, a further 17 were selected, bringing the total to 75 active projects across 48 countries; these have already provided care to 85,000 children and training to 25,000 healthcare professionals.	**Mental health**: In 2008, Sanofi and the World Association of Social Psychiatry (WASP) joined forces to develop the Fight Against STigma (FAST) program to combat the social stigmatization of mentally ill people and promote access to care in low to intermediate income countries. The FAST program has partnered with the French Institute of Epidemiology and Neurology (IENT, UMR 1094 Inserm) to launch mental healthcare access initiatives in more than 20 countries in Africa, Asia and South America. Developed in collaboration with local public health authorities, experts and healthcare professionals, and with patient associations and NGOs, these programs are based on training healthcare staff, raising public awareness, and educating patients and their families. So far, over 8,800 healthcare staff have received training, awareness campaigns have reached over 3 million people, and more than 130,000 people with mental disorders or epilepsy have been diagnosed and/or provided with care. Since 2017, projects have been launched in South Africa, Bolivia, Mali and Myanmar. The projects in Myanmar and South Africa have a significant digital component, covering (in the first case) diagnosis and patient tracking and (in the second case) training of healthcare professionals and linking up frontline healthcare staff with psychiatrists.

4.2.4. Product pricing

Improving access to healthcare involves various strands, but pricing policy and the affordability of products, treatments and associated services are crucial. The other strands are developing new products, treatments or solutions through R&D and innovation, and reinforcing local healthcare capabilities. For a discussion of how these issues are addressed for underserved populations, see section 4.2.3., “Access to healthcare for the underserved”.

In a highly competitive environment where payers are subject to tight budgetary constraints, decisions by governments and health authorities, and cost reduction measures, have a growing influence on the pricing and reimbursement of our products. In response, Sanofi is committed to:

- addressing increased scrutiny of the value and price of medicines, whether by the general public or external stakeholders, by clearly explaining the value that underpins how a product is priced; and
- improving affordability and offering solutions to access issues by adopting differentiated approaches in developed countries and emerging markets.

4.2.4.1. Organization

The mission of our global Market Access and Pricing teams is to ensure optimal access to each drug we sell, at a price that reflects the value of the product and conditions in the target market. Our Pricing team has its own Innovation Unit, running projects to help overcome barriers to access through innovative pricing differentiation strategies for populations with different economic circumstances and innovative types of contract. This team works closely with our global and local sales teams, and where necessary collaborates with external stakeholders in developing solutions to address identified needs.

In 2017, Sanofi created a new Global Health organization as part of the reorganization of our Access to Medicines department. To deliver on its mission of improving access to healthcare, this new organization works with a wide range of partners including the WHO and other international bodies, private donors and charitable foundations, R&D partners, NGOs, and health ministries. Our Global Health organization does not share the same reporting lines to senior management as our Market Access and Pricing teams, but they are complementary and work together insofar as Global Health focuses more specifically on accessibility in low to intermediate income countries.

4.2.4.2. Policies, action plans and performance indicators

Given the growing concerns over rising healthcare costs, our approach to pricing reflects our continued efforts to support patient access while minimizing our contribution to healthcare cost inflation.

This is why we have laid down principles for prescription medicine pricing, especially in the United States. The United States is our largest market, representing 35.3% of our annual net sales, and is unusual among mature markets in that the authorities do not impose price controls.

Our pricing principles, first published in May 2017, have since been updated in May 2018, February 2019 and March 2020. They are available at www.sanofi.us/en/corporate-responsibility/access-to-healthcare.

Sanofi’s prescription medicine pricing principles focus on three key areas:

- clear rationale for pricing on a worldwide scale when we launch a new medicine;
- limited price increases for our medicines in the United States; and
- transparency around our gross and net prices in the United States.

4.2.4.2.1. Clear rationale for pricing on a worldwide scale when we launch a new medicine

When we set the price of a new medicine, we hold ourselves to a rigorous and structured process that includes consultation with external stakeholders and considers the following factors:

- a holistic assessment of value, including:
  1) clinical value and outcomes, or the benefit the medicine delivers to patients, and how well it works compared to a standard of care;
  2) economic value, or the extent to which the medicine reduces the need – and therefore costs – of other healthcare interventions; and
  3) social value, or how the medicine contributes to quality of life and productivity.
- similar treatment options available or anticipated at the time of launch in order to understand the landscape within the disease areas in which the medicine may be used;
- affordability, including the steps we must take to promote access for patients and contribute to a more sustainable system for payers and healthcare systems; and

- unique factors specific to the medicine at the time of launch. For example, we may need to support ongoing clinical trials at the request of regulators to reinforce understanding of the product (e.g. long-term studies), or develop patient support tools that improve care management and help decrease the total cost of care.

4.2.4.2.2. Limited price increases for our medicines in the United States

Should we take a list price increase on one of our medicines, our guiding principle is to limit the total annual increase to a level at or below the projected US National Health Expenditure (NHE) growth rate for that year, as estimated and published annually by the Centers for Medicare & Medicaid Services (CMS).

Should we take a price increase above the NHE growth rate for a given medicine that results in a list price increase greater than $15 for a full course of treatment per year, we will provide our rationale, highlighting clinical value, real world evidence, regulatory change, new data, or other circumstances that support our decision.

- Projected US NHE growth rate for 2018: 5.3%.

During 2018, we increased the price of 35 of our 76 prescription medicines. All those price increases were in line with our pricing principles.

- In February 2018, the NHE issued a projected US healthcare cost growth rate for 2019 of 5.2%%[(1)]. That figure was adjusted to 4.8%[(1)] in February 2019.

During 2019, we increased the price of 49 of our 85 prescription medicines. All those price increases were in line with our pricing principles.

4.2.4.2.3. Transparency around our prices in the United States

Our policy reflects a desire both to help our stakeholders better understand our pricing decisions and to advance a more informed discussion of issues related to the pricing of medicines. The data we provide may help illustrate how pricing changes accrue to manufacturers versus others in the value chain, highlighting that manufacturers are just one player in the broader US healthcare environment.

While list prices (gross prices) often receive the most attention, they are not the prices typically paid by the insurers, employers or pharmacy benefit managers (PBMs) who purchase our medicines on behalf of patients. We negotiate significant discounts and rebates with these payers, to ensure greater access and affordability for patients. That negotiated price is the net price. Net prices more accurately reflect the prices we are paid as the manufacturer, and are the most accurate gauge to measure effective price increases.

However, the level of discounts and rebates varies, and is often not visible to patients. It is important to note that decisions on patient cost-sharing and the number of patients entitled to discounts are ultimately made by payers, not manufacturers. Simply put, the out-of-pocket payments made by patients depend on how the plan is structured and the extent to which the negotiated discounts are passed on to patients.

This is why we have committed to publish annually the overall increase or decrease in our gross (list) prices and net prices in the United States:

Year	Aggregate annual change in average list price[(a)]	Aggregate annual change in net price[(a)]
2016	+4.0%	-2.1%
2017	+1.6%	-8.4%
2018	+4.6%	-8.0%
2019	+2.9%	-11.1%

(a) For the entire portfolio of Sanofi prescription medicines.

4.2.5. Product quality

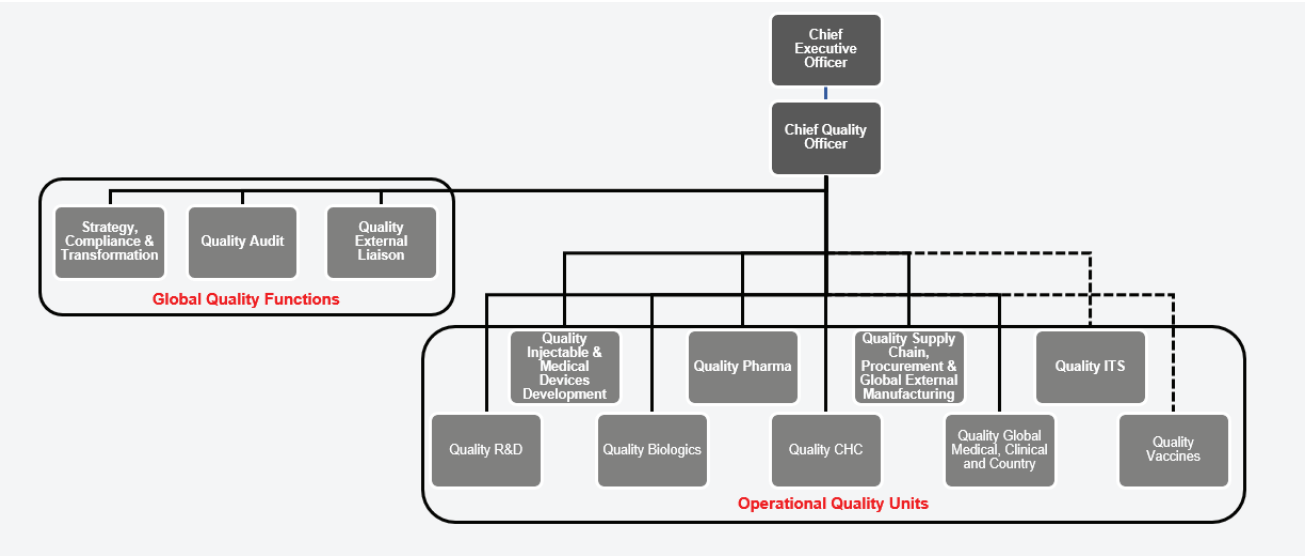
4.2.5.1. Organization

Sanofi's dedicated Global Quality function is dovetailed with our Global Business Units and support functions, our country-level organizations and manufacturing platforms, and is consistent with our corporate values.

Global Quality is headed up by the Chief Quality Officer (CQO), who is directly accountable to Sanofi's Chief Executive Officer for developing and implementing our Quality policy. The CQO is also a member of Sanofi's Global Industrial Affairs Board, Risk Committee and Compliance Committee.

(1) www.healthaffairs.org

Global Quality organization:



Global Quality implements our Quality policy across the entire life cycle (from discovery and development to manufacture, distribution and commercialization), for all the product families in the Sanofi portfolio: active pharmaceutical ingredients, prescription and over-the-counter medicines, vaccines, medical devices (including apps and hybrid products), nutritionals and cosmetics.

It ensures that harmonized quality standards are applied worldwide, so that we can comply with regulatory requirements and our own internal rules and deliver on our commitment to allow patients access to safe, effective products that meet public health needs.

At the operational level, quality managers are appointed at each site and each sales office. Their role is to manage and control the way in which the principles of the Sanofi quality management system are implemented, so that we can be sure that our products meet quality and regulatory standards.

4.2.5.2. Policy and action plan

The fundamental principles of Sanofi's Global Quality policy are set out in a document signed jointly by our Chief Quality Officer and our Chief Executive Officer. This policy document is made available to all our employees in all countries. The latest version was revised and approved in September 2019, and is available in 26 languages.

The structure and key processes of our quality management system are described in the Sanofi Quality Manual, which must be applied by everyone at every level in our organization. The Sanofi Quality Manual includes the following processes:

- product life cycle processes: research, lab trials, medical and clinical trials, manufacturing and distribution;
- transverse processes: documentation management, improvements to products and processes, training and certification, management of third-party suppliers, information system management; and
- organizational processes: quality system management, quality audit, quality risk management.

Our quality management system has built-in flexibility, so that it can incorporate specific quality standards to address rules specific to each field in which we operate. In line with our overall principles of risk management and continuous improvement, we constantly adapt our quality management system in anticipation of regulatory changes and to ensure an optimal response to Sanofi's strategic objectives for innovation, simplification and refocusing.

The Sanofi quality management system is wholly in line with the requirements described in guideline Q10, "Pharmaceutical Quality System", published by the International Council on Harmonization (ICH). It also incorporates all good practice rules – Good Clinical Practice (GCP), Good Distribution Practice (GDP), Good Laboratory Practice (GLP), Good Manufacturing Practice (GMP) and Good Pharmacovigilance Practice (GPVP) – as well as other requirements relating to human health.

Our Quality Policy and Quality Manual are the cornerstones of our quality commitment as regards both our regulatory compliance obligations and our obligations to patients. They serve as vectors to ensure that our quality management principles are fully deployed within Sanofi, and are central to our vision of Quality culture.

Practical measures taken to implement the Sanofi quality management system include:

- Our Global Business Units, sites, countries and Global Support Functions are subject to regular audits to check that they are complying with our quality management system. The audits are conducted by a dedicated Global Quality Audit team; a risk-based approach is used to determine the frequency and duration of audits, and the number of auditors involved. They also help prepare Sanofi business units and support functions for regulatory inspections, and make sure that they are meeting all their regulatory requirements and commitments.
- Throughout the physical journey undertaken by Sanofi products, we maintain the same levels of quality, security and traceability for all our products. To do this, we use technology to protect our products against attempts at misappropriation, counterfeiting or falsification. These include tamper-proof packaging, authentication stickers to combat counterfeiting, and serialization for traceability. And at every stage in the logistics chain, Sanofi ensures that products are stored, transported and delivered in appropriate conditions compatible with maintaining product quality.
- Quality risk management is integral to Sanofi's control and governance system. This means we can take appropriate decisions and provide assurances to regulators about our ability to anticipate and prevent potential crises. Our approach addresses risk both reactively and proactively. In reactive mode, we deal rapidly and efficiently with any quality issue, deploying corrective actions and adequate preventive measures. In proactive mode, we monitor internal and external information sources to identify potential risks so that we can take preventive measures.
- Sanofi has identified the quality culture as an essential factor in our corporate performance and in delivering on our strategy. To catalyze the impact on enterprise value, we founded our Quality Academy, which offers training programs to help ensure that our people are always properly trained and qualified. The Academy is complemented at operational level by practice communities, sharing and discussing quality-related issues and processes.

Highlights of 2019 were:

- Global Quality Audit – ISO 17020 accreditation

In 2017, we decided to start the process for our Global Quality Audit system to obtain ISO 17020 accreditation. This international standard includes requirements on the competencies of bodies carrying out inspections, and on the impartiality and consistency of the inspections they carry out. We retained an independent body to carry out the accreditation process. During 2018, our Global Quality Audit team reviewed and revised its procedures and processes to bring them into line with ISO 17020 requirements. The first phase of the independent body's assessment took place in May/June 2019, and final accreditation was awarded in July 2019. Accreditation enabled us not only to have an independent assessment of our audit system, but also to implement a process of constant improvement. The accreditation process will continue with annual reviews to ensure that we remain in compliance with IS0 17020.

- Quality Culture initiative

In 2019, we launched an evaluation of the Quality Culture in our organization, based on the Quality Culture Index issued by the Parenteral Drug Association (PDA). The project began in June 2019 with a pilot phase across three manufacturing sites, which was completed in the second half of the year. This initiative aims to establish how mature our quality culture is, and to highlight the action plans needed to move it forward.

4.2.5.3. Performance indicators

	2019	2018
Internal audits	204	210
Regulatory inspections	309	279
of which European inspections	70	
of which US FDA inspections	44	
Number of regulatory actions taken[(a)]	1[(b)]	0
Recalls	45	44
of which Class 1 recalls[(c)]	4	3

(a) US FDA Warning Letter, US FDA Consent Decree, suspension/withdrawal of GMP certificate.
(b) One GMP certificate was suspended for an unregistered product, with no impact on the availability or supply of marketed products.
(c) Definition as per EMA SOP/INSP/2018 and US 21CFR part 7.

4.2.6. Product safety for patients and consumers

Sanofi develops, manufactures and sells a vast portfolio of healthcare solutions around the globe, from prescription medicines and consumer health products to vaccines and medical devices. We are obliged to meet legal and regulatory requirements on the safety of products through their entire life cycle, from research to end use, and also to:

- protect patient health by monitoring the safety of our medicines and constantly assessing the benefit/risk profile of our products;
- supply physicians, healthcare professionals and patients with full and up-to-date safety information, including potential risks associated with a product; and
- report to the regulatory authorities on a timely basis, in accordance with international and local regulatory requirements and our own Global Quality standards.

4.2.6.1. Organization

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

GPV is Sanofi's center of excellence for assessing and monitoring the benefit/risk profile of our entire product portfolio at a global level.

All pharmacovigilance activities relating to the use of the portfolio report to GPV. Staff from GPV 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. These multi-disciplinary teams prepare the supporting evidence needed for monitoring the benefit/risk ratio and for identifying and assessing potential signals, and for implementing risk minimization measures. This pragmatic, evidence-based benefit/risk approach protects patients and consumers by ensuring that our scientific communications are transparent, robust and credible.

A pharmacovigilance signal is a hypothesis of a possible risk between taking a medicine and an adverse event, derived from data from one or more possible sources. In practice, a pharmacovigilance signal occurs when a parameter (such as the number, incidence or frequency of an adverse event) deviates from what is expected or accepted. This hypothetical deviation then needs to be analyzed, so it can be confirmed or rejected.

GPV has full-time access to teams of pharmaco-epidemiologists, reporting to Global Medical Affairs, who are 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, over large patient populations or via specialist databases.

4.2.6.2. Policy and action plans

GPV proactively monitors national and international regulations and recommendations, and draws upon a worldwide network of local and regional managers trained in pharmacovigilance. GPV provides a range of services to this 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 quality standards.

Sanofi systematically aligns on the most exacting standards of Good Pharmacovigilance Practices. Those standards also apply to clinical trials and clinical programs that are not conducted by Sanofi itself, and to collaborative projects with NGOs.

We also have a worldwide quality documentation architecture in place, to ensure that all our pharmacovigilance activities comply with official regulations.

Looking beyond regulatory compliance, Sanofi is closely involved in many international initiatives including scientific consortia, international pharmaceutical industry associations, and professional networks working on predictive pharmacovigilance scenarios.

Pharmacovigilance is a constantly changing field, whether scientifically and medically or in terms of data processing. To ensure that we continue to apply best practice in the changing landscape, we have made significant strategic changes to our pharmacovigilance governance structure. We have identified the following strategic areas as having the highest priority:

- deploying an individual skillset development model so that our pharmacovigilance staff are up to speed with the latest regulatory and scientific practices, and qualified to meet future needs;
- an ambitious technological development plan to automate and apply artificial intelligence to pharmacovigilance data. We regard this as a pre-requisite for managing not only the growing volume of data but also the diversity of data sources, including social media and patient support programs;

- a structured approach to evaluating the benefit/risk profile, relying if necessary on population-based epidemiological statistics in conjunction with the pharmaco-epidemiology unit within Global Medical Affairs;
- optimizing the mechanisms used to detect and evaluate potential signals associated with the use of our products; and
- gradually integrating a new outsourced platform dedicated to the monitoring of mature products or therapeutic classes. This model means we can focus our in-house resources on high-priority tolerance issues for the products we regard as the most critical in terms of patient needs and regulatory requirements.

4.2.6.3. Performance indicators

Signals

Signals assessed	2019 (excluding Zentiva)	2019 (including Zentiva)	2018[a] (excluding Zentiva)	2018[a] (including Zentiva)	2017
Total signals	395	452	255	339	362
of which PRAC/HA signals[b][c]	204	248	110	178	167

(a) Period: January-November 2018.
(b) PRAC = Pharmacovigilance Risk Assessment Committee of the European Medicines Agency; HA = Health Authorities.
(c) The difference between total signals and PRAC/HA signals represents signals derived from the Sanofi Pharmacovigilance database.

Pharmacovigilance audits and inspections conducted in 2019:

- Number of audits: 39
- Number of inspections: 4

These audits and inspections are included in the figures reported in the Product Quality section (4.2.5.3., “Performance indicators”).

4.2.7. Medical ethics and bioethics

We must ensure that our practices are consistent across the entire organization by establishing a common definition and framework for bioethics, promoting a responsible culture, and anticipating and monitoring emerging bioethical issues. Sanofi policies in this area, which require approval from our Bioethics Committee, are prepared with reference to current laws and regulations, societal trends, and industry guidelines, and those issued by leading bodies in the field such as the Council for International Organizations of Medical Sciences (CIOMS) and UNESCO (United Nations Educational, Scientific and Cultural Organization). We also have a duty to ensure that external stakeholders, healthcare professionals, patients and the scientific community are informed about our R&D and medical activities. More specifically, we must show transparency in clinical trial protocols and results, the sharing of clinical data, and publication of scientific papers.

4.2.7.1. Patient safety in clinical trials

4.2.7.1.1. Organization

Sanofi 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, who reports to our Chief Executive Officer.

In 2017, we performed a review of our bioethics governance. The aim was to take greater account of stakeholder expectations and improve transparency. The main outcome was the decision to form a new Advisory Bioethics Council (ABC), consisting of independent members with acknowledged expertise in bioethics, to give advice on key bioethics issues so that Sanofi can improve its practices. Sanofi is committed to taking account of their recommendations, and to explaining the position adopted on issues that will be examined by our Board of Directors. The existing Bioethics Committee will continue to establish Sanofi’s positions on bioethics, and ensure that its policies are implemented operationally. Another decisive outcome of the review was a reaffirmation of Sanofi’s determination to move towards greater transparency on clinical trials and on policies adopted by the Bioethics Committee, which are now published on www.sanofi.com. Issues addressed by the Bioethics Committee are suggested by its members, based on the latest developments in the field or questions raised internally.

The independent ethicists who form our Advisory Bioethics Council (set up in 2018) have varied university backgrounds (medicine, law, philosophy), and work in Europe, Asia or North America. The Council met for the first time in November 2018, and continued to meet through 2019. The issues dealt with by the Council are determined by consultation between Council members and the Sanofi Bioethics Committee, and address bioethics issues arising in Sanofi’s sphere of operations.

4.2.7.1.2. Policy and action plans

Recommendations from our Bioethics Committee may lead us to implement policies that must be applied by the relevant operating units.

4.2.7.1.2.1. Medical ethics and clinical trials

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

Sanofi applies international standards: the Declaration of Helsinki, the recommendations of the International Council for Harmonization (ICH), and in particular Good Clinical Practices (GCP). In addition to those international standards, Sanofi complies with all national and international rules and laws applicable to clinical trials including European Directives 2001/20/EC (on the implementation of good clinical practice in the conduct of clinical trials on medicinal products for human use, published in Official Journal L 121 of May 1, 2001, page 34, as amended in 2006 and 2009) and 2005/28/EC (laying down principles and detailed guidelines for good clinical practice as regards investigational medicinal products for human use, as well as the requirements for authorization of the manufacturing or importation of such products, published in Official Journal L 91 of April 9, 2005, pages 13-19); 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 enrolled in clinical trials (or their legal representatives) 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 simplify the consent form supplied to participants and reflect recent major changes in the ethical landscape (especially in terms of informed consent), our teams use an internal reference document that is subject to regular review.

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 around the world.

Sanofi is also subject to health authority inspections to ensure that we are complying with ethical standards and legislation.

4.2.7.1.2.2. Transparency of medical and clinical data

We are committed to providing healthcare professionals, patients and the public with all useful information about our medical research, 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 Section 4.2.7.1.3.1., “Medical ethics and clinical trials”), but also to the sharing of the data generated by those trials.

Sanofi abides by the principles on the responsible sharing of clinical trial data 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. Our commitments are described (and fully accessible) on our corporate website.

4.2.7.1.3. Performance indicators

4.2.7.1.3.1. Medical ethics and clinical trials

None of the 70 inspections conducted on our clinical research activities in 2019 resulted in regulatory action.

4.2.7.1.3.2. Transparency of medical and clinical data

- **Sharing of clinical data**: Between January 1, 2014 and December 31, 2019, Sanofi received 104 requests from 14 countries to share data relating to 276 clinical trials.

  Data sharing was approved for 76 clinical trials:

  – data from 47 clinical trials were released under a data sharing agreement (the research projects involved are ongoing or completed), 5 of which have led to publication;

  – data from a further 6 clinical trials will be shared once the data sharing agreement has been signed off; and

  – for the other 23 clinical trials, data sharing agreements are still being negotiated, or have been rejected or abandoned by the researchers making the request.

A total of 165 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.

- **Scientific papers published in 2019**: 729 scientific and medical papers sponsored or signed by Sanofi were included in the PubMed database, which references over 5,200 journals.

4.2.7.2. Animal protection

An Animal Ethics Advisory Committee was set up at the end of 2017 under the direction of Sanofi's Chief Veterinary Officer (who is a permanent member of our Bioethics Committee) to address issues of public concern relating to the use and protection of animals. The Committee meets quarterly to determine guidelines and positions adopted by Sanofi on animal use and care, and ensure they are compatible with international recommendations. For example, it has developed a common position on the use of non-human primates for research and quality control purposes. Two new policies were developed and approved by the Bioethics Committee at the end of 2019: one relating to laboratory animal adoption, and the other to the reporting of undesirable events in the care and use of animals.

Our Chief Veterinary Officer is responsible for liaising with animal dealers, vets and site-level Ethics Committees.

As a global healthcare leader focused on patient needs, we are morally and legally obliged to ensure the quality, safety and efficacy of our medicines, vaccines, medical devices and consumer health products. Over and above regulatory requirements, the responsible use of animals is essential for research and the production process. An example of our proactive approach is our objective of obtaining certification for all our sites in 2020 from AAALAC International, an internationally-recognized body. Use of animals represents only a small part of our R&D and manufacturing operations, but is integral to our global research and analytical control strategy, which also includes non-animal methods and clinical research.

We are committed to developing alternative approaches. We subscribe fully to the "3Rs" (Replacement, Reduction and Refinement) principle on the use of animals in research and production. This means that (i) we do not use animals unless there are no adequate alternative methods that can achieve the same purpose (replacement); (ii) we minimize the number of animals used to the extent compatible with good science (reduction); and (iii) we minimize pain and suffering through good housing and husbandry (refinement). Sanofi uses animals only if the scientific and regulatory case for animal experimentation has been clearly established, and within strict ethical guidelines as established in regulations and international standards.

We promote an "animal protection culture", the core value of which is to adopt a responsible approach to animal testing among all our professionals.

In line with our long-standing commitment to the "3Rs", this policy applies to all animals used by Sanofi for research; testing and producing medicines; investigational medicines; vaccines; medical devices; and active ingredients. This policy also applies to those who breed, supply and transport animals for use in research, trials or production, and to third parties who use animals under our instruction. Our in-house laboratory animal experts carry out periodic audits of third-party suppliers to make sure that they are complying with the principles of our animal protection policies.

At the end of 2019, 18 Sanofi sites in eight countries were using animals. Of these, 15 have obtained accreditation from AAALAC International, and two more are awaiting a decision on initial accreditation.

In 2019, 35 contracted research organizations or universities conducting tests on animals, and ten suppliers of animals and animal-derived products, were subject to an evaluation and required to comply with our animal protection principles (there were no critical discrepancies). Whistle-blowers at the Laboratory of Pharmacology and Toxicology (LPT), an animal testing facility in Hamburg, Germany, revealed unethical practices. Such practices are completely out of line with our principles and values, and we immediately dereferenced LPT from our list of service-providers.

Reduction in the number of animals used by Sanofi over the last five years (2013-2018): 25.6%. Between January 1, 2019 and November 30, 2019[(1)], a total of 333,844 animals were used on Sanofi sites; that figure is in line with the consistent downtrend seen in recent years (estimated reduction of 11% between 2018 and 2019 on a constant scope basis).

4.2.8. Biopiracy

Sanofi is committed to complying with conventions on the protection of biodiversity and combatting biopiracy. Compliance with local regulations derived from the Nagoya Protocol requires coordinated efforts across all Sanofi entities. In 2015, we set up a project team to track worldwide implementation of the Nagoya Protocol and analyze its implications for our operations. At that stage, the focus was on identifying the biological materials we use to discover, develop, manufacture and package our products, and on documenting the country of origin and date of acquisition, in accordance with our own guidelines. During 2016 and 2017, the project team drafted documents and policies relating to the Nagoya Protocol. We also created a dedicated intranet site, accessible to all our employees, to raise awareness of the Nagoya Protocol. Staff in key departments were provided with specific training and awareness programs in 2017. To continue the internal rollout and ensure compliance, we set up a Nagoya expert group, who report to our Bioethics Committee. The Nagoya expert group continues to work on issues arising from implementation of the protocol in the signatory states. The aim is to monitor how practices are changing in light of the reaction from stakeholders. For example, the use of digital sequence information on genetic resources is an issue still under review. The actions taken by Sanofi relate to the use of natural substances to develop new medicines.

These include abiding by the principle that when we commercialize products derived from natural substances, we share our profits with countries that allow access to their natural resources and with local populations who have specific know-how. So whenever we investigate the use for R&D purposes of a new product isolated from a natural source, we will carry out due diligence to ensure we comply with international conventions.

(1) We have used an 11-month period for 2019 to meet the time constraints for production of this report. In future years, data will be provided for a 12-month period, from December 1 through November 30.

Other risks of adverse impacts on local communities include the environmental impact of our operations, and in particular risks relating to environmental releases (see Section 4.2.14.5.) and to the use of water resources (see Section 4.2.14.3.).

4.2.9. Personal data protection

For Sanofi, it is essential that we protect the personal data of our employees and of patients, healthcare professionals and other partners with whom we interact. This is especially important in light of current developments in information and communication technologies.

4.2.9.1. Organization

Our Data Protection Officer is responsible for implementing a Privacy and Personal Data Protection program within Sanofi. In this, he is supported by our corporate privacy team (the Global Privacy Office), and an international network of Local Privacy Officers (LPOs) in each country where we have subsidiaries. He is also supported by a network of Functional Privacy Officers (FPOs), representing global functions such as Research & Development, Human Resources, Information Technology & Solutions, Finance, Commercial Services, Industrial Affairs, and our Global Business Units.

4.2.9.2. Policies and action plans

Our approach to the processing of personal data is set out in two documents: the Sanofi Global External Privacy and Data Protection Policy, and the Sanofi Global Internal Privacy and Data Protection Policy. Both policies are global in scope and apply to all Sanofi employees processing personal data. The commitments and obligations set out in the policies are without prejudice to the application of and compliance with the privacy laws and/or culture of each country where we do business, when processing personal data anywhere within Sanofi.

The requirements set out in our internal policy also apply to third parties processing personal data on behalf of Sanofi such as consultants, service providers, vendors or other partners, for example as a result of contractual provisions.

The very nature of our business requires the processing of data of individuals who receive our treatments. Such data may be collected in clinical trials or genetic and epidemiological studies, during the monitoring of pharmacovigilance information, and under Patient Support Programs. No consent is required for the reporting of adverse events for pharmacovigilance purposes, but the person reporting the signal – usually a healthcare professional – will inform the patient that their health data is being transferred but that it will not be directly identifiable. Such data transfers are for pharmacovigilance purposes only, and are restricted to the holder of the marketing approval and to health authorities responsible for pharmacovigilance.

Our Global Privacy Office uses the PRIMA (PRivacy IMpact Assessment) tool, which is made available to any Sanofi employee who needs to process personal data. PRIMA enables users to check their project for compliance with data protection regulations and Sanofi policy, determine any corrective action required, and update the Sanofi group data processing register. This guarantees an audit trail for all projects involving the processing of personal data. We have also developed awareness-raising videos and training modules (updated in 2019) so that all our employees know the importance of issues around the protection and transfer of data within Sanofi.

4.2.10. Supply chain continuity

As a global healthcare leader, we are committed to organizing our supply chain so that it will deliver medicines and vaccines to the market without interruption, with the goal of protecting patients' health every day.

Stockouts may be caused by a combination of factors. Global demand for medicines is rising, due to improved access to and development of healthcare in many regions of the world. While this is a good thing, it nevertheless raises issues about the capacity of manufacturing sites and their suppliers to adjust rapidly. Pressures on supplies of raw materials and active ingredients are intensifying, due in particular to more stringent environmental standards in China and other Asian countries. In the short term, this is causing the temporary shutdown of a number of manufacturing facilities, including some that supply active ingredients to the pharmaceutical industry. Tougher environmental regulations may temporarily reduce production capacity while manufacturing processes are upgraded. Finally, some of our products require long and complex production processes, and we may experience interruptions at any point in the chain.

4.2.10.1. Organization and policy

We have a supply chain continuity plan in place that applies in priority to vital medicines and new products, and to pandemics and other major crises.

It covers raw material supplies and the production, batch release, transportation and distribution of finished goods. The plan is integrated with our supply chain, and with our global risk management approach. It contains a set of definitions, procedures and evaluation processes, and requires mitigation plans to be implemented and monitored where necessary.

The plan is overseen by the Industrial Affairs Risk Committee, which includes representatives from our technological platforms and support functions (such as Quality, HSE, Procurement, Biological Platform, and Dispensing Systems Development).

Multi-functional committees are in place to detect any problems and to coordinate and control the response needed to resolve them. We have also set up a global operational committee to address the risk of product shortages; the committee coordinates and activates fallback solutions to reduce the risks, and supports the process of notifying health authorities.

For vital products (i.e. Sanofi medicines and vaccines for which there is no therapeutic equivalent or local alternative available), we make every effort to ensure that they are always available in sufficient quantities. Our Global Medical Department has for several years been working with our subsidiaries to identify vital products in each country where we do business.

This list can then be used to determine production priorities and emergency responses in the event of a pandemic, or of a major incident (such as fire or natural disaster) at one of our production sites.

4.2.10.2. Action plans and performance indicators

4.2.10.2.1. Ensuring day-to-day supply chain continuity

To achieve our zero-stockout goal, we have a range of instructions, tools and processes in place throughout the supply chain, which are subject to control and monitoring.

In each of our subsidiaries, the supply chain and marketing functions work together to generate two types of sales forecast:

- short-term projections (up to 36 months), which when combined with each subsidiary's inventory policy are crucial to meeting the zero stockout objective; and
- long-term projections (36 months to 5/10 years), which form the basis for investment decisions because they give visibility on sales for a product, a region or a specific technology.

At site level, sales forecasts are used to determine raw material and production needs for each product; careful resource planning is essential.

Once products have been manufactured and batch released, they are shipped by our logistics organization, which combines in-house distribution centers and external service providers.

Our country-level distribution centers deliver products through three main channels:

- directly to pharmacies;
- directly to hospitals; and
- to wholesalers.

To maintain a high level of customer service, we monitor a number of indicators throughout the supply chain that we can use to flag up potential risks or incidents with the various players.

Our global service level is approximately 98%. Over the last year, our service level decreased by approximately 0.75%.

Our policy is to hold two to three months of finished goods inventory depending on the product, the country, market conditions, the manufacturing process, and the distance from the manufacturing site to the target market. For products identified as vital, the minimum inventory level is 60 business days (minimum of three months), to avoid stockouts. This can be adjusted upwards if a market believes that a higher level is necessary.

4.2.10.2.2. Ensuring good distribution

In every country where we operate our own distribution centers, emergency plans are activated in the event of a supply chain interruption. All our distribution centers use the same information system, facilitating fallback solutions if one of our centers is temporarily out of action.

In countries where we outsource distribution, we apply rigorous selection procedures when referencing service provides, covering not only their financial health but also their service quality and compliance with HSE and CSR principles. If a potential risk is detected, we make sure we have alternative service providers. Over the last 10 years, we have only had three major incidents (in Venezuela, the Netherlands and Korea), with no impact on patients.

The freight companies we use are subject to an audit before they can work with Sanofi, and continue to be audited throughout their service term.

We use state-of-the-art techniques to track shipments and confirm delivery to the customer, including GPS tracking, real-time GPRS tracking and electronic signatures. Each center has a fallback plan, including a list of freight companies that can step in at any moment and be operational within 24 hours.

4.2.10.2.3. Ensuring business continuity in a major crisis

We have developed continuity plans specific to our operations, so that in the event of a pandemic or major crisis (natural disaster, nuclear accident, humanitarian emergency, etc.) we could focus our efforts on simultaneously meeting all of the following objectives:

- guaranteeing and safeguarding continuity of our operations;
- ensuring that all our products meet the same quality standards;
- in the case of a pandemic, reacting as fast as possible to manufacture and distribute a pandemic vaccine in the affected regions;
- maintaining sufficient capacity in the development, production and distribution of medicines and vaccines to prevent or cure infections related to the pandemic in the shortest possible time-frame;
- maintaining business continuity so that we can supply all our medicines and vaccines to patients; and
- continuing to provide assistance to patients and healthcare professionals, in particular through fallback solutions such as 27/4 call centers, while also monitoring any side effects (pharmacovigilance).

Our experience of past natural disasters such as Fukushima in Japan, floods and earthquakes in Italy or the volcanic ash cloud in Iceland, has shown that we are capable of activating solutions such as fallback manufacturing capacity or alternative transportation methods in real time.

4.2.11. Human rights

[GRI 102-12, GRI 407-1, GRI 409-1]

We employ over 100,000 people in many countries and work with a large number of suppliers and subcontractors. This gives us a duty to respect the human rights of workers both in our own operations and in our supply chain. In dealing with human rights, we refer to the following ILO conventions:

- 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).

Sanofi must comply with regulatory obligations on human rights; these include international standards such as the United Nations Guiding Principles on Business and Human Rights, and national regulations such as the French Duty of Vigilance law.

We need to identify the nature and extent of potential human rights violations in every country in which we, our suppliers and direct subcontractors operate, and prevent any breach of the rules or of our own internal policies.

A description of our risk mapping, organization, policies, action plans and performance monitoring in respect of human rights is provided below.

4.2.11.1 Human rights risk mapping

The following risks have been specifically identified as salient for Sanofi as regards the fundamental rights of employees:

- For sales, R&D and support function activities: psychosocial risks, and the risk of isolated practices that may be prejudicial to freedom of association and the principle of non-discrimination.
- For manufacturing and logistics activities: risk of employing migrant workers in situations that may be tantamount to forced labor; risk of excessive working hours; risk of wages below decent wage levels; risk of hazardous work being carried out by children aged under 18; and the impossibility for Sanofi to meet its commitments on freedom of association and non-discrimination in at-risk countries.

The risk factors used to define human rights are linked to the characteristics of the workforce.

To evaluate the criticality of risks, we determined a number of inherent risk factors: level of qualification, working conditions, potential presence of vulnerable workers, and the characteristics of countries where we operate (such as legislation that is inadequate or contrary to international standards, widespread human rights violations, or a large presence of vulnerable populations in the country). Because we classify our employees by what they do (industrial, sales, support functions, etc.), we were able for each risk to determine its probability and severity (the seriousness of the potential risk and the number of people potentially affected, and whether the potential violation is systemic or isolated). This methodology was developed in consultation with our Risk Management department.

4.2.11.2. Organization

Sanofi has for many years adopted a proactive vigilance approach to prevent our activities having negative impacts on human rights. Three of our support functions play key roles in this approach. Our CSR department provides expertise in embedding human rights into our activities; our HR function implements policies and action plans; and the Internal Control and Internal Audit functions check that the policies are being implemented and complied with.

4.2.11.3. Policies and action plans

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.

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. Our policies are based on ILO conventions, and in particular on:

- 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.

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; and the abolition of child labor. We strengthened our existing processes in 2018:

- we updated our “Human and Labor Rights” risk profile to improve the way in which we rank human rights risk (which we define as the risk of violating the human rights of workers) and how we assess severity in terms of the seriousness of the impacts on employees; and
- we classified risks relating to the fundamental rights of workers and ranked them by criticality (see section 4.2.1., “Risk mapping”), and revised our existing policies to make risk assessment questionnaires compulsory and more operational, and to ensure that data are reported up to the CSR department.

4.2.11.4. Performance indicators

In 2019, we refined our human rights risk mapping so as to identify those countries where we need to focus our internal audit efforts. We identified 18 at-risk countries based on the following criteria: level of country risk, number of employees, and presence of production or distribution activities. Those countries represent approximately one-third of the Sanofi workforce.

Of those 18 countries, 7 (representing more than a quarter of the Sanofi workforce) have already been subject to audit.

No violations were identified in any of those 7 countries. We are preparing an action plan to roll out audits of the remaining 11 countries, collectively representing 9% of the Sanofi workforce.

4.2.12. Ethics and business integrity

[GRI 102-16, GRI 205-1, GRI 205-2]

Our commitment to behave ethically and with integrity extends beyond mere compliance with laws and regulations. Each employee must have a sound ethical approach to what they do, and the good judgement needed to identify risks and manage difficult situations appropriately. As a business with a wide range of activities spread across many countries and involving a large number of partners, we pay the closest attention to ethical standards in the way we conduct our operations, especially in our interactions with third parties.

Typical situations encountered may include:

- unethical behavior in interactions with third parties, including (but not limited to) government representatives, customers, healthcare professionals, patients, and patient rights groups;
- inappropriate marketing and/or promotional practices;
- fraud (misappropriation of assets, false accounting, corruption); and
- conflicts of interest.

4.2.12.1. Organization

4.2.12.1.1. Background

We have operations in more than 100 countries across the globe and are committed to meeting the highest standards of ethics and integrity in business conduct. Embedding ethical values into what we do every day is essential if we are to remain faithful to our commitments to patients, physicians, the scientific community, our partners and investors, and society as a whole. It is also essential to protecting our image and reputation, and our employees.

We have robust governance structures in place to ensure we deliver on our commitments, backed by clear rules that comply with the legal frameworks applicable in each country where we do business. We also have a rigorous internal control system in place.

The cornerstone of this approach is our Ethics & Business Integrity (E&BI) department, which works closely with a number of other departments including (but not limited to) Internal Control & Processes; Internal Audit and Risk Management; Global Quality; Medical Affairs; Legal Affairs; Procurement; and Health, Safety & Environment (HSE).

4.2.12.1.2. Ethics and Business Integrity Program

The Sanofi Ethics and Business Integrity Program, developed and implemented by our dedicated E&BI department, is supported by our Code of Ethics; internal policies and standards; education and training initiatives; monitoring procedures; a specific whistle-blowing system backed by internal investigations; and the implementation of corrective and/or disciplinary measures where needed.

The core mission of E&BI is to promote a culture of ethics and integrity at every level within Sanofi. E&BI's role is to act as a partner for our business units and support functions and to help achieve our corporate objectives while ensuring that we comply with laws, regulations, industry codes, ethical standards and values, and our own internal policies and standards.

4.2.12.1.3. Ethics and Business Integrity (E&BI) department

E&BI provides our Global Business Units (GBUs) and support functions with the assistance needed to identify, evaluate and mitigate risks potentially associated with our operations.

E&BI has a dedicated team working on our approach to ethics and business integrity. This team reports to our Global Compliance Officer and is present at both global and local level, providing support across the whole of Sanofi: headquarters, GBUs, support functions, regions and countries.

Global Compliance Officer reporting to our General Counsel and to our Chief Executive Officer	Provides strategic compliance expertise to Sanofi's Executive Committee and Board of Directors. Monitors the implementation and management of our Ethics & Business Integrity Program.
E&BI department staffed by more than 140 people	E&BI managers within our GBUs and support functions, and at region and country level, who: - ensure that the fundamental aspects of the Ethics & Business Integrity Program are in place and working properly at every level in the organization; and - provide support in the day-to-day conduct of our business.
Global center of excellence	Dedicated team working on risk assessment, developing and distributing policies and standards, training, and awareness campaigns.
Specific managers with responsibility for (i) fraud prevention and (ii) internal investigations.	Tasked with developing and applying a full-scope fraud risk management program built on four pillars: prevention, detection, investigation, and analysis/reporting. Supported by a dedicated team, who also conduct internal investigations.
A network of 960 "Compliance Champions", made up of volunteers from each country, GBU and support function.	Communicate and reinforce compliance messages developed by E&BI. Support the implementation of E&BI initiatives. Monitor in real time participation in compulsory training programs. Act as a contact point for employees, encourage whistle-blowing, and promote a culture of ethics and business integrity.
Compliance Executive Committee, chaired by the Chief Executive Officer.	Evaluates, recommends and monitors all initiatives intended to support and improve the Ethics & Business Integrity Program, and promotes ongoing adherence by our employees to the Sanofi core values: team spirit, courage, respect and integrity.

4.2.12.2. Policy and action plans

4.2.12.2.1. Code of Ethics, policies and standards

The Sanofi Code of Ethics defines the standards of ethical conduct that employees must apply when working for Sanofi. It is both a reference manual and a practical tool, providing each employee with guidance about the attitudes to adopt in interactions within and outside the company. The Code of Ethics has been translated into 29 languages, ensuring that it can be accessed and understood by everyone, everywhere in the world. All employees are required to follow training on the Code of Ethics, which consists of a series of chapters under three main headings:

- respect & protection of people and the environment;
- integrity in managing company information; and
- integrity in our business practices.

To support effective application of the principles contained in our Code of Ethics, we have developed a comprehensive set of policies and standards, designed to give guidance on a broad range of situations specific to our industry. In particular, our anti-corruption policy lays down guidance for employees, and for third parties who interact with Sanofi, to help them comply with laws and regulations and to promote a culture of ethics and integrity.

In addition, we conduct anti-corruption due diligence before doing business with a third party; before making any investment in a commercial entity now owned by Sanofi; and before signing any joint venture or partnership agreement.

4.2.12.2.2. Training and education programs

We have built an E&BI training program to raise employee awareness and deliver continuing education. Every year, Sanofi employees must complete compulsory ethics and business integrity training. Tools include e-learning modules and short videos based on real-life situations that could expose employees to various types of risk including corruption, conflicts of interest, fraud, and confidentiality breaches. In addition, an online library of training modules, some of them available in 19 languages, can be accessed by employees who want to self-train. All E&BI policies are backed up by specific training tools, including frequently asked questions.

4.2.12.2.3. Whistle-blowing

A secure hotline and dedicated web page are available 24/7. The hotline is accessed by a toll-free number and is available in 28 languages. In the United States, the helpline set up for Sanofi employees is guaranteed to be independent and to protect anonymity, in accordance with local regulations and practices. Any employee who encounters a problem or who believes in good faith that a breach has occurred or is about to occur of any law, regulation, industry code of conduct, Sanofi standard or policy, or of any principle contained in the Code of Ethics, can use this system to report it by whatever means he or she sees fit. Employees will not be disciplined or penalized as a result of using the whistle-blowing system provided they acted in good faith without malicious intent, even if the report turns out to be inaccurate or no further measures taken.

Sanofi employees are encouraged to identify themselves when reporting an incident, as this helps the investigation process. However, if they prefer not to disclose their identity, they can report anonymously. The system is also open to third parties interacting with Sanofi. Each report, whether received through the whistle-blowing system or through any other channel, is investigated internally using a methodological protocol set out in our whistle-blowing policy. If an internal investigation confirms the allegations, corrective and/or disciplinary measures are taken. To ensure that such measures are determined consistently and uniformly, Sanofi has issued a policy formally documenting an overall framework for corrective and/or disciplinary actions.

4.2.12.3. Performance indicators

In 2019:

Training:

- 102,531 employees followed at least one Ethics & Business Integrity training module.
- A total of 254,635 Ethics & Business Integrity training modules were followed in the year.

Whistle-blowing hotline:

- 825 incidents were reported to E&BI.
- After investigation, 331 of these were substantiated. As a result, 152 employees were dismissed or resigned on grounds of misconduct.

4.2.13. Tax policy

Sanofi applies the law and regulations in force in the countries where it does business, files the relevant tax declarations on time with the tax authorities, and pays the taxes determined on that basis.

The Sanofi Tax department is responsible for establishing and implementing our tax policy. The Audit Committee, the Risk Committee, Internal Audit and our external auditors regularly check compliance with procedures and policies, and the effectiveness of tax risk management within Sanofi. Our tax policy is published on our corporate website. Our policies and procedures relating to taxes and duties are accessible to all our employees.

We aspire to build and maintain open, transparent and constructive relationships with tax authorities and other governmental bodies worldwide. In particular, Sanofi files its country-by-country report annually with the French tax authorities. In line with OECD recommendations and French regulations, this document is forwarded to more than 80 foreign tax administrations.

Sanofi is regularly subject to tax audits in most of the countries where it operates. Sanofi seeks assurance from and works constructively with tax authorities in the event of tax uncertainties or divergent positions.

In transfer pricing, Sanofi applies the OECD guidelines, French legislation and any country-specific legislation to its inter-company transactions, targeting arm's length remuneration for all Sanofi entities. Our transfer pricing policy is duly documented, and supported by economic analysis.

Our tax strategy is based on the economic reality of our operations; it is in keeping with our values and the strategic orientations determined by our management, which rule out tax evasion.

Income taxes are described in detail in our consolidated financial statements, included at Item 18 of our 2019 Annual Report on Form 20F, and specifically in Note B.22., "Income Tax Expense"; Note D.14., "Net deferred tax position", and Note D.30., "Income tax expense". The tax information disclosed in our financial statements is subject to independent audit.

4.2.14. Environment

Environmental protection at Sanofi comes within the overall scope of our Health, Safety and Environment (HSE) approach, as described in section 4.2.2, "Employee health and safety".

4.2.14.1. The Planet Mobilization roadmap

[GRI 305-5]

As a responsible business, we have embarked upon an ambitious policy to limit the direct and indirect impacts of our operations and products on the environment. Involved in environmental protection since 2010, we have updated our "Planet Mobilization" roadmap to reflect current and future issues, stakeholder concerns, and the risks and opportunities, in line with Sanofi's global strategy.

The Planet Mobilization roadmap sets out our environmental strategy, and the objectives set for our entire value chain for 2020 and 2025.

It is overseen by a committee consisting of our Executive Vice President, Global Industrial Affairs (also a member of our Executive Committee); the heads of Environment, Communication, Procurement, Supply Chain, and R&D France; and a representative from our Marketing function.

The core issues addressed by Planet Mobilization are:

- combat climate change and aim for carbon neutrality by 2050, and set Sanofi on a trajectory for limiting global warming to 2°C;
- limit our environmental footprint and seek out circular economy solutions, favoring use/reuse of resources and reducing the impact of our emissions to protect health and the environment; and
- improve the environmental profile of what we produce, by delivering eco-innovative products that embody our eco-friendly ambitions and by favoring sustainable use of medicines.

To support delivery of our roadmap objectives, we have built commitment among our employees by encouraging an environmental culture at work and in everyday life, and among our subcontractors by signing them up to environmental ambitions.

The table below summarizes all our objectives for 2020 and 2025:

Environmental issue	Key Planet Mobilization commitments 2015 - 2025	2019 progress against: 2018	2019 progress against: 2015 (baseline year)	Contribution to SDGs
Climate change and carbon footprint (CO_2 emissions)	Industrial, R&D and tertiary sites for Scopes 1 & 2 (including medical rep fleet) 50% reduction in greenhouse gas emissions (CO_2 equivalent) by 2025 (relative to 2015)	-3%	-12%	**SDG 13:** Take urgent action to combat climate change and its impacts
	Achieve carbon neutrality in 2050 for emissions caused by our operations	Ongoing		
Water (withdrawal)	Industrial, R&D and tertiary sites 10% reduction in water consumption by 2020 (relative to 2015)	-7%	-19%	**SDG 6:** Ensure availability and sustainable management of water and sanitation for all
	Management plan at all sites (priority to those in water stress zones)	Ongoing		
Pharmaceutical products in the environment	Industrial and R&D sites Emission management plan by 2020 at all priority sites At all sites by 2025	Ongoing		**SDG 12:** Ensure sustainable consumption and production patterns **SDG 12.4**: By 2020, achieve environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment.
Waste	Industrial, R&D and tertiary sites Recycle/Reuse/Recover (3R) rate > 90% in 2025 (>80% in 2020)	3%	14%	**SDG12.5:** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
	Landfill disposal rate < 1% in 2025 (<3% in 2020)	-4%	-	
Biodiversity	Biodiversity awareness plan on all sites	Sanofi World Environment Day in April		**SDG 15:** Protect and restore terrestrial ecosystems, and halt biodiversity loss

4.2.14.2. Climate change: towards carbon neutrality

As a major player in the pharmaceutical industry and the world of healthcare we have a major role to play in combatting and adapting to climate change, drawing on our expertise in prevention, research and treatment. We publicly share our achievements in limiting our environmental footprint on a regular basis, and 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 (see section 4.2.14.2.4, “Climate-related health issues”).

We set targets for reducing our scope 1 and 2 climate footprint as far back as 2010. 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. At the 21st Conference of the Parties (COP 21) on climate change in 2015, we signed up to the appeal for business to mobilize against climate change. We reiterated this commitment at the One Planet Summit organized by the French government in December 2017. In 2019, Sanofi was one of the 99 major French companies to sign the MEDEF French Business Climate Pledge.

And in 2018, we joined the Science Based Targets initiative (SBTi), underscoring our commitment to align our direct and indirect carbon emissions objectives on the 1.5°C trajectory recognized by the international community as indispensable for limiting global warming. Those objectives will also help us build our own resilience against climate challenges.

As part of the Planet Mobilization governance structure, we have set up a Climate Committee to drive the program around the recommendations made by the Task Force on Climate-related Financial Disclosures (TCFD). The committee is tasked with drawing up plans to increase the resilience of our value chain under various climate scenarios, including the IPCC’s below 2°C scenario.

Our performance is also being evaluated via the Carbon Disclosure Project (CDP) using their Climate Change questionnaire. In their 2019 campaign, Sanofi obtained a B rating, based on 2018 data.

Our ambition is to become carbon neutral by 2050 in terms of emissions from our sites and our medical rep vehicle fleets (Scopes 1 & 2). Our intermediate goal is to reduce our CO_2 emissions by 50% by 2025 (from a 2015 baseline) for the same scopes.

4.2.14.2.1. Energy

[GRI 302-1, GRI 302-4]

4.2.14.2.1.1. Improve energy efficiency and encourage the use of renewables

To address the challenges of diminishing fossil fuel resources and climate change, we have adopted an approach that combines energy efficiency (consume less, consume smarter) with decarbonization of our energy supplies (consume differently).

Our energy efficiency approach extends to all our activities, buildings, processes and utilities. It takes in the architectural and functional design of new buildings, and our medical rep vehicle fleets. An energy saving program is in place at all of our sites. In 2019, 27 of our sites had ISO 50001 certification (Energy Management Systems). Various levers are being activated (depending on the activity carried on at the site), with a specific focus on air treatment systems that ensure high-quality environments in manufacturing and R&D buildings, which can account for up to 70% of energy consumption. However, these systems are important for the quality and safety of our medicines, and any alterations must be validated.

We have issued standards requiring energy efficiency to be built into the design and selection of plant and equipment that use energy. Our Sustainable Buildings Charter also helps promote energy-efficient buildings. At the end of 2019, over ten of our administrative buildings were certified LEED, BREEAM or HQE.

We also operate a low-carbon energy policy, favoring the use of lower-carbon energies for our projects and buying in electricity from certified renewable sources. As a result, at the end of 2019 11% of the electricity we buy is 100% renewable, and certified as such by guarantees of origin.

Renewables represent 17% of our electricity consumption.

Finally, we have signed a renewable electricity Power Purchase Agreement with Enel in Mexico to supply energy to our three Mexican sites.

4.2.14.2.1.2. Energy consumption

Energy consumption (MWh)	2019	2018	2015 (baseline year)
Natural gas	2,134,909	2,169,022	2,144,747
Electricity[(a)]	1,427,319	1,557,898	1,628,570
Renewables[(b)] (electricity and biofuels)	186,926	41,872	42,478
Other energy sources (bought-in steam, waste-to-energy)	471,021	449,558	428,434

(a) Includes the country-level energy mix but excludes renewable electricity from Sanofi in-house projects.

(b) Includes renewable electricity from Sanofi in-house projects.

We have reduced our energy consumption by 1% relative to 2015.

4.2.14.2.2. Greenhouse gas emissions

4.2.14.2.2.1. Emissions linked to energy consumption: Scopes 1 & 2

[GRI 305-1, GRI 305-2]

The Planet Mobilization project sets more ambitious targets for reducing Scope 1 & 2 emissions, including our industrial, R&D and tertiary sites but also our medical rep vehicle fleet: we are targeting a 50% reduction by 2025 from the 2015 baseline. The ultimate goal is to be carbon neutral by 2050.

Alongside efforts to make our buildings and processes more energy efficient, we have introduced a policy for sales rep travel (including vehicle buying and eco-driving courses) that cut CO_2 emissions by 26% between 2015 and 2019.

We also have policies in place for managing our use of refrigerants. These include switching to substitute refrigerants with a lower global warning impact, improving leak prevention, and systematically analyzing accidental discharges so that we can learn the lessons and share them across all our sites. In four years, we have reduced the impact of refrigerant discharges by 42%, from 53,000 tonnes of CO_2 equivalent to 31,000 tonnes.

Greenhouse gases (Tonnes of CO_2e)[(a)]		2019	2018	2015 (baseline year)
Scope 1	Direct emissions	460,108	476,487	472,243
	Direct emissions from medical rep vehicle fleet	99,313	99,987	133,837
Scope 2	Indirect emissions	370,508	382,022	455,412

(a) CO_2e = CO_2 equivalent.

Direct and indirect CO_2 emissions were 3% lower in 2019 than in 2018.

Compared to 2015 (the baseline year for the Planet Mobilization program), direct and indirect emissions linked to energy consumption (Scopes 1 & 2) are down 12%.

4.2.14.2.2.2. Indirect emissions: Scope 3

[GRI 305-3]

Including Scope 3 emissions gives a broad indication of total CO_2 emissions generated by Sanofi across the entire value chain. Scope 3 calculations are based on a wide range of data, so there is a high degree of uncertainty. Keen to improve the quality of our Scope 3 data year by year, we refined our methodology in 2019 and recalculated our 2018 emissions accordingly; see section 4.5.2.4.3, "Carbon footprint". It was not possible to do a similar recalculation for earlier years.

Scope 3 was calculated for the 15 categories listed in the Greenhouse Gas (GHG) protocol. Eleven of those categories are significant, and six of them accounted for over 90% of our Scope 3 greenhouse gas emissions in 2019.

Scope 3 *(Tonnes of CO_2e)*[(a)]	2019	2018
Calculated Scope 3 emissions (upstream)		
Category 1: Purchased goods and services	3,823,973	3,568,220
Category 2: Capital goods	652,794	619,972
Category 3: Fuel and energy-related activities	358,678	370,315
Category 4: Upstream transportation and distribution	216,483	225,382
Category 5: Waste generated in operations	372,442	371,036
Category 6: Business travel	154,990	151,372
Category 7: Employee commuting	150,766	161,037
Sub-total: calculated Scope 3 emissions (upstream)	5,730,126	5,467,334
Estimated Scope 3 emissions (downstream)		
Category 9: Downstream transport and distribution	874	851
Category 10: Processing of sold products	112,518	115,755
Category 11: Use of sold products	55,855	316,255
Category 12: End-of-life treatment of sold products	222,701	177,524
Sub-total: estimated Scope 3 emissions (downstream)	391,948	610,385

(a) CO_2e = CO_2 equivalent.

(b) 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.

Our 2019 CO_2 emissions are stable versus 2018; the year-on-year difference is not meaningful given the uncertainties inherent in the many assumptions underlying the calculations.

Nevertheless, a number of major factors can be highlighted:

- Category 1: This category includes bought-in materials such as chemical raw materials, outsourced production, packaging, and medical devices. The rise in emissions for this category reflects an increase in volumes purchased.
- Category 11: The significant reduction in 2019 versus 2018 mainly reflects our divestment of the facility at Holmes Chapel (UK), which manufactured products containing propellants.
- Category 12: The year-on-year rise mainly reflects an increase in the volume of packaging and medical devices, and an upward revision to the assumption on the percentage of unused medicines.

4.2.14.2.3. Adapting to the consequences of climate change[(1)]

Extreme weather events 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.

4.2.14.2.4. Climate-related health issues

Climate change is one of the greatest health challenges of our century. The World Health Organization (WHO) expects that between 2030 and 2050, climate change will lead to nearly 250,000 additional deaths each year. The direct effects of climate change include increased heat-related stress, floods, droughts, and extreme weather events such as hurricanes. However, there are also indirect effects such as atmospheric pollution; the propagation of diseases by vectors such as mosquitoes; an exponential rise in the allergenic potential of pollens; displacement of people; and post-traumatic stress caused by natural disasters.

We are also working on several research and development programs for climate-sensitive diseases, including:

- fine-tuning an oral treatment for sleeping sickness;
- developing a novel cell-culture yellow fever vaccine specifically for Latin America; and
- research into new malaria treatments to counter potential resistance.

At the same time, we are working on prevention and awareness programs for at-risk populations:

- promoting affordable treatment programs and prevention programs in the most malaria-prone regions;
- rolling out medical education programs for healthcare professionals in various regions, including India, Brazil, Mexico and the Middle East; and
- using the Sanofi Espoir Foundation to provide aid to communities suffering humanitarian crises caused by extreme weather events.

4.2.14.3. Water: a renewable and sustainable energy source

4.2.14.3.1. Water resource management plan

[GRI 303-2]

Water is a key component in our industrial operations. We need it to keep our factories running, and it is an integral part of the manufacturing process for medicines.

Sanofi was evaluated by the Carbon Disclosure Project (CDP) in its 2019 water questionnaire, obtaining an A- rating.

Utility services (steam, process water and cooling systems) are by far the biggest users of water at Sanofi. Water is primarily used as a vector for calorific transfer (cooling and heating) in the manufacturing processes for our products, from chemical synthesis to vaccine manufacture.

Water is also used directly in chemical and pharmaceutical production, whether as an ingredient at the synthesis or formulation stage or to clean equipment and networks between production cycles. In such cases, a range of water treatment processes are in place at each site to guarantee a very high degree of purity prior to use.

We seek to use this resource responsibly, by implementing water management plans at our sites, and pay particularly close attention to sites identified as sensitive in terms of water use.

Further investigations have been carried out based on our own local data and a comprehensive independent review. This has enabled 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. The four sites regarded as priority at-risk sites are Brindisi (Italy), Vertolaye (France), Karachi (Pakistan) and Jakarta (Indonesia). A further 13 sites are on the watch list. Our water risk mapping was updated in 2019.

4.2.14.3.2. Water consumption

[GRI 303-1]

Water used during manufacturing and heat exchange (heating or cooling for processes, with no contact with manufacturing) is essentially withdrawn directly by Sanofi from underground or surface bodies of water. We have specific operating procedures for effectively managing our use of water, and for reducing our consumption through moderation and recycling

More than 50 of our sites cut their water consumption in 2019, resulting in a reduction in water consumption of 7% versus 2018 and 19% versus 2015, well above our 10% objective.

(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.

Water consumption (millions of m^3 per year)	2019	2018	2015 (baseline year)
Withdrawal of surface water (lakes, rivers, etc.)	8.9	9.1	11.2
Withdrawal of groundwater	18.0	20.2	23.3
Withdrawal of water from public supply	7.5	7.7	8.3
Other sources	0.2	0.2	—

4.2.14.4. Waste: towards a circular economy

The key to our waste management policy is to reduce waste generation at source, followed by a systematic examination of reuse/recycle possibilities before waste is disposed of in any other manner (such as incineration with thermal recovery). Landfill is only used as a last resort, and must be subject to audit.

We pay particular attention to on-site waste management, so that we can categorize and identify waste generated by each process and then collect, sort, store, transport and treat each type of waste appropriately.

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-specific 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).

Some of our waste is reprocessed on site so that it can be reused. For example, in 2019 we prevented 120,000 tonnes of solvent waste by regenerating solvents and feeding them back into our industrial processes.

4.2.14.4.1. Waste generated

[GRI 306-2]

We have set two 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 landfill disposal rate to 1%.

At end 2019, our 3R rate was 75% (excluding on-site recycling of solvents).

The landfill disposal rate in 2019 was 8%. A total of 59 sites no longer send waste to landfills, versus 48 in 2018.

Waste (tonnes)	2019	2018	2015 (baseline year)
Hazardous waste			
Recycled hazardous waste	28,817	27,289	33,926
Hazardous waste incinerated with thermal recovery	58,280	58,119	38,865
Hazardous waste incinerated without thermal recovery	38,581	37,083	103,941
Hazardous waste sent to authorized landfills	2,664	2,765	2,255
Sub-total: hazardous waste	128,342	125,256	178,987
Non-hazardous waste			
Recycled non-hazardous waste	90,873	91,346	85,472
Non-hazardous waste incinerated with thermal recovery	23,177	18,862	18,094
Non-hazardous waste incinerated without thermal recovery	7,400	12,885	15,064
Non-hazardous waste sent to authorized landfills	18,040	18,895	18,488
Sub-total: non-hazardous waste	139,490	141,988	137,118

Overall, total waste generated by Sanofi is 15% lower than in 2015.

The 28% reduction in hazardous waste volumes between 2019 and 2015 is due partly to changes in activity patterns, but also to investment in onsite biological treatment for biodegradable effluents in our fine chemicals operations.

The 3R rate for hazardous waste in 2019 was 68%.

We generated 2% less non-hazardous waste in 2019 than in 2018.

4.2.14.4.2. 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: 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 service management: matching quantities to needs and using just-in-time techniques for some outlets; charging users for bread so that they do not automatically take it 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.
- Management of leftovers and waste: 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), using sort bins instead of trash cans, and sharing good practice in preventing food waste.

4.2.14.4.3. Packaging

For some years, many of our industrial sites have been simplifying, standardizing and optimizing both primary packaging (blister packs) and outer packaging for all our solid form products and pills. These initiatives should reduce our use of plastics, aluminum and cardboard, and also reduce our freight needs. We are now extending this approach to the rest of our portfolio as part of our drive for continual improvement.

A good examples is the Sanofi Pasteur Compact Box, which in 2017 won the Pharmapack Europe Eco-Design Award. This innovative design, developed with a business partner, halves the volume of vaccine packaging and eliminates the need for PVC blisters. The Compact Box is being accompanied by an upscaling of packaging, helping optimize cold chain distribution.

4.2.14.5. Environmental releases

[GRI 413-2]

Our R&D and manufacturing operations – and the storage and transportation of raw materials, products and waste – are associated with various potential risks relating to the release of toxic chemicals or biological pathogens that may adversely affect the environment or human health. We have implemented a range of action plans to limit these impacts, ensure that we comply with regulations and our own internal directives, and anticipate the impact of new and emerging regulations relating to the release of contaminants into the environment in every country where we operate. We are also working in impacts that occur after patients have used our products.

4.2.14.5.1. Organization

Our Environment department is part of our HSE department; for details about our organization in this area, see section 4.2.2., “Employee health and safety”.

4.2.14.5.2. Policies and action plans

4.2.14.5.2.1. Managing pharmaceutical contamination and combatting bioresistance

Pharmaceutical substances may be found in the environment as a result of medicines taken by patients and then excreted; inappropriate disposal of unused or date-expired medicines; and effluent from manufacturing sites. We strive to prevent and reduce the environmental impact of pharmaceutical substances (including antibiotics) by taking actions across the entire life cycle of our products, from development and manufacturing to end-of-life post patient use. Our key actions are:

- Evaluating and reducing the potential environmental impacts of our production sites, through a global program with a particular focus on the discharge of pharmaceutical substances in effluents.
- Obtaining new data to improve our understanding of how medicines impact on the environment, and assessing the environmental risks associated with patient use.
- Promoting the proper use of our products, through awareness campaigns directed at healthcare professionals and/or patients. Using medicines properly not only improves patient health, it also helps the environment: correct diagnosis, prescription and dispensing, followed by good therapeutic observation and proper disposal of unused medicines, all reduce the impact of waste medicines on the environment;
- Encouraging responsible disposal of unused or date-expired medicines, by raising patient awareness and supporting collection programs.

We have also signed up to the Anti-Microbial Resistance (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 shared environmental limits.

4.2.14.5.2.2. Managing other types of wastewater discharge

Directly related to our policy on managing pharmaceutical substances in the environment is our commitment to managing wastewater discharge. We have various programs in place for:

- monitoring trends in the concentration of pollutants in the natural environment;
- reducing the quantities discharged at source; and
- installing state-of-the-art or innovative treatment facilities at sites, where necessary.

Wastewater generated by our operations is always treated before being discharged into the natural environment, either directly using our own installations or indirectly under agreements with municipal or industrial partners to use their treatment facilities.

Our own in-house treatment plants are subject to a rolling program of maintenance, monitoring, reporting and performance optimization. This includes equipment upgrades, and improvements to flow management such as treatment at source, flow segregation and dedicated treatment processes.

Onsite HSE teams are responsible for checking that our discharges comply with all relevant licenses and agreements. They are also tasked with implementing environmental and public health impact assessment programs. These programs involve:

- profiling flows of pollutants (sources, quantities and composition);
- pollution management strategies (reduction at source, segregation, outsourcing, and dedicated or centralized treatment facilities); and
- monitoring discharge and auditing the performance of treatment facilities.

4.2.14.5.2.3. Managing airborne emissions: optimizing the use of solvents and control over volatile organic compound emissions

Solvents (primarily used in the production of active ingredients, and in their 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 on site. We encourage process optimization, regeneration (when possible) and waste-to-energy technology in an effort to reduce consumption.

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:

- avoiding the use of solvents by substituting biological processes for chemical processes;
- encouraging the recycling of solvents;
- selecting the least toxic solvents;
- 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, activated carbon).

4.2.14.5.3. Performance indicators

Significant events with an environmental or regulatory impact are systematically reported at global level.

4.2.14.5.3.1. Managing releases of pharmaceuticals into the environment

Since 2016, we have been gradually rolling out a program to evaluate and reduce the environmental impact of potential releases of pharmaceutical substances from our manufacturing sites. At site level, this translates into dedicated discharge management plans that include a profile of discharges and emissions, the application of environmental thresholds, and the implementation of any risk management measures that may be necessary. At the end of 2019, this program covered 37% of our chemical synthesis and dosage form sites, and 75% of our priority sites (which are identified on the basis of a risk analysis by substance and by site).

We are proactively assessing the environmental impact of the active ingredients in the products we sell, starting with our strategic products. Our efforts in this field are being supported by research partnerships with various stakeholders, including universities and other manufacturers. We have drawn up an initial priority list of over 160 active ingredients. Our evaluation program has already covered 34% of those substances.

We also support unused medicine collection schemes (like the Cyclamed scheme in France) in many countries. Finally, we conduct awareness campaigns to help patients use medicines properly, especially antibiotics.

4.2.14.5.3.2. Managing other types of wastewater discharge

The data reported correspond to effluents reaching the environment (i.e. after internal and/or external treatment, depending on the site). Chemical oxygen demand (COD) is the primary environmental indicator of effluents. If no information on external treatment is available, a conservative purification rate of 50% is applied as a default.

Wastewater discharge (tonnes)	2019	2018	2015 (baseline year)
COD	2,070	2,003	2,596

There was virtually no change in COD releases into the environment in 2019 versus 2018.

During 2019, projects to extend wastewater treatment facilities continued to be developed around the world.

4.2.14.5.3.3. Managing airborne emissions: optimizing the use of solvents and control over volatile organic compound emissions

[GRI 305-7]

Solvents (tonnes)	2019	2018
Solvents used	184,905	187,133
Percentage of regenerated solvents	62%	64%

Volatile organic compounds (VOCs) (tonnes)	2019	2018
VOCs (estimated)	3,085	3,373
SOx – direct emissions	97	150

NOx (tonnes)	2019	2018
NOx – direct emissions	442	428

Total airborne releases of VOCs were 8% lower in 2019 than in 2018, thanks to our proactive monitoring and control policy. We have invested heavily in new techniques to improve thermal oxidation efficiency.

4.2.14.5.4. Remediation

4.2.14.5.4.1. Programs and resources devoted to preventing 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.

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.

Environmental fines imposed on Sanofi in 2019 were immaterial.

4.2.14.5.4.2. 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, 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 and Portland in the United States; Frankfurt in Germany; Brindisi in Italy; Dagenham in the United Kingdom; Ujpest in Hungary; Beaucaire, Valernes, Limay, 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 2019 Annual Report on Form 20-F. In 2019, Sanofi spent €70 million on rehabilitating sites previously contaminated by soil or groundwater pollution.

Due to 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 €738 million as of December 31, 2019, compared with €680 million in 2018. 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 2019 Annual Report on Form 20-F.

4.2.15. Procurement and subcontracting

[GRI 102-9, GRI 407-1, GRI 414-2]

We buy raw materials, goods and services all round the world, and use a diversified panel of suppliers reflecting the diversity of our activities. Our Procurement function is centralized, and acts in the name of all Sanofi entities (including our Global Business Units and support functions). This structure delivers synergies, in terms of both expertise and procurement costs. Our procurement policy, which applies to all our employees, is based not only on economic principles but also on ethical, environmental and social principles.

Procurement key figures	2019	2018	2017
Procurement spend (€ billion)	14.5	15.6	14.6
in OECD countries	12.2	13.3	12.2
in non-OECD countries	2.3	2.3	2.4
Number of suppliers	68,000	86,000	87,400
Number of countries where we have suppliers	152	157	156

Sanofi is a member of the Pharmaceutical Supply Chain Initiative (PSCI), which aims to improve practices at industry-specific suppliers by establishing common standards, providing support and training programs for suppliers, and arranging shared audits.

In September 2019, PSCI hosted two 2-day training courses for active ingredient suppliers, in Hyderabad (attended by 30 of our Indian suppliers) and in Hangzhou (attended by 25 of our Chinese suppliers). The issues covered were pharmaceutical residues in the environment and antimicrobial resistance; business ethics and human rights; safety and the environment; safe processes; and occupational health.

We have also signed up to the Together for Sustainability (TfS) initiative, a worldwide program to evaluate and improve sustainable procurement practices adopted by suppliers. Under the TfS initiative, supplier evaluations and audits are carried out, and the results shared between TfS members via a collaborative online platform.

Our Responsible Procurement approach requires our suppliers to adhere to Sanofi's commitments on human rights, health and safety and the environment via our Suppliers Code of Conduct. In addition, we conduct anti-corruption due diligence before doing business with at-risk suppliers.

All 250 procurement categories were evaluated during 2018 and rated on a scale from 1 to 4 in terms of their inherent risk to health and safety, the environment, and human rights. Inherent risk is defined as the external, business-related risk (regardless of the country where that business is carried on) that suppliers in a given procurement category will endanger health and safety, violate the human rights of their workers, or cause harm to the environment.

The risk rating reflects:

- for health and safety: the number of people potentially affected, and the severity and irreversibility of the accidental or chronic harm caused;
- for the environment: the extent and irreversibility of the negative consequences (in terms of pollution and consumption of natural resources) for the environment, communities and biodiversity (not necessarily limited to the site itself); and

- for human rights: the characteristics of the labor force (level of qualification, headcount, extent of reliance on temporary labor), and the human rights sensitivity of the products used (supply chain).

An overall composite rating was calculated for each procurement category, and 44 were regarded as inherently high-risk in terms of environmental protection, health and safety, and human rights. Those 44 categories were associated with waste management, demolition, depollution, major construction works, hazardous products, active ingredients, natural products, pharmaceutical subcontracting, clinical trials, transport and distribution, site operations, security services, travel and events, and recruitment agencies.

This new risk mapping exercise enabled us to determine response typologies for each category identified as being at risk with reference to the vigilance plan (health and safety, environment and human rights). The response depends on the risk rating, the country, the characteristics of the service provided (such as on/offsite, the service-provider's organizational structure, recurrence, etc.) and the volume of spend. Examples of potential risk management responses include audits (by our internal auditors, or via the PSCI or TfS industry-wide initiatives), risk assessments, prevention plans or targeted awareness campaigns.

Suppliers identified as being in the highest risk categories have their CSR performance assessed by an external service-provider. The results of those assessments are fed back into the procurement risk management process, driving constant improvement among our supplier base. The process covers more than 200 suppliers a year, with the aim of covering 100% of our high-risk strategic suppliers by the end of 2020.

We assessed 240 suppliers in 2019. Of these, 161 were undergoing a reassessment, and 58% of those had improved their rating after following an action plan.

We also aim to have completed audits of all our suppliers of high-risk critical active pharmaceutical ingredients (APIs) and all our contract manufacturing organizations (CMOs) by the end of 2020, under a phased plan that reflects the level of risk:

- 2017-2019: focus on suppliers of antibiotics and hormones; and
- 2018-2020: focus on suppliers of feedstock (synthesis intermediates).

	2019	2018	2017
Number of Sanofi CMO audits	72	64	70
Number of audits of active pharmaceutical ingredient (API) suppliers	87	90	88

Results from these audits showed that one-quarter of the suppliers failed to meet the required standard, mainly suppliers based in India and China. All of those suppliers will have to follow a corrective action plan. Of the API suppliers audited in 2017 and 2019, 65 have been issued with a corrective action plan, and more than half of those have improved their performance. An action plan follow-up audit was conducted at 42 of our CMOs in 2019.

4.3. Other Vigilance Plan issues

4.3.1. Oversight

Our vigilance approach is under the joint control of our heads of CSR and HSE. Global coordination is provided by the CSR department, who ensure that there is a good fit between the various measures in the vigilance approach, and that those measures are implemented.

The CSR department works closely with our HSE, Procurement, Legal Affairs and Ethics & Business Integrity departments in our inter-departmental Vigilance Working Group, whose remit includes global oversight of Vigilance Plan implementation. Monitoring of risk management policies and whistle-blowing systems is the responsibility of the specific departments concerned, such as HSE.

4.3.2. Dialogue with stakeholders

During 2019, we hosted five meetings of a working group set up by the Group Vigilance Plan Committee, dealing successively with: risk mapping on workers' human rights; responsible procurement; the whistle-blowing system; supplier evaluations; and an overview of progress during 2019.

We recognize the importance of these issues, and are determined to build a robust and sustainable approach to vigilance, especially on human rights. That is why we have shared the content of our approach with external stakeholders such as the University of Paris I, *Entreprises pour les droits de l'Homme* ("Businesses for Human Rights"), a French not-for-profit organization that supports businesses as they make progress on human rights (www.e-dh.org); Together for Sustainability (TfS); and the Pharmaceutical Supply Chain Initiative (PSCI). We have also shared our approach with French bodies including AFEP (the French employers' federation) and France Chimie, and with international bodies such as the World Bank and the World Business Council on Sustainable Development (WBCSD).

4.3.3. Whistle-blowing systems and report-handling

A whistle-blowing system has been in operation at Sanofi since 2006, enabling any employee to report any breach of our Code of Ethics. It covers the issues identified in the Vigilance Plan, and is described in section 4.2.12.2.3., "Whistle-blowing".

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

4.4. Sanofi's contribution to Sustainable Development Goals

Today we are confronted by societal challenges like a growing and ageing population, income disparities and climate change. At the same time, technological advances (such as the rise of digitization) present significant opportunities as well as challenges. Given these profound upheavals, companies are not only required to perform well financially, but must also explain what they are doing to respond to those challenges and demonstrate that they are making a positive contribution to society.

Sanofi's primary contribution is to serve patients' needs throughout their health journeys, whether they be a rare disease sufferer or one of the millions of men and women living with a chronic illness. It also includes providing vaccine protection to populations, as well as pain relief treatments.

In this respect we contribute to Sustainable Development Goal 3: "Ensure healthy lives and promote well-being for all at all ages", in particular SDG 3.3 on communicable diseases through our vaccine portfolio and SDG 3.4 on non-communicable diseases through our treatments for diabetes, cardiovascular diseases and rare diseases. Details about our programs on access to healthcare for the underserved are provided in section 4.2.3.

In addition to SDG 3, Sanofi initiatives that contribute to SDGs are shown in the table below:

Topic	Ambition	Progress 2019	Progress 2018	Contribution to SDGs	
Access to healthcare for the underserved					
Infectious diseases	To help eradicate sleeping sickness by 2020. To help eradicate polio by 2023.	See Section 4.2.3.2., "Infectious diseases".		SDG 3: Good health and well-being	**SDG 3.3:** By 2030, end the Aids epidemic, tuberculosis, malaria and neglected tropical diseases, and combat hepatitis, water-borne diseases and other communicable diseases.
Non-communicable diseases	To help reduce the burden on low and intermediate income countries of non-communicable diseases like childhood cancer, diabetes and mental health disorders.	See Section 4.2.3.3., "Non-communicable diseases".			**SDG 3.4:** By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being.
Human capital					
Gender balance	Achieve gender balance in Sanofi Senior Leaders by 2025.	37.2%	35.5%	SDG 5: Gender equality	**SDG 5.5**: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.
Corporate citizenship					
Decent work	Reduce the total occupational injury frequency rate (FR) – any employee below 2 by 2020 Reduce the lost time injury frequency rate – any employee below 1.4 by 2020	Total occupational injury FR – any employee: 2.1 Lost time injury FR – any employee 1.5	Total occupational injury FR – any employee: 2.4 Lost time injury FR – any employee 1.8	SDG 8: Decent work and economic growth	**SDG 8.8:** Protect labor rights and promote safe and secure working environments for all workers, including migrant workers, in particular women migrants, and those in precarious employment.
Communities	In France, have 10% of work/study placements occupied by young people from deprived urban areas by 2020	6.4%	6.6%	SDG 4: Quality education	**SDG 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.
Healthy planet					
Climate change - Carbon footprint (CO_2 emissions)	Reduce greenhouse gas emissions (Scopes 1 & 2) by 50% by 2025, versus 2015 Achieve carbon neutrality in 2050 for emissions caused by our operations	-12%	-9%	SDG 13: Climate action	**SDG 13:** Take urgent action to combat climate change and its impacts
Water	10% reduction in water consumption by 2020 (relative to 2015)	-19%	-14%	SDG 6: Clean water and sanitation	**SDG 6:** Ensure availability and sustainable management of water and sanitation for all.
	Implement a management plan at all sites by 2025 (priority to those in water stress zones)	See Section 4.2.14.3.1., "Water resource management plan".			
Waste	Reuse/recycle/recover at least 90% of our waste by 2025	75%	73%	SDG 12: Responsible production and consumption	**SGD 12.4**: By 2020, achieve environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment. **SDG 12.5:** By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse
	Achieve landfill disposal rate below 1% of total waste by 2025	8%	8%		
Pharmaceutical products in the environment	Implement a life cycle management plan at all priority production sites by 2025	75%	All chemicals facilities evaluated		
Biodiversity	Promote biodiversity on all our sites by 2025	127 sites in 58 countries	127 sites in 58 countries	SDG 15: Life on land	**SGD 15**: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

4.5. Methodological note on data reporting

[GRI 102-46, GRI 102-48, GRI 102-49]

4.5.1. General information

4.5.1.1. Scope of consolidation

Unless otherwise specified:

Social data:

- HR data are consolidated for all Sanofi companies worldwide that are (i) fully consolidated for financial reporting purposes and (ii) have been integrated into the Workday Global HR system, regardless of their activity (industrial, research, commercial or administrative); and
- Health and safety data (occupational injuries):
  - are consolidated worldwide for all Sanofi companies fully consolidated for financial reporting purposes. In some tables, the term "any employee" includes Sanofi employees, temporary workers, and subcontractors;
  - in the case of an acquisition, the new site must start reporting in the month when it joins the Sanofi scope of consolidation (official date of first-time consolidation for financial reporting purposes), or in the case of a site under construction, from the commencement of works; and
  - if a site is divested, it ceases to be reported from the official date on which the divestment is recognized for consolidated financial reporting purposes.

Environmental data:

- Environmental data (including expenditures) are consolidated for all industrial, R&D and administrative sites, for all Sanofi companies fully consolidated for financial reporting purposes.
- The environmental impact of CO_2 emissions from our vehicle fleet covers all Pharmaceutical Operations subsidiaries (field sales forces, but excluding management).
- First-time consolidations:
  - If a site is acquired, it must start reporting in the month when it joins the Sanofi scope of consolidation. To ensure year-on-year comparability, data from the year of first-time consolidation are also added back for prior years.
  - If a new facility is installed, data reporting must start in the month when it comes into service. The data are not added back to prior years, because it is a new activity.
- Deconsolidations:
  - If a site is divested without its activities being transferred to another Sanofi site: reporting for the site ends on the official date on which the divestment is consolidated for financial reporting purposes. The historical data are retained but are no longer consolidated.
  - If a site is divested and its activities are transferred to another Sanofi site: reporting for the site ends on the official date on which the divestment is consolidated for financial reporting purposes. The historical data are retained, and consolidated by the transferee site.

Environmental data other than Scope 3 are reported on a proforma constant scope basis.

Vigilance Plan:

The Vigilance Plan covers the operations of (i) Sanofi, (ii) all Sanofi companies fully consolidated for financial reporting purposes, and (iii) Tier 1 suppliers and subcontractors of all companies included in (i) and (ii).

For a list of companies fully consolidated by Sanofi for financial reporting purposes, refer to Note F to our consolidated financial statements, included at Item 18 of our 2019 Annual Report on Form 20F.

4.5.1.2. Changes in scope of consolidation

Bioverativ and Ablynx were acquired in 2018.

Ablynx was fully integrated into the Workday Global HR system as of January 1, 2019, but data for Ablynx was manually consolidated for inclusion in the 2018 workforce numbers and movements. Bioverativ was only partially integrated into Workday at first: its employees in Japan and Australia (21.1% of Bioverativ's total workforce) were not integrated until the second quarter of 2019. The Japanese and Australian employees of Bioverativ were not consolidated in the 2018 workforce numbers or movements.

Environmental and Health & Safety data for Ablynx and Bioverativ are included in the reporting scope from 2019 onwards.

4.5.1.3. Reporting methods

- **Social data:**

  Workday was rolled out between 2015 and 2017 with the following key objectives:

  – integrating our processes and systems in a two-tier architecture (global/local), such that the global level becomes the master application for most data but local legal requirements could also be addressed;

  – simplifying and standardizing processes across business units and support functions;

  – centralizing data management on a single, unified platform, to significantly improve the quality of HR data and reporting;

  – introducing self-service to enhance the user experience for employees and managers and help them engage better with HR issues;

  – improving talent management and staff mobility; and

  – streamlining IT mapping.

  In 2018, the Workday Global HR platform replaced the Convergence platform as the tool used to record workforce numbers and movements. The Core HR processes were rolled out in waves across successive geographies during 2016 and 2017. In addition to these core processes, the Organization Management, Talent & Performance, Recruitment, Onboarding, Compensation and Grading modules have also been rolled out. Workday is used by all Sanofi employees and managers in Employee Self-Service (ESS) and Manager Self-Service (MSS) modes. Specific work on data quality was carried out during the rollout, and is continuing through maintenance and ongoing improvements to the system.

- **HSE data**:

  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:

  – Health and Safety: we have used the SHERPA system to collect and consolidate safety data across our entire reporting scope since 2017.

  – Environmental data:

    We use the SHERPA system to collect and consolidate environmental data.

    The reporting period for our environmental indicators for a given calendar year runs from October 1 of the previous year through September 30 of the current year. Environmental indicators are collected during an annual campaign, except for indicators relating to energy/water consumption and waste, which are collected quarterly.

    The method used to integrate companies acquired since 2015 into the 2015-2025 Planet Mobilization plan is as follows (illustrative example): a company acquired in 2019 is included in the baseline year (2015) and the intervening years (2016 and 2018) on the basis of its 2019 data, so as to report data on a constant scope basis.

4.5.1.4. Additional information and methodological limitations

The methodologies applied for some HR 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;
- the need to rely on estimates and on representative rather than actual metrics, and the limited availability of external data required for calculations; and
- practical arrangements for the collection and input of data:

  – our change in HR platform from Convergence to Workday: in terms of movements, the reasons for staff departures (“layoffs”, “resignations” and “by mutual agreement”) are more comprehensive in Workday than they were in Convergence. In calculating the resignation rate on permanent contracts, the 2018 figures include resignations only, whereas the 2019 figures also include departures by mutual agreement at the employee’s request. It was not possible to recalculate the 2018 figures to align on this new calculation method. It will however be possible to make like-for-like comparisons next year (2020 versus 2019).

  – the 2018 figures for layoffs comprised the following categories: “layoffs”, “death”, “incapacity”, and all “departures by mutual agreement” (whether at the request of the employee or the employer). By contrast, the 2019 figures for layoffs comprise “layoffs” and “departures by mutual agreement at the employer’s request”. A new “Other” category has been created to separate out death and incapacity. It will however be possible to make like-for-like comparisons next year (2020 versus 2019). This is why to the extent possible, we specify the definitions and methodologies used for each of the indicators described below, and any margin of uncertainty.

4.5.1.5. Consolidation and internal controls

Data are consolidated by our global HR and HSE functions on the basis of information provided by industrial and R&D sites, Sanofi subsidiaries and tertiary sites throughout the world.

Where sites house more than one function, environmental impact is either attributed to the one with the greatest impact or shared among all 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.

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.

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

4.5.2. Detailed indicators

4.5.2.1. Social indicators

4.5.2.1.1. Worldwide workforce

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

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.

4.5.2.1.2. 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.

4.5.2.1.3. 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.

Data on movements (new hires and departures) cover more than 99% 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.

4.5.2.1.4. Training hours

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 2019, the training hours reported derive from the following training systems:

- iLearn, which delivers all compulsory and support function training:
  - Compliance: Ethics & Business Integrity and Pharmacovigilance;
  - Quality;
  - Workplace First-Aiders; and
  - Business Development, Management and Leadership.
- Le@rn, a system dedicated to training in good pharmaceutical practices at Sanofi, which is deployed worldwide;
- Peps, a training system for our German employees; and
- Foederis, a dedicated platform for employees located in France which covers training in various areas (business, regulatory and cross-disciplinary).

4.5.2.1.5. Definition of grades

Executive posts

- Executive Level 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 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.

Senior Leaders: Includes executive posts (other than Executive Committee members) and Grade 5 posts. Grade 5 posts are people with senior management responsibilities in Product Innovation, Processes or Services, who implement policies within their function. They have an impact on the attainment of financial objectives.

This category was created when we set up our new grading system in 2018.

Managers: Employees who manage direct subordinates.

4.5.2.2. Safety indicators

4.5.2.2.1. 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 reps, 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.

4.5.2.2.2. 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.

4.5.2.2.3. 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 reps).

Accidents in public transport or taxis are excluded from our reported data because they are not considered to be Sanofi's responsibility.

4.5.2.3. Environmental indicators

4.5.2.3.1. 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 during the current year, which define emission factors for the year before last. Consequently, those emission factors are applied to data for the baseline year (2015), current year and previous year;
- 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 rep vehicle fleet are included in Scope 1.

Scope 3 calculation:

- 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; for sub-categories not included in that database, we have used other standard calculation methods.

– Emissions relating to purchased goods and services (category 1) are based on our actual volumes for the previous year, and full-year projected volumes for the current year. This approach was adopted because it allows for optimal modelling of this category (which is our biggest Scope 3 emitter).

– Category 9 (downstream transport and distribution): excludes the impacts of travel by doctors and nurses.

– Category 11 (use of sold products): excludes travel by patients to pharmacies.

The calculation of our CO_2 footprint is reviewed by the Independent Third Party.

Carbon neutrality is defined as zero greenhouse gas emissions. This can be achieved by the use of renewables, by generating energy directly, or by purchasing energy. The carbon-neutral objective covers Scopes 1 and 2, i.e. it includes our production sites, R&D sites and tertiary sites, plus the medical rep vehicle fleet.

4.5.2.3.2. 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 conservative purification rate of 50% is assumed for the purpose of calculating chemical oxygen demand (COD).

The data reported cover all Sanofi sites other than tertiary and logistics sites, which contribute only marginally to COD releases.

4.5.2.3.3. 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 plus solvents recycled on site. Waste includes both hazardous and non-hazardous waste.

A site is considered to be no longer using landfill when its landfill disposal rate is less than 1%.

4.6. Report of the Independent Third Party

[GRI 102-50, GRI 102-56]

Year ended December 31, 2019

Report of the independent third party on the consolidated statement of extra-financial performance

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

To the Annual General Meeting of Sanofi shareholders,

In our capacity as (i) an independent third party accredited by COFRAC under no. 3-1681 (for the scope of our accreditation, go to www.cofrac.fr) and (ii) as a member of the network of one of the statutory auditors of your company (the "entity"), we hereby report to you on the consolidated statement of extra-financial performance for the year ended December 31, 2019 (the "Statement"), included in the management report pursuant to Articles L. 225-102-1, R. 225-105 and R. 225-105-1 of the French Commercial Code.

Responsibility of the entity

It is the responsibility of the Board of Directors to establish a Statement in compliance with legal and regulatory provisions, including a presentation of the business model; a description of the main extra-financial risks; a presentation of the policies applied in respect of those risks; and the outcomes of those policies, including key performance indicators.

The Statement and the information selected by the entity (the "Selected Information") have been prepared in accordance with the entity's procedures (the "Reporting Frameworks"), the significant elements of which are presented in the Statement and available on request at the entity's headquarters.

Independence and quality control

Our independence is determined by reference to Article L. 822-11-3 of the French Commercial Code and the Code of Ethics of our profession. In addition, we have implemented a quality control system, including documented policies and procedures, to ensure compliance with applicable laws and regulations, ethical standards and professional standards.

Responsibility of the independent third party

It is our responsibility, based on our procedures, to express a limited assurance conclusion on:

- the compliance of the Statement with article R. 225-105 of the French Commercial Code;
- the fairness of the information provided pursuant to paragraph 3 of I and II of Article R. 225-105 of the French Commercial Code, i.e. the outcomes of the policies, including key performance indicators, and actions related to the principal risks (the "Information").

It is also our responsibility to express, at the entity's request and outside the scope of our accreditation, a limited assurance conclusion on whether the Selected Information identified by an asterisk (*) in Appendix 1 has been prepared, in all material respects, in accordance with the Reporting Frameworks.

However, it is not our responsibility to express an opinion on the entity's compliance with other applicable legal and regulatory provisions, in particular as regards the Vigilance Plan and the fight against corruption and tax evasion, or on the compliance of the entity's products or services with applicable regulations.

1. Report on the compliance and fairness of the Statement

Nature and scope of our procedures

Our procedures as described below were performed in accordance with Articles A. 225-1 *et seq* of the French Commercial Code, the applicable professional standards of the *Compagnie nationale des commissaires aux comptes*, and ISAE 3000[1]:

- we obtained an understanding of the entity's operations, and of the summary of its principal risks;
- we assessed the appropriateness of the Reporting Frameworks in terms of their relevance, completeness, reliability, impartiality and clarity, with due consideration of industry best practices where applicable;
- we verified that the Statement includes each category of social and environmental information set out in article L. 225-102-1 III of the French Commercial Code, as well as information regarding human rights and the fight against corruption and tax evasion;

- we verified that the Statement presents the information specified in II of Article R. 225-105 of the French Commercial Code where such information is relevant to the principal risks, and includes an explanation of the non-disclosure of any information required by the second paragraph of III of Article L. 225-102-1 of that Code;
- we verified that the Statement presents the business model and a description of the principal risks associated with the entity's operations, including where relevant and proportionate risks associated with its business relationships, its products or services, and its policies, actions and outcomes, including key performance indicators relating to the principal risks;
- we consulted documentary sources and conducted interviews to:
  - assess the process for selecting and validating the principal risks, and the consistency of outcomes (including key performance indicators) with the principal risks and policies presented; and
  - corroborate the qualitative information (actions and outcomes) that we regarded as the most important, as presented in Appendix 1. For some risks (Product Quality, Product Safety for Patients and Consumers, Patient Safety in Clinical Trials, Ethics and Business Integrity) we performed our procedures at consolidating entity level. For the other risks, we performed our procedures at consolidating entity level and in a selection of other entities: in the Europe Region, including the sites at Brindisi (Italy), Val de Reuil (France) and Geel (Belgium); in the North America Region, including the sites at Chattanooga, Swiftwater and Framingham (United States)at Sanofi France; and at Sanofi US.
- we verified that the Statement covers the consolidated scope, i.e. all the companies included in the scope of consolidation in accordance with article L. 233-16 of the French Commercial Code, subject to the limitations set out in the Statement;
- we obtained an understanding of the internal control and risk management procedures applied by the entity, and assessed the data collection process intended to ensure the completeness and fairness of the Information;
- for the key performance indicators and other quantitative outcomes that we regarded as the most important (as presented in Appendix 1), we carried out:
  - analytical procedures to verify that the data collected had been correctly consolidated, and to check the consistency of data trends;
  - substantive tests using sampling techniques, in order to verify that the definitions and procedures had been properly applied and to reconcile the data with the supporting documents. Those procedures were conducted at a selection of contributing entities as listed above, and cover between 10% and 28% of the consolidated data selected for such tests (25% of the workforce, 10% of hazardous waste, 28% of VOC emissions, and 20% of COD emissions);
- we assessed the overall consistency of the Statement based on our knowledge of the entity.

We believe that the procedures performed, based on our professional judgement, are sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures.

Resources

Our procedures involved eleven professional staff and took place between September 2019 and February 2020, over a total engagement period of twelve weeks.

We conducted about thirty interviews with the persons responsible for preparing the Statement, including representatives from Corporate Social Responsibility, Human Resources, Product Quality and Safety, Bioethics, Ethics and Business Integrity, HSE, and Procurement.

Conclusion

Based on our procedures, we have not identified any material misstatement that causes us not to believe that the consolidated statement of extra-financial performance complies with the applicable regulatory provisions and that the Information, taken together, is fairly presented, in accordance with the Reporting Frameworks.

(1) ISAE 3000 – Assurance Engagements other than Audits or Reviews of Historical Financial Information.

2. Limited assurance report on the Selected Information

Nature and scope of our procedures

For the Selected Information as identified by an asterisk (*) in Appendix 1, we performed procedures of the same nature as described in section 1 of this report. We performed those procedures in accordance with ISAE 3000[(1)] and with professional standards applicable in France.

The sample selected represents 25% of the workforce, and between 15% (water consumption) and 20% (energy consumption) of the quantitative environmental information presented.

We believe that the procedures performed, based on our professional judgement, are sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures.

Conclusion

In our opinion, we have not identified any material misstatement that causes us not to believe that the Selected Information has not been fairly prepared in compliance with the Reporting Frameworks.

Paris-La Défense, March 5, 2020

The Independent Third Party

EY & Associés

Caroline Delérable	Jean-François Belorgey
Partner, Sustainable Development	Partner

(1) ISAE 3000 – Assurance Engagements other than Audits or Reviews of Historical Financial Information.

Appendix 1: Information regarded as the most important

Social information

Quantitative information (including key performance indicators)	Qualitative information (actions and outcomes)
Lost time injury frequency rate – Sanofi personnel*	Health and safety in the workplace*
Lost time injury frequency rate – any employee*	Measures taken to attract and retain talent (Employee Value Proposition, Strategic Workforce Planning, training policy)
Total occupational injury frequency rate – Sanofi personnel*	
Total occupational injury frequency rate – any employee*	
Number of occupational diseases reported*	
Number of employees under contract at December 31, 2019, split by region, activity, gender, age, and type of contract	
Number of new hires and departures (all reasons)	
Resignation rate – permanent contracts	
Turnover – permanent contracts	
Internal transfer rate	
Percentage of women in Senior Leader roles*	
Percentage of women in executive roles*	

Environmental information

Quantitative information (including key performance indicators)	Qualitative information (actions and outcomes)
Total quantity of hazardous waste	Measures to prevent, recycle and eliminate hazardous waste
Quantity of hazardous waste reused/recycled/recovered	Measures to prevent, reduce or remediate releases into the air (management of Volatile Organic Compounds), water (management of environmental releases of pharmaceutical substances) and the soil
Quantity of hazardous waste recycled	Water consumption and supply in light of local constraints*, percentage reduction in water consumption versus the 2015 baseline year*
Quantity of hazardous waste incinerated with thermal recovery	Measures to improve energy efficiency and the use of renewables*
Quantity of hazardous waste incinerated without thermal recovery	Percentage reduction in direct and indirect emissions (Scopes 1 & 2) versus the 2015 baseline year*
Quantity of hazardous waste sent to authorized landfills	
Total quantity of non-hazardous waste*	
Quantity of non-hazardous waste reused/recycled/recovered*	
Quantity of non-hazardous waste recycled*	
Quantity of non-hazardous waste incinerated with thermal recovery*	
Quantity of non-hazardous waste incinerated without thermal recovery*	
Quantity of non-hazardous waste sent to authorized landfills*	
Landfill disposal rate of hazardous and non-hazardous waste	
Total reuse/recycle/recover rate of hazardous and non-hazardous waste	
Number of sites not sending hazardous and non-hazardous waste to landfills	
Wastewater discharge (Chemical Oxygen Demand): proportion of production sites subject to pharmaceutical contamination assessments since 2016	
Airborne emissions (total consumption of solvents, percentage of solvents recycled, emissions of Volatile Organic Compounds)	
Total water consumption, and split by source of supply*	
Total energy consumption, and split by energy source*	
Direct and indirect greenhouse gas emissions (Scopes 1 & 2)*	
Significant categories of greenhouse gas emissions generated by the entity's operations, in particular the following Scope 3 categories: purchased goods and services (category 1); use of sold products (category 11); downstream transport and distribution (category 9); capital goods (category 2); waste generated in operations (category 5); and end-of-life treatment of sold products (category 12)*	

Societal information

Quantitative information (including key performance indicators)	Qualitative information (actions and outcomes)
Number of suppliers subject to a CSR performance assessment by an external service provider in 2019*	Measures taken in ethics and business integrity
Number of audits of suppliers and subcontractors (Sanofi Contract Manufacturing Organizations, suppliers of Active Pharmaceutical Ingredients)*	Measures taken in product pricing
Number of consultative meetings relating to the duty of vigilance*	Measures taken in product quality
Number of whistle-blowing reports received by Ethics & Business Integrity, and number of related dismissals or resignations for misconduct	Measures taken in product safety (pharmacovigilance)
Number of whistle-blowing reports to Ethics & Business Integrity substantiated	Measures taken in medical ethics and bioethics
Number of GQA internal audits	Measures taken in animal protection
Number of regulatory inspections, and split by type of authority	Actions in support of human rights, especially compliance with ILO fundamental conventions*
Number and type of regulatory actions taken following inspections	Consideration of corporate social responsibility in relations with suppliers and subcontractors*
Number of recalls, including Class 1 recalls	Actions on access to healthcare*
Number of pharmacovigilance internal audits	
Number of signals	
Number of clinical trials with information-sharing	
Number of inspections conducted on activities relating to clinical trials	
Number of scientific papers published	

** Information which the entity has voluntarily elected to disclose in its management report*

4.7. Corporate social responsibility cross-reference table

The cross-reference table below shows the disclosures required pursuant to Articles L.225-102-1 and R.225-104 to R.225-105-2 of the French Commercial Code.

4.7.1. Statement of Extra-Financial Performance (SEFP)

SEFP topic	Cross-reference to the present document (Chapter 4) or to the 2019 Annual Report on Form 20-F	Page(s)
Business model		
Business environment		
a) Customers		
Distributors/wholesalers, pharmacies, hospitals, clinics, public bodies	▪ 20-F: Item 4, B.6.1., "Marketing and distribution"	33
Marketing practices: direct sales, tenders	▪ 20-F: Item 18, Note B.13., "Revenue recognition"	F-24
b) Prescribers	▪ 20-F: Item 4, B.6.1., "Marketing and distribution"	33
c) Competition	▪ 20-F: Item 4, B.6.2., "Competition"	33
d) Regulatory framework	▪ 20-F: Item 4, B.6.3., "Regulatory framework"	34
e) Payers		
Government health insurance systems	▪ 20-F: Item 4, B.6.4., "Pricing & Reimbursement"	35
Private insurers (e.g. in the United States)		
f) Number of countries in which Sanofi products are sold	▪ 20-F: Item 4, B.6.1., "Marketing and distribution"	33
g) Net sales		
3-year trend in net sales	▪ 20-F: Item 18, "Consolidated income statements"	F-4
Net sales by segment and geographical region	▪ 20-F: Item 5, A.2.1, "Net sales"	62
Organization and structure		
Sanofi		
a) Number of employees		
Total, and split by segment, geographical region, gender, and type of contract	▪ 4.2.1.4., "Workforce"	15
Split by function	▪ 4.2.1.4., "Workforce"	15
b) Sanofi sites		
Number of countries in which Sanofi operates	▪ 20-F: Item 4, B.6.1., "Marketing and distribution"	33
Location and number of production/R&D/tertiary sites	▪ 20-F: Item 4, B.8., "Production and raw materials" ▪ 20-F: Item 4, D.1., "Overview" ▪ 20-F: Item 4, D.2., "Description of our sites"	41 46 46
c) Operations and product life cycle		
Research and development	▪ 20-F: Item 4, B.5., "Global Research & Development"	24
Production: biological, chemical, pharmaceutical, vaccines	▪ 20-F: Item 4, B.8., "Production and raw materials" ▪ 20-F: Item 4, D.1., "Overview" ▪ 20-F: Item 4, D.2., "Description of our sites"	41 46 46
Sales and distribution	▪ 20-F: Item 4, B.6.1., "Marketing and distribution"	33
End of life cycle management	▪ 4.2.14.5., "Environmental Releases"	47
d) Therapeutic areas and associated products		
Pharmaceuticals **Consumer Healthcare** **Vaccines**	▪ 20-F: Item 4, B.2., "Main pharmaceutical products" ▪ 20-F: Item 4, B.3., "Consumer Healthcare" ▪ 20-F: Item 4, B.4., "Vaccine products"	16 22 23
Number of products	▪ 20-F: Item 4, B.2., "Main pharmaceutical products" ▪ 20-F: Item 4, B.3., "Consumer Healthcare" ▪ 20-F: Item 4, B.4., "Vaccine products"	16 22 23
Product types (vaccines, biologics, pills, injectables)	▪ 20-F: Item 4, B.2., "Main pharmaceutical products" ▪ 20-F: Item 4, B.3., "Consumer Healthcare" ▪ 20-F: Item 4, B.4., "Vaccine products"	16 22 23

SEFP topic	Cross-reference to the present document (Chapter 4) or to the 2019 Annual Report on Form 20-F	Page(s)
e) Global Business Unit (GBU) structure		
Overview of GBUs	▪ 20-F: Item 4, B.2., "Main pharmaceutical products" ▪ 20-F: Item 4, B.3., "Consumer Healthcare" ▪ 20-F: Item 4, B.4., "Vaccine products"	16 22 23
Net sales by GBU	▪ 20-F: Item 5, A.2.1, 1/ "Net sales by Operating Segment and Global Business Unit"	63
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Total amount of purchases **Number, type and location of suppliers**	▪ 4.2.15., "Procurement and subcontracting"	50
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Regeneron and Bristol-Myers Squibb agreements **Alliance with Alnylam**	▪ 20-F: Item 18, Note C, "Principal alliances"	F-29
Financial Performance		
Management report	▪ 20-F: Item 5, "Operating and Financial Review and Prospects"	49
Trends, objectives and strategies		
a) Trends	▪ 20-F: Item 4, B.1., "Strategy" ▪ 20-F: Item 4, B.6., "Markets"	15 32
b) Objectives and Strategy	▪ 20-F: Item 4, B.1., "Strategy"	15
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▪ **Information about how the reporting entity takes account of the social and environmental consequences of its operations, and the effects of those operations on human rights and the fight against corruption and tax evasion**	▪ 4. Corporate Social Responsibility	2
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Consequences for climate change of the reporting entity's operations, and of the use of the goods and services it produces	▪ 4.2.14., "Environment"	41
Societal commitments in support of sustainable development	▪ 4.2.3., "Access to healthcare for the underserved"	22
Circular economy	▪ 4.2.14.4., "Waste: towards a circular economy"	46
Reducing food waste	▪ 4.2.14.4.2., "Initiatives to reduce food waste"	47
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Collective agreements entered into within the reporting entity, and their impacts on the entity's economic performance and on the working conditions of its employees	▪ 4.2.1.2.4., "Maximizing our organizational effectiveness"	12
Initiatives to combat discrimination and promote diversity, and measures to support people with disabilities	▪ 4.2.1.2.3.3., "Diversity and inclusion"	9

4.7.2. Duty of Vigilance

Duty of Vigilance topic	Cross-reference to the present document (Chapter 4)	Page(s)
Identification and evaluation of risks generated by operations		
	▪ 4.1.3., "Table of SEFP and DV risks and issues"	4
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Product safety for patients and consumers	▪ 4.2.6.1., "Organization" ▪ 4.2.7.1.1., "Organization"	31 32
Biopiracy	▪ 4.2.8., "Biopiracy"	34
Personal data protection	▪ 4.2.9., "Personal data protection"	35
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Environmental releases	▪ 4.2.14.5.2., "Policies and action plans"	47
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Human rights	▪ 4.2.11.1., "Human rights risk mapping"	37
Procurement and subcontracting	▪ 4.2.15., "Procurement and subcontracting"	50

Appropriate actions to mitigate risk or prevent serious harm		
Product safety for patients and consumers	▪ 4.2.6.2., “Policy and action plans” ▪ 4.2.7.1.2., “Policy and action plans”	31 33
Biopiracy	▪ 4.2.8., “Biopiracy”	34
Personal data protection	▪ 4.2.9., “Personal data protection”	35
Employee health and safety	▪ 4.2.2.2., “Workplace health and safety programs”	20
Environmental releases	▪ 4.2.14.5.2., “Policies and action plans”	47
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Personal data protection	▪ 4.2.9., “Personal Data Protection”	35
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English translation and language consultancy: Stephen Reynolds & Jane Lambert.
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