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# *Climate-Related Financial Disclosures and Risks and Opportunities Related to Climate Change*

*As per the TCFD Recommendations*

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**GRI Standards:**

102-15, 102-18, 102-19, 102-20, 102-26, 102-27, 102-29, 102-30, 102-31, 102-32: General Disclosures

201-2: Economic Performance

## SUMMARY OF TCFD-RELATED RISKS AND OPPORTUNITIES

The following table summarises the climate-related risks and opportunities identified by Sanofi within this document. The section 3 of this document provides more detail on each topic and useful references for further reading where appropriate, notably to the Sanofi CDP questionnaire response for 2022.

	Importance for Sanofi	Scenario	Likelihood	Velocity	Category
<b>Risks</b>					
<b>Carbon Taxation</b>	<b>High</b>	1.5 °C 4 °C	<b>Likely</b>	<b>Rapid</b>	Transition
<b>Raw Materials Scarcity</b>	<b>High</b>	1.5 °C 4 °C	<b>Likely</b>	<b>Rapid</b>	Physical & Transition
<b>Water Stress</b>	<b>High</b>	1.5 °C 4 °C	<b>Certain</b>	<b>Rapid</b>	Physical & Transition
<b>Stakeholder Pressure</b>	<b>High</b>	1.5 °C	<b>Certain</b>	<b>Rapid</b>	Transition
<b>Logistics Disruption</b>	<b>High</b>	4 °C	<b>Certain</b>	<b>Rapid</b>	Physical
<b>Health Systems Disruption</b>	<b>High</b>	4 °C	<b>Possible</b>	<b>Slow</b>	Transition
<b>Opportunities<sup>2</sup></b>					
<b>Energy Management</b>	<b>High</b>	1.5 °C	<b>Likely</b>	<b>Rapid</b>	Transition
<b>Eco-design</b>	<b>Medium</b>	1.5 °C	<b>Likely</b>	<b>Medium</b>	Transition
<b>Health &amp; Environment</b>	<b>Medium</b>	4 °C	<b>Likely</b>	<b>Slow</b>	Physical

Note I: Velocity criteria assessed upon three levels which are: **Rapid** = short term, next three years, **Medium** = medium term, three-ten years, **Slow** = long-term, ten-30 years.

# TABLE OF CONTENTS

- 1. Background* ..... 5
  - 1.1. WHY TCFD?** ..... 5
  - 1.2. TCFD IN THE HEALTHCARE INDUSTRY** ..... 5
  
- 2. Governance* ..... 5
  - 2.1. BOARD OVERSIGHT** ..... 6
  - 2.2. MANAGEMENT’S ROLE** ..... 6
  
- 3. Strategy & Risk Management* ..... 6
  - 3.1. INTRODUCTION**..... 6
  - 3.2. SANOFI’S CLIMATE-RELATED RISKS AND OPPORTUNITIES AND IMPACT ON STRATEGY** ..... 7
    - 3.2.1. Carbon Taxation** ..... 7
    - 3.2.2. Raw Materials Scarcity** ..... 9
    - 3.2.3. Water Stress** ..... 10
    - 3.2.4. Stakeholder Pressure** ..... 11
    - 3.2.5. Logistics Disruption**..... 12
    - 3.2.6. Health System Disruption**..... 13
    - 3.2.7. Energy Management**..... 14
    - 3.2.8. Eco-Design** ..... 14
    - 3.2.9. Health and Environment**..... 15
  - 3.3. SANOFI’S PROCESSES FOR IDENTIFYING AND ASSESSING CLIMATE-RELATED RISKS** ..... 16
  - 3.4. SANOFI’S PROCESSES FOR MANAGING CLIMATE-RELATED RISKS** ..... 17

**3.5. INTEGRATION OF CLIMATE-RELATED RISKS MANAGEMENT INTO THE ORGANIZATION’S OVERALL RISK MANAGEMENT ..... 17**

*4. Targets and Metrics .....17*

**4.1. METRICS USED BY SANOFI TO ASSESS CLIMATE-RELATED RISKS AND OPPORTUNITIES IN LINE WITH ITS STRATEGY AND RISK MANAGEMENT PROCESS ..... 17**

**4.2. SCOPE 1, SCOPE 2 AND SCOPE 3 GREENHOUSE GAS (GHG) EMISSIONS, AND THE RELATED RISKS ..... 17**

**4.3. TARGETS USED BY SANOFI TO MANAGE CLIMATE-RELATED RISKS AND OPPORTUNITIES AND PERFORMANCE AGAINST TARGETS ..... 17**

*5. Other publications .....18*

# 1. Background

## 1.1. WHY TCFD?

Today, climate change and the transition to a low-carbon economy expose all organizations to emerging challenges. While they can negatively impact companies, they may also present opportunities, to develop climate change mitigation and adaptation solutions for instance. Assessing climate change-related challenges has therefore become crucial for many investors and climate-related financial disclosure has become key to support informed and efficient decisions.

In this context, the Financial Stability Board created the Task Force on Climate-related Financial Disclosures (TCFD). The TCFD is committed to market transparency and stability. Better information would allow companies to incorporate climate-related risks and opportunities into their risk management and strategic planning processes. As this occurs, companies' and investors' understanding of the financial implications associated with climate change will grow, empowering the markets to channel investment to sustainable and resilient solutions, opportunities, and business models.

## 1.2. TCFD IN THE HEALTHCARE INDUSTRY

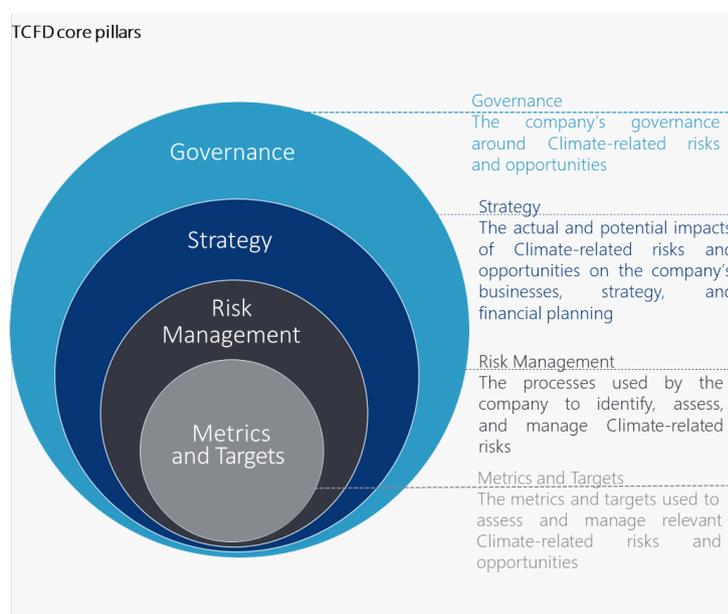


Figure 1 - Core Pillars of the TCFD

In December 2020, Sanofi publicly pledged its support to the Task Force on Climate-related Financial Disclosures (TCFD), with the aim of helping disseminate best practice, improve transparency about the risks and opportunities, and provide responses and solutions. In adopting the TCFD recommendations, Sanofi pledged to work towards aligning all of its operations with the climate objectives of the Paris Agreement and rethinking traditional growth models, in particular through economic, technical and organizational transformation.

Sanofi commitment is based on in-depth analyses of the impacts of climate change on what we do, and on robust systems put in place for each of the TCFD pillars. There are four TCFD theme areas (governance, strategy, risk management and targets & metrics) and each area has specific recommended disclosures.

Sanofi aims to set the pace within the

healthcare sector to help curb the climate issues within the healthcare sector in general, and the pharmaceutical sector in particular which up until now have received very little attention from the sustainability community in terms of their contribution to the global carbon footprint.

Sanofi recognises the importance of climate-related financial disclosure to measure its risks and opportunities appropriately and to provide financial decision-makers with the tools and information they need.

The TCFD recommendations and Sanofi's corresponding climate-related financial disclosures, as also described in Chapter 4 of the Universal Registration Document, 2021, are presented in the following sections.

## 2. Governance

The governance section aims at disclosing the governance around climate-related risks and opportunities. Companies are asked to disclose the extent of the board and management's oversight of those climate-related risks and opportunities. This includes the process and frequency by which board committees are kept informed and how climate change issues are considered when reviewing the company's performance, strategy and business plans.

## 2.1. BOARD OVERSIGHT

Board of Directors approves the strategic orientations of the Company, oversees their implementation, and regularly monitors delivery.

As part of this role, the Board of Directors follows the Company's social and environmental commitments, including climate objectives. Since 2020, 15% of the variable component of our CEO's compensation has been linked to the achievement of Sanofi's CSR objectives, including climate change.

The Board has oversight of climate-related risks and opportunities, especially through the engagement of some key members and the specialised advisory committee, the Appointments, Governance and CSR Committee.

Key members knowledgeable in climate issues sit on Sanofi's Board of Directors, such as Lise Kingo, CEO and Executive Director of the United Nations Global Compact programme from 2015 to 2020.

The Board of Directors is supported by a specialised advisory committee: the Appointments, Governance and CSR Committee. This committee, including the Director and Chairman of the Board of Directors, Serge Weinberg and 4 Independent Directors: Lise Kingo, Patrick Kron, Melanie Lee and Gilles Schnepf, reviews and monitors the Company's CSR commitments and orientations, assesses the extent to which they meet stakeholder expectations, and more generally ensures that CSR issues are taken into account when developing and implementing corporate strategy. The committee also identifies and discusses emerging trends in CSR, and ensures that the Company is preparing as well as possible for the challenges specific to its operations and objectives.

## 2.2. MANAGEMENT'S ROLE

Management at Sanofi plays an important role in assessing and managing climate-related issues, with dedicated and clear assignments and responsibilities, organizational structures, and information processes; especially through the Planet Mobilization Committee (PMC).

Planet Mobilization is Sanofi's environmental sustainability roadmap. This roadmap is steered by the Planet Mobilization Steering Committee, which met seven times in 2021. Operational committees are dedicated to environmental themes, including Climate Change which addresses aspects related to Sanofi's commitments to mitigate climate change to 1.5°C throughout the Company's value chain and to achieve Carbon Neutrality by 2030 and Zero carbon emissions by 2050. This committee reports to the Planet Mobilization Steering Committee.

The Planet Mobilization steering committee consists of the heads of Global Industrial Affairs (also a member of our Executive Committee); Environment, Corporate Social Responsibility, Procurement, External Manufacturing, and R&D France; and senior representatives from our various operations. This committee submits to the Executive Committee the Company's strategic orientations and commitments in the area of climate change. The Executive Committee validates and ratifies these proposals with a view to their operational implementation.

The Climate-related Risk & Opportunities Committee (CROC) was launched in 2018 and reinforced in 2021 and is responsible for climate risk and opportunities. It works closely with the Planet Mobilization Steering Committee to ensure that the TCFD recommendations are applied across all levels of our organization and that robust systems are put in place to manage climate risks and opportunities. This committee, which meets monthly, consists of Sanofi heads of CSR, HSE, Environment, Risk Management and Insurance; and senior representatives from Corporate Strategy, Finance, Legal, CSR and HSE.

## 3. Strategy & Risk Management

The strategy area aims at disclosing the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. Companies are asked to disclose what climate-related risks and opportunities they are exposed to and how this would impact them via income statement and balance sheet. Most importantly, companies are asked to conduct forward-looking scenario analysis on how their businesses would perform in a world facing global warming. Sanofi has used scenario analysis to conduct a physical and transition risk assessment based on two climate change scenarios under future time horizons (2030-2050), a 1.5°C scenario (RCP2.6) with aggressive mitigation (transitional constraints) and a 4°C scenario (RCP8.5) where limited climate action is taken (physical impacts are more prevalent).

### 3.1. INTRODUCTION

Sanofi has identified several specific climate-related risks and opportunities within active risks and emerging risks as a result of its risk management system - active being short term (the next three years), medium term between

three and ten years ahead and long-term beyond ten years ahead. They include transition risks, physical risks and business development opportunities. Sanofi has identified the material financial impacts generated and has conducted a materiality assessment in order to determine which risks and opportunities could have a material financial impact, along with approximate scale of impact. For the following risks, the financial impact ranges are: Low = <€100m, Medium = €100m-500m, High = >€500m.

The materiality is therefore a tool that makes it possible to identify and prioritize a company's Corporate Social Responsibility (CSR) issues (see Factsheet - Sanofi's CSR Materiality, Strategy & Governance).

### 3.2. SANOFI'S CLIMATE-RELATED RISKS AND OPPORTUNITIES AND IMPACT ON STRATEGY

All the risks listed below have financial impacts and consequences on supply continuity and business operations.

Climate scenario analysis have been used to assess the resilience of each aspect of the value chain to climate scenarios, the materiality of emerging climate-related risks and the scale of potential opportunities for the business to seize the transition to a low-carbon future offers. In both scenarios, climate change would affect how Sanofi operates.

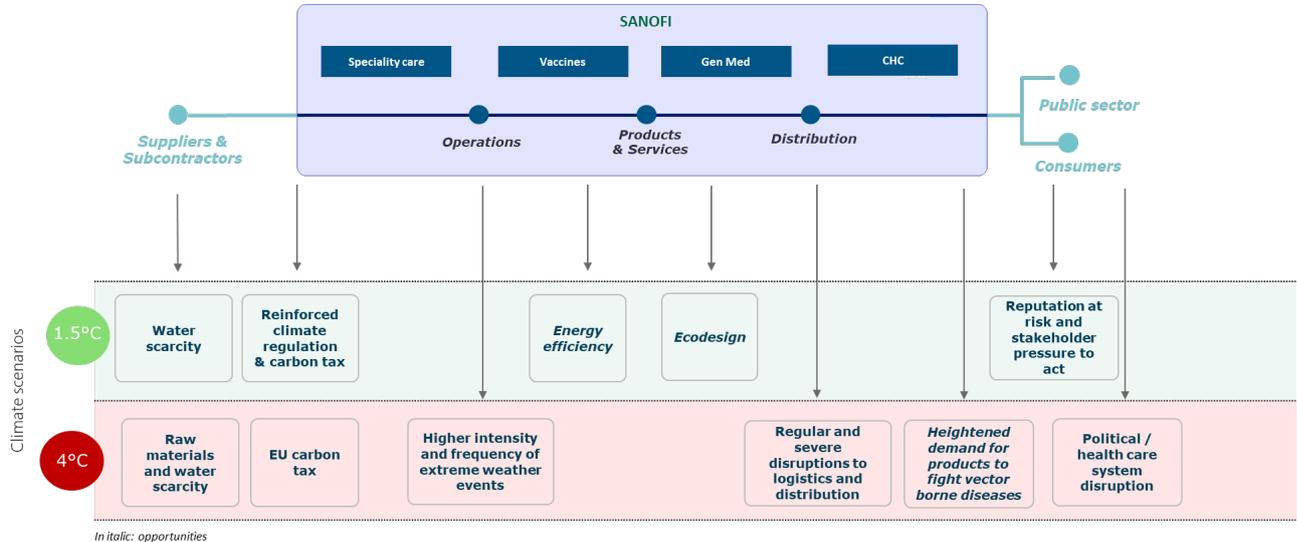


Figure 2 - Risks and opportunities identified for Sanofi's operations

#### 3.2.1. Carbon Taxation

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Transition	High	1.5 °C & 4 °C	Likely	Rapid

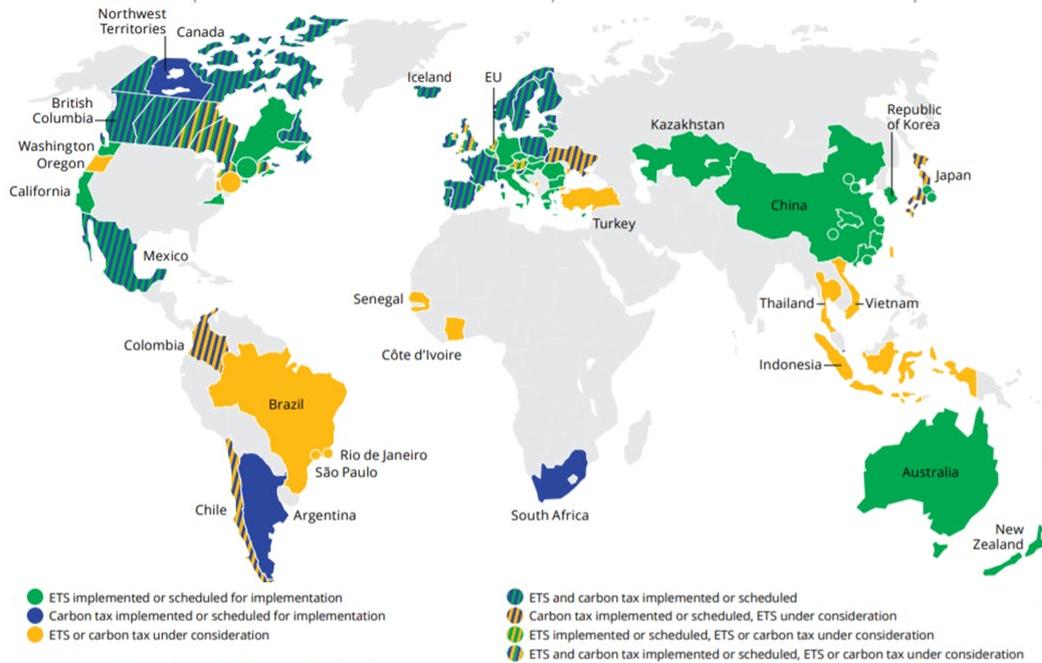
Carbon taxes generate financial risks especially if tax levels are increased. Carbon taxes are attached to fossil energy consumption. An increase in carbon taxes directly results in higher energy costs.

Sanofi is currently exposed to carbon pricing policies in the EU and other jurisdictions (inc. UK, Canada, Chile, South Africa), with carbon pricing initiatives under consideration in many other regions. This carbon tax is expected to have an impact on fossil fuel prices and consequently on electricity prices and energy-intensive goods prices. Any increases in taxation would result in an increase in operational costs, which must be covered.

## Risk Description

In a 4°C scenario, transition policies are supposed to be introduced only in the EU - increasing the costs of imported materials produced by more carbon intensive producers (inc. China, Russia, India) based on a CBAM<sup>1</sup> scheme and changing the competitive dynamics in the industry.

Under an aggressive mitigation scenario (1.5 °C), all regions are expected to be subject to carbon prices across primary industries- impacting Sanofi operations and supply chain.



1. [State and Trends of Carbon Pricing 2020](#), World Bank Group, 2020. 2. IEA WEO 2019. 3. IEA WEO 2020.

Figure 3 - Example of Carbon Pricing trends (2020) Source: World Bank Group, 2020.

## Potential impacts

- carbon tax would impact Sanofi profitability in any scenario;
- Sanofi US would be the most exposed region in a 1.5° C scenario, while Sanofi Europe would carry most costs of a 4 °C scenario; and
- Sanofi would pay direct taxes based on its emissions and would be exposed to increased costs from its supply chain partners, equally exposed to a carbon tax. In a 1. 5°C scenario, transition policies such as a carbon tax are supposed to be applicable globally. In a 4° scenario, transition policies are supposed to be introduced only in the European region (EU carbon prices supposed to be the same as in the 1.5° scenario).

## Mitigation plan

- Sanofi Planet Mobilization Program and ambition to achieve carbon neutrality by 2030 and net zero emissions by 2050;
- SBTi alignment to reduce GHG emissions from Sanofi activities by 55% and from value chain by 14% from 2019 to 2030; and
- by fulfilling its target to reduce CO<sub>2</sub> emissions and energy consumption, Sanofi also mitigates this risk. Here is an example: at various European sites, Sanofi is designing combined heat and power units that would enable us to significantly reduce our energy spending and lower our exposure to any future carbon tax, since

<sup>1</sup> Carbon Border Adjustment Mechanism (CBAM) is a climate measure that should prevent the risk of carbon leakage and support the EU's increased ambition on climate mitigation. ([https://ec.europa.eu/commission/presscorner/detail/en/ganda\\_21\\_3661](https://ec.europa.eu/commission/presscorner/detail/en/ganda_21_3661))

the electricity produced on-site should be less carbon intensive than the electricity supplied from high carbon intensive grids.

### 3.2.2. Raw Materials Scarcity

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Physical & Transition	High	1.5 °C & 4 °C	Likely	Rapid

Climate change threatens natural resources such as biodiversity, which may impact natural raw materials (biomaterials). *For more information, see our [Document Center: Biodiversity Factsheet](#).* A reduction in biodiversity could affect our research & development potential when it comes to identifying new pharmaceutical molecules as well as our biomaterial sourcing. According to a survey carried out by the EFPIA, from 1981 to 2006, of more than 1,184 new molecules brought to market, only 30% were totally synthetic drugs. The rest were derived from natural products or their derivatives, which risk being impacted by a loss of biodiversity.

#### Risk Description

##### Biomaterials

- global warming has already an impact on ecosystems, thus on living organisms, plants or animals, that would increase; and
- loss of biodiversity would reduce the number of possible starting points to discover and develop biologic medicines, and potentially disrupt existing supplies.

##### Chemicals

- Sanofi's main suppliers of chemical raw materials are increasingly impacted either by stringent climate policies (e.g. Chinese 2060 carbon neutral ambition and "dual control policy") or climate change-related regulatory decisions leading to business disruptions (e.g. water stress led interruptions in India).

##### Plastics

- policies aiming at a phase-out of fossil-based resources in a 1.5 °C scenario can lead to increasing costs of plastics; and
- in addition, in the EU notably, some policies targeting plastics in general, and more specifically non-recyclable and single-use plastics, have been adopted.

##### Supply Chain

- indirect consequences such as the development of disease outbreaks are also likely: specific supply chains could be at risk of disruption and/or increased costs.

#### Potential impacts

- where raw materials are at risk of future supply disruption, Sanofi might have to develop alternative production routes with upfront R&D investments, significant industrial CAPEX (from Sanofi and/or suppliers) and potential increased production costs; and
- increase in insurance costs and uninsured losses from physical risks.

#### Mitigation plan

- Sanofi redesigned its Sustainable Procurement Strategy in 2020 based on four pillars: responsible sourcing, environmental responsibility, eco-design and diversity/inclusion;
- the Company designed a Procurement Risk Management Model to address the full range of procurement risks and guarantee appropriate risk assessment and mitigation. This includes a responsible procurement collaborative platform for suppliers' evaluation;

- in addition, Sanofi Emerging Risk Management set up an internal Network on Product components developing and updating a list of materials or substances which are not authorized or for which the Company needs to avoid or restrict the use in its products, especially when raising environmental concerns;
- Sanofi is active in cross sectoral initiatives (e.g. PSCI - Pharmaceutical Supply Chain Initiative) to co-build sustainable supply chain, including impact assessment of a set of raw materials due to their importance to the pharmaceutical industry and the set out of principles any business operating within the pharmaceutical supply chain is expected to uphold and environment.
- Sanofi Property & Business interruption insurance program covers all entities worldwide, in all territories where it is possible to use the centralized program operated by Carraig (Sanofi's internal (self-) insurance company). Sanofi also integrates protective clauses in vendor agreements; and
- EuroAPI will help securing significant API manufacturing and supply capacities that are critical for Sanofi in Europe and beyond.

### 3.2.3. Water Stress

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Physical & Transition	High	1.5 °C & 4 °C	Certain	Rapid

Water is another natural resource that is being threatened by climate change.

Purified water with specific composition is required for the synthesis of Active pharmaceutical ingredients, for the production of pharmaceuticals (including vaccines and injectables) for utilities (cooling water, steam, service water) and for some manufacturing operations such as cleaning processes. This essential resource may become scarce due to climate change in some areas.

Water stress will impact water allowances in most areas. Regulatory demand is already high, for instance in France where there are new requirements for several sites to significantly reduce their water withdrawals before 2025 or to demonstrate efficient usage of water by industrial activities before 2023.

Similarly, during drought events Sanofi is challenged by Authorities to consider alternates sources of freshwater (supply by trucks, rainwater harvesting, wastewater recycling, etc.) temporarily. In such a situation, the needed water would have to be provided by other means (i.e. tankering). As the frequency and intensity of these drought episodes are expected to increase year after year, our contingency plans have to be re-evaluated on a regular basis.

For many years, we have paid close attention to our sites facing water stress situations or located in water scarcity areas. In 2020, we updated our list of priority sites, and identified our priority sites facing the highest water risks. This update was realized thanks to the implementation of a new risk assessment program, which considers vulnerability and exposure of sites to water risks.

#### Risk Description

- physical & transition impacts are already noticeable;
- operations: Water stress and drought conditions can:
  - > 1) affect Sanofi's water withdrawal allowances and availability of water to run operations, and
  - > 2) lead Sanofi to periodically supply water through costly unconventional means (e.g. water tanks),
- supply chain: extreme weather events and water stress can lead to supply chain disruption, e.g. hurricane Maria shutdown all pharma suppliers in Porto Rico in 2017, water-pollution related regulatory shutdowns have taken place in India; and
- communities: droughts and extreme weather events can exacerbate social unrest, mainly in areas with poor governance and social support systems. Communities and agriculture are often prioritised during water-related crisis.

#### Potential impacts

- water prices and wastewater treatment costs are expected to significantly raise in a medium-long term perspective, leading to additional OPEX;

- in the event of an extreme drought event, sites could have to spend significant budgets to supply water by other means, i.e. via tinkering;
- water is likely to be more highly regulated, further increasing the cost and need for lower water usage;
- climate change can also impact water quality leading to higher pre-treatment costs and more demanding wastewater regulatory standards – hence higher treatment costs also; and
- where water is a limited resource, competition for resource may bring Sanofi into conflict with the local community and/or general social unrest.

### Mitigation plan

- continuous review of current in-depth assessment of water risks for critical sites based on relevant tools & processes (e.g. AQUEDUCT du WRI, the Water Risks Filter by WWF or the GEMI Local Water Tool) and with site visits;
- Water Efficiency Measures and investments to anticipate regulatory and pricing evolution;
- “zero out-of-stock” policy and continuity plan to activate real-time solutions (manufacturing back-up) or alternative supply as demonstrated in India with issues with water quality; and
- Sanofi Planet Mobilization water stewardship roadmap (*for more information, see our [Document Center: Water Stewardship Factsheet](#)*) based on:
  - > increased water efficiency,
  - > a specific focus on priority sites, presenting higher water-related risks,
  - > a renewed assessment of water-related regulatory risks, and
  - > a better knowledge of the lifecycle water footprint of its products.

### 3.2.4. Stakeholder Pressure

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Transition	High	1.5 °C	Certain	Rapid

Climate change represents an unfolding market shift that is driven not only by policy but also by pressures from various stakeholders, including employees, customers, investors, insurance companies, banks, and others. It poses market risk and the strategic responses that companies shall adopt to respond to and mitigate that risk.

Market expectations for Net Zero commitments and climate transparency: four of the top 10 pharma companies - including Sanofi - have committed to reaching Net Zero emissions by 2050 as per SBTi’s Net Zero Standard. Others have set less ambitious targets, are updating goals, or have different climate-related aims.

### Risk Description

- stakeholders’ expectations - including **clients, employees, investors and shareholders** - could affect financial performance if Sanofi’s extra-financial performance in relation to goals and climate actions is regarded as not sufficient. There could be a risk of not fulfilling voluntary commitments through underestimation of costs and issues related to feasibility.

### Potential impacts

- difference in cost of capital between high- and low-scoring (Q1 – Q5) companies in the healthcare industry is estimated <sup>(2)</sup> at 0.35% globally and at 0.61% in emerging markets;
- a recent study <sup>(3)</sup> looked at the initial stock market reaction to the COVID-19 crisis and found that companies scoring high on a “crisis response” measure (based on Human Capital, Supply Chain, and Products and Services ESG sentiment) were associated with 1.4-2.7% higher stock returns; and

<sup>2</sup> [ESG and the cost of capital – MSCI](#)

<sup>3</sup> [Academic Literature- ClimaFinance](#)

- besides having a lower financing cost, Sanofi could also benefit from the competitive advantage that stems from better management of resources, human capital and company-specific operational risks.

### Mitigation plan

- Sanofi commitments for Planet Mobilization and alignment to the SBTi's Net-Zero Standard that shall enable market differentiation;
- Sanofi pioneering sustainable finance in the pharmaceutical industry with the signing of two first sustainability-linked revolving credit facilities in December 2020 <sup>(4)</sup>;
- inclusion in the most important international Socially Responsible Investment (SRI) indices;
- reporting in line with TCFD recommendations to demonstrate climate change awareness, alignment activities and governance; and
- commitment to maintain an "A" CDP climate score and aim to improve to "A+".

### 3.2.5. Logistics Disruption

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Physical	High	4 °C	Certain	Rapid

Climate change and logistics are very much intertwined. Logistics and freight represent 4% of Sanofi CO<sub>2</sub> emissions (2020 figures). In turn, climate change creates secondary effects from infrastructure damage all the way down to business interruption in any region. This means Sanofi shall not only work on reducing environmental impacts, e.g. choosing sea transportation instead of air transportation - but also on ensuring the delivery of medicines and vaccines to the market without interruption in a 4 °C world. *For more information, see our [Document Center: Transporting Medicines and Vaccines Factsheet](#).*

### Risk Description

- in a 4°C scenario, rising sea levels, extreme weather events, and changes to weather patterns pose severe and immediate threats to Sanofi logistics chains, which may result in increased logistics and insurance costs and potential business disruptions; and
- seaports are crucial infrastructure nodes that underpin the Sanofi global business model, however they are particularly exposed to various natural hazards, due to their locations along open coasts or in low-lying estuaries and deltas; their setting makes them susceptible to impacts of climate change, such as sea level rise, increased hurricane activity.

### Potential impacts

- the current exposure of physical climate hazards on Sanofi logistics and supply chain varies:
  - > mean sea level rise impacting operations for all ports,
  - > extreme sea level events and hurricanes would cause disruptions for specific ports (inc. northeast pacific region and India), airports (inc.US) and canals (inc. Suez and Panama),
  - > wildfire and extreme weather for airports, roads and rail (inc. India, Australia, US), causing air/shipping/train delays/cancellations, and
  - > flight cancellations and road closure due to poor visibility from wildfire.

### Mitigation plan

- Sanofi goal is to meet a "zero out-of-stock" objective and the supply chain strategy aims to guarantee the continuous supply of drugs and vaccines to patients, without any disruption. As demonstrated in Italy (flooding/earthquake) or Iceland (ash cloud), Sanofi supply continuity plan enables to activate real-time

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<sup>4</sup> [Sustainability-Linked Bond Framework - Sanofi](#)

solutions (manufacturing back-up) or alternative transportation modes. This plan embraces sophisticated technologies to trace shipments;

- the Stock & Transit insurance program protects all goods and inventories owned by Sanofi and while they are in transit, and the Property & Business interruption program covers supply chain disruption (operated by Carraig captive, Sanofi’s direct (self) insurance company). Sanofi also integrates protective clauses in vendor agreements;
- optimization of logistics flows from an economic and environmental (scope 3 emissions) point of view, including: Industry 4.0 (collaborative robots, or cobots, which support the operator with daily tasks and augmented reality to improve the handling, use and maintenance of equipment by operators) and sophisticated technologies to trace shipment; and
- collaborative and long-term relationships with logistic suppliers.

### 3.2.6. Health System Disruption

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Transition	High	4 °C	Possible	Slow

The physical impacts of climate change are multipliers for health challenges.

Climate change affects the social and environmental determinants of health – clean air, safe drinking water, sufficient food and secure shelter. The physical effects of climate change are expected to have significant social, economic, political, and security implications over the coming decades.

#### Risk Description

- Sanofi is operating in an increasingly uncertain and complex environment, with growing pressures on prices and the need to demonstrate that innovation adds value, which is exacerbated by the COVID-19 crisis;
- in a 4 °C scenario, pressure on public finances could be such that public health care systems would see their resources significantly strained, impacting the economics of pharmaceutical industry - through drugs delisting, increased co-payment or price pressure. Compulsory licensing could also take place;
- climate change is projected to disproportionately affect disadvantaged and vulnerable populations, through food and water insecurity, higher food prices, income losses, lost livelihood opportunities, adverse health impacts, and displacements; and
- climate-related events and migration can lead to increased potential for conflict and concerns over social stability, ranging from resource competition, commodity price shocks, and food insecurity.

#### Potential impacts

- Sanofi is exposed to a risk of loss of revenues as a result of reduced reimbursement in response to cost-saving efforts due to the acceleration of health crisis. The mechanisms used may vary from country to country - including price referencing for imported drugs, increased patient co-payments, prescribing guidelines, tendering procedures, promoting generic and biosimilar substitution, and medico-economic evaluations of healthcare products.

#### Mitigation plan

- Sanofi’s Global Access Plan and Global Health Unit created in 2021 would put a focus on improving access to healthcare and high-quality medications for underserved populations in non-communicable diseases and infectious diseases;
- responsible lobbying policy, notably in the US and in the EU, in compliance with Sanofi’s Code of Ethics; and
- membership in over 50 external groups representing various stakeholders in the healthcare sector and economy at large - including trade associations (representing both pharmaceutical manufacturers and manufacturers at large, respectively), think tanks, and local business groups.

### 3.2.7. Energy Management

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Transition	High	1.5 °C	Likely	Rapid

Around 44% of the CO<sub>2</sub> emission reductions required by the Paris Agreement can come from Energy efficiency, with another 36% from a switch to renewables. However, the rate of improvement needs to double from current levels to match the gain outlined in the IEA Net Zero Emissions by 2050 Scenario.

Most technologies that can decarbonize light industry activities are ready to deploy, as heat demand is low- and medium-temperature, which can be more easily switched from fossil fuels to more efficient electric processes, especially heat pumps. The IEA estimate that savings of these industries, including Sanofi, could help manufacturers produce twice as much value for every unit of energy consumed, along with many other benefits, including increasing competitiveness.

Sanofi aims to seize the opportunity to improving the energy efficiency of industrial facilities, distribution centers and administrative buildings through targeted investments *and* a transition to renewable energy. This would reduce operating costs and carbon footprint in the long term and reduce its GHG emission and environmental footprint. It would also enable to anticipate changes in local regulations and mitigate energy market price volatility. The established global energy management program shall strengthen Sanofi climate management leadership and force the reconciliation of environmental and financial performance at every level of the organization.

#### Opportunity Description

- energy transition would require significant investment costs to increase renewable energy production capacities and is expected to result in a long-term increase and substantial volatility in energy prices. This new challenge is also an opportunity to improve energy efficiency and increase both financial and environmental performance.

#### Potential impacts

- better control of energy costs and improved productivity. Energy management plans are expected to mitigate the impacts of energy price inflation overall;
- contribution to the GHG reduction targets and climate management leadership;
- competitive advantage and excellence in operations; and
- anticipation of future legislative / regulatory developments.

#### Adaptation plan

- Sanofi commits to reduce GHG emissions related to its activities by 55% from 2019 to 2030 and its energy efficiency approach applies to all activities, buildings, processes and utilities. An energy saving program is in place in all sites. The Company also puts in place renewable Power Purchasing Agreements (PPA) to secure its energy supply (e.g. PPA signed with ENEL in Mexico, 2020);
- in 2020, 28 of them received 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;
- Sanofi has been partnered with energy sector leaders (inc. Engie and Schneider Electric) since 2013 to improve the energy efficiency of facilities at all sites; and
- Sanofi has joined the #RE100 initiative to source 100% renewable electricity across its global operations by 2030.

### 3.2.8. Eco-Design

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Transition	Medium	1.5 °C	Likely	Medium

Consumer and regulators environmental concern in terms of pollution and the rise of the circular economy principles compel the pharmaceutical industry to meet the technical challenge of sustainable production, manufacturing and packaging.

Sanofi aims to seize the opportunity to improving the environmental profile of products by delivering eco-innovative medicines including eco-packaging and circular solutions. *For more information, see our [Document Center: Eco-Design Factsheet](#)*. This means additional operating costs in the short term - partly because of the higher costs of more environmentally friendly packaging materials as of today. But efficiency savings generated by better control of packaging volumes and costs shall exceed eco-design development costs in the medium to long term. It shall also enable to anticipate stringent regulations, notably in the EU, mitigate packaging market price volatility and convince external stakeholders of Sanofi medicines and vaccines environmental performances.

### Opportunity Description

- rising energy and material costs make eco-friendly packaging more appealing to the pharmaceutical industry because of its cost efficiency and reduced environmental impact - without compromising safety or accessibility;
- stringent government regulations, notably on plastic and circular economy standards, alongside the price volatility of raw materials shall also drive transformation of the pharmaceutical packaging market; and
- the EU leads the way towards eco-packaging. By 2030 all plastic packaging in the EU would notably need to be recyclable or reusable. It would concern all kinds of packaging, for primary to secondary packaging.

### Potential impacts

- better control of packaging costs and improved productivity: Eco-packaging management plans are expected to mitigate the impacts of packaging price inflation from 2025 onwards;
- incremental revenues from visibility of Sanofi medicines and vaccines environmental performances;
- contribution to the GHG reduction targets and climate management leadership;
- competitive advantage and excellence in products; and
- anticipation of future legislative/regulatory developments.

### Adaptation plan

- eco-design is fully integrated in the Planet Mobilization roadmap and its principles span all aspects of Sanofi environmental strategy (eco-innovation analysis and goals), includes the commitment of improving the environmental profile of products by delivering eco-innovative medicines including eco-packaging and circular solutions;
- Sanofi is developing digital tools to support the assessment and integration of environmental aspects into product design that follows a Life Cycle Assessment approach;
- Sanofi is involved in many associations in the industry to develop solutions that respect the principles of circular economy and to share best market practices;
- by 2025, every new Sanofi product would have to undergo an eco-design approach; and
- by 2027, our vaccines packaging should be blister-free. Combined with the halving of packaging volume, the measure is expected to reduce the carbon footprint of the entire life cycle of the vaccine by about 15%, or some 10,000 tonnes of CO<sub>2</sub> per year.

### 3.2.9. Health and Environment

Category	Importance for Sanofi	Scenario	Likelihood	Velocity
Physical	Medium	4 °C	Likely	Slow

Climate change affects health through three primary exposure pathways: directly through weather variables such as heat and storms; indirectly through natural systems such as disease vectors, water-borne diseases and air pollution; and indirectly through human systems such as undernutrition, mental stress and occupational impacts.

As a global healthcare company, Sanofi aims to play a key role in anticipating climate health challenges, especially for the most vulnerable populations and focuses on two main health consequences of climate change: evolution of vector-borne diseases and indoor and outdoor air pollution and respiratory allergies. Business opportunities for

Sanofi were estimated based on dengue vaccines revenues whose market data are the most reliable as of today *For more information, see our [Document Center: Climate Change and Health Factsheet](#).*

### Opportunity Description

- rising temperatures and increased precipitation can promote an array of infectious diseases, from vector-borne diseases (e.g., malaria, dengue, and leishmaniasis) to enteric infections and diarrhoea (e.g., cholera, vibriosis, and rotavirus infection) and to parasitic diseases (such as schistosomiasis);
- permafrost thawing may also increase the risk of emerging infectious;
- extreme heat is likely to increase cardiovascular illness rates; and
- changing environmental conditions would impact respiratory health and allergies.

### Potential impacts

- increase in vaccine revenues;
- increase in respiratory medicine revenues;
- contribution to the effective management of infectious disease outbreaks; and
- competitive advantage and excellence in products.

### Adaptation plan

- Sanofi develops treatments against vector-borne diseases in particular to make the dengue vaccine available to support the World Health Organization's ambition to reduce dengue mortality by 50% and morbidity by 25%;
- it has notably collaborated with CTK Biotech to develop and register a new rapid diagnostic test (RDT) that accurately identifies individuals who have experienced a past dengue infection; and
- Sanofi is working on several research and development programmes for climate-sensitive diseases, including:
  - > a new vaccine against yellow fever (innovative on cell culture) specially for Latin America,
  - > the development of an oral treatment for sleeping sickness, and
  - > the promotion of affordable treatment and prevention programmes in the areas most affected by malaria.

## 3.3. SANOFI'S PROCESSES FOR IDENTIFYING AND ASSESSING CLIMATE-RELATED RISKS

Sanofi has a robust process for identifying and assessing risks and emerging risks, including those related to climate change, and discloses detailed information on those: their size, scope and the relative significance of climate-related risks in relation to other risks. The Company has identified two active risks ("Pressure on social responsibility commitments", "Natural disasters and extreme weather") and three emerging risks ("climate change and impact on health" (*for more information, see our [Document Center: Climate Change and Health Factsheet](#)*), "Adapt our business model to climate transition" and "Natural resource scarcity & biodiversity loss"), including the impact of climate change on Sanofi's ecosystem and business model (*for more information, see our [Document Center: Climate Change and Health Factsheet](#)*).

Emerging risks take the form of trends conveying risks and opportunities, not yet impacting Sanofi and up to seven years or more. Emerging risks management approach consists of a phase of external environment observation and internal interviews with Sanofi senior managers to identify emerging risks, followed by an assessment phase to allow Sanofi to anticipate responses, and set up of scenarios to figure out how emerging risks may impact the Company. In order to support emerging risks assessment, deep-dive scenarios are developed for prioritized emerging risks. *For more information, see our [Document Center: Emerging Risks Management Factsheet](#).*

### 3.4. SANOFI'S PROCESSES FOR MANAGING CLIMATE-RELATED RISKS

Sanofi has a robust process for managing risks related to climate change, and discloses detailed information on those (*for more information, see our [Publications: Sanofi Annual Registration Document 2021](#)*). The processes for prioritizing and for deciding what action to take for each climate-related risk are also formalised.

### 3.5. INTEGRATION OF CLIMATE-RELATED RISKS MANAGEMENT INTO THE ORGANIZATION'S OVERALL RISK MANAGEMENT

Identifying, assessing and managing climate risks are fully integrated into the company-wide risk management process. All risks are assessed according to the criterion of environmental impact.

## 4. Targets and Metrics

The targets and metrics area aims at disclosing the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material. Companies are expected to disclose metrics and set targets aligned with the risks and opportunities they identified as material for their business. Guidance also asks companies to disclose their Scopes 1 & 2 GHG emissions, and if appropriate, Scope 3. This is in recognition of the fact that rising emissions are still a key driver of global warming, and big emitters are subject to greater transition risk.

The current metrics and targets used by Sanofi are a first approach to align Sanofi with TCFD recommendations, however these are under continual consideration and will be updated as and when required.

### 4.1. METRICS USED BY SANOFI TO ASSESS CLIMATE-RELATED RISKS AND OPPORTUNITIES IN LINE WITH ITS STRATEGY AND RISK MANAGEMENT PROCESS

Sanofi discloses key indicators for assessing progress against its targets on energy, greenhouse gas emissions, water and waste. *For more information, see our [Document Center: Table of Ambition and Progress Towards Sustainable Development Goals \(SDGs\) Factsheet](#)*. Sanofi's targets were validated by the Science Based Targets Initiative (SBTi) in June 2020. These targets are based on science and contribute to limiting global warming to 1.5°C, in line with the 2015 Paris Agreement target.

Metrics are incorporated in remuneration policies as in 2020 a dedicated individual CSR performance criterion representing 15% of the annual variable compensation package was set, driving progress against the set targets. *For more information, see our [Document Center: Sanofi's CSR Materiality, Strategy & Governance Factsheet](#)*. In addition, having set a flexible internal carbon price is considered a very good practice for driving carbon neutral investments.

### 4.2. SCOPE 1, SCOPE 2 AND SCOPE 3 GREENHOUSE GAS (GHG) EMISSIONS, AND THE RELATED RISKS

Sanofi provides key metrics related to GHG emissions and discloses its Scopes 1, 2 & 3 GHG emissions. The Company discloses generally accepted industry-specific GHG efficiency ratios, and emissions are calculated in line with the GHG Protocol. *For more information, see our [Document Center: Carbon Footprint - CO<sub>2</sub> Emissions \(Scope 1, 2 & 3 Factsheet\)](#)*.

### 4.3. TARGETS USED BY SANOFI TO MANAGE CLIMATE-RELATED RISKS AND OPPORTUNITIES AND PERFORMANCE AGAINST TARGETS

Sanofi discloses its climate-related (absolute and intensity based) targets, including global warming: carbon footprint, water and waste management targets, the time horizon of each climate target as well as the base year from which the target is measured.

## 5. Other publications

*For more information* and further details on Sanofi climate-related financial disclosures, please refer to our 2021 [Registration Document](#), our CDP questionnaire response for 2022 and see our [Document Center](#), notably:

- *Sanofi's CSR Materiality, Strategy & Governance Factsheet*
- *Climate Change and Health Factsheet*
- *Water Stewardship Factsheet*
- *Transporting Medicines and Vaccines Factsheet*
- *Eco-Design Factsheet*
- *Biodiversity Factsheet*
- *ESG Key Performance Indicators Factsheet*
- *Carbon Footprint - CO<sub>2</sub> Emissions (Scope 1,2 & 3) Factsheet*
- *Table of Ambition and Progress Towards Sustainable Development Goals (SDGs) Factsheet*
- *Risk Management Factsheet*
- *Emerging Risks Management Factsheet*
- *Annual Report on Form 20-F 2021*
- *Corporate Social Responsibility Chapter 4 of 2021 Document d'enregistrement universel*