



# Task Force on Climate-Related Financial Disclosure (TCFD) Report December 2024

## Executive Summary

To align with global reporting best practices, we are issuing a report using the Task Force on Climate-Related Financial Disclosure (TCFD) framework. This framework provides a common approach for organizations to assess climate-related risks and opportunities across various aspects of their operations including evaluating our practices for:

- Governance
- Strategy
- Risk Management
- Metrics and Targets

We conducted a qualitative assessment of physical climate risks and opportunities aligned with the TCFD framework. This assessment evaluated potential hazards such as temperature increase, sea-level rise, changes in precipitation, flooding, cyclones, drought, wildfires, and extreme temperatures at 10 Company locations.

Our Company has also completed a climate change transition risk and opportunity assessment based on two scenarios: the Stated Policies Scenario (STEPS) and the Sustainable Development Scenario (SDS). The analysis identified potential risks and opportunities as the world transitions to a low-carbon economy.

## Purpose of this Report

As a global health care company, we recognize that we have an obligation to identify and respond to the public health risks associated with climate change. In addressing these challenges, we know that not only what we do matters, but also how we do it matters. We are committed to reducing our environmental footprint as part of our mission to save and improve lives around the world. Transparency and consistency in climate disclosure is a cornerstone of global climate action.

The TCFD created a common framework for organizations to utilize to increase their awareness and understanding of their climate-related risks and opportunities by assessing their processes around Governance, Strategy, Risk Management and the creation of appropriate Metrics and Targets.

We are issuing a report using the TCFD framework to align with global reporting best practices and provide a streamlined format for the reader.

*For more information on our Company's environmental sustainability practices, please refer to our Impact Report found on our [Sustainability Resource page](#).*

## Governance

### Board Oversight:

Our Board of Directors (the Board) oversees Environmental, Social and Governance (ESG) matters for the Company, including its environmental sustainability practices, through its committees and as a whole. Our Executive Team (ET) and senior management are responsible for reviewing, refining, and implementing our long-term sustainability strategy.

Our ET updates the Board on our long-term sustainability strategy and performance through discussions both as a full Board as well as through Committee discussions on specific topics. For example, the Board's Governance Committee, which monitors and assists the Board in its oversight of environmental sustainability practices, ensures relevant issues are subject to review by Board Committees with relevant areas of competency. The Governance Committee also receives regular updates on Environmental, Health and Safety matters.

### Management Oversight:

The groups below are responsible for directing the day-to-day supervision of our environmental sustainability strategy and driving performance:

Our Environmental, Health and Safety (EHS) Council is a cross-functional body, chaired by our General Counsel, with leadership representation from each area of our business and is responsible for overseeing our environmental sustainability strategy, policy, and risk mitigation controls. It monitors performance against our targets and increases transparency on environmental matters within the Company, the ET, and the Board. The EHS Council meets on a quarterly basis.

The Global Safety and Environment (GSE) vice president communicates progress on environmental sustainability goals, objectives and other material issues to the Board, ET and EHS Council. The GSE vice president is also a part of the Strategic Policy & Sustainability Council (SPSC). Additionally, the head of the Environmental Sustainability Center of Excellence (CoE) is a member of the ESG Strategy Management Team (ESMT).

Our cross-functional Environmental Sustainability Implementation Steering Committee was designated by the EHS Council to oversee the progress of initiatives that support the achievement of our public targets and provide guidance on resourcing of our environmental sustainability strategy.

## Strategy

In 2022/2023, our Company performed a TCFD-aligned qualitative physical climate risk and climate change transition risk and opportunity scenario assessment. This qualitative assessment covered the following timeframes:

- Short term: present day (2024/2025)
- Medium-term: 2030
- Long-term: 2050

The findings of the TCFD scenario assessment were shared with the broader enterprise in order to embed mitigation and adaptation practices into our capital planning process and on-going operations.

## Scenario Analysis

The Company conducted a Climate Scenario Analysis in 2022-2023 and the results are provided below.

### Physical Climate-related Risk Assessment

For the climate-related physical risk and resilience assessment, 10 of our Company's most business-critical facilities were included (6 facilities in the United States, 3 facilities in Europe, and 1 in Japan). These facilities included both Company-owned and operated locations, as well as a third-party supplier operated site. They provide a variety of critical business functions – e.g., headquarters, research and development, data center, manufacturing, packaging, and product distribution.

A Representative Concentration Pathway (RCP) emission scenario was used in the physical scenario assessment. RCP scenarios were developed for use in Intergovernmental Panel on Climate Change (IPCC) assessments. We used RCP scenario RCP8.5 to assess potential future exposure to physical climate change risks. RCP8.5 represents a higher greenhouse gas (GHG) emissions future with increasing GHG emissions through 2100 and greater physical impacts from climate change. RCP8.5 is consistent with global warming of 4.3°C by 2100 (range 3.2-5.4°C).<sup>1</sup>

Our Company evaluated both chronic and acute physical climate hazards. Chronic hazards included:

- Increasing temperatures
- Rising sea levels
- Changes in precipitation

The following acute hazards were assessed:

- Inland flooding
- Coastal flooding
- Tropical cyclones
- Drought
- Wildfires
- Extreme temperatures

Indicators within each hazard were then examined to evaluate the potential effect of the given climate risk. For example, extreme temperatures are an acute climate hazard. An indicator that can be used to evaluate the potential impact of extreme temperatures is the projected number of days above 35°C (95°F) per year.

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<sup>1</sup> Van Vuuren, D.P., Edmonds, J., Kainuma, M., Riahi, K., Thomson, A., Hibbard, K., Hurtt, G.C., Kram, T., Krey, V., Lamarque, J.F. and Masui, T., 2011. The representative concentration pathways: an overview. *Climatic change*, 109(1), pp.5-31.

Relevant climate data was collected and analyzed, and each site was evaluated for each climate hazard under the RCP8.5 scenario across 2030 and 2050. The evaluation considered each site's potential exposure (likelihood) to the climate hazard as well as its sensitivity (consequence) to the climate hazard. We used a stoplight scoring system (i.e., red, yellow, green) to determine overall vulnerability, meaning the tendency to be adversely affected by climate-related risks. Following the evaluation, we conducted follow-up discussions with facility staff at many of the sites to communicate the results and explore the adaptive capacity and preparedness the sites had in place or were planning to implement.

## Physical Climate-related Risk Assessment Results

As a result of the physical climate-related risk assessment, we found that physical climate hazards are projected to increase in severity and intensity from 2030 to 2050 across the 10 sites. By 2050, each of the 10 locations are projected to be at risk from at least one of the physical climate hazards included in this assessment. In 2050, tropical cyclones have the greatest risk of potential impacts on the facilities, followed by inland flooding, increasing and extreme temperatures, and drought. Depending on the hazard and location, our Company could experience a variety of impacts including, but not limited to:

- utility impacts and disruptions (e.g., increasing costs due to rising temperatures as well as disruptions to energy / power systems and potable and wastewater services),
- impact to the site property (e.g., from flooding and flood-caused debris),
- damage to assets and structures (e.g., from high winds and flood waters), and
- personnel safety and health risks (e.g., from flooding and debris in the local community as well as reduced air quality from wildfires)

The impacts noted above may result in disruptions to our operations such as manufacturing or distribution, increasing operational costs, and employee lost time, to name a few. These risks will be considered further in our enterprise risk management (ERM) process, described below.

By identifying the climate-related risks that pose the most risk to our facilities, we can adequately prepare, plan, and mitigate these risks to our Company operations in a world affected by climate change. We plan to circulate this information to facility planning staff and facility leadership in order to prioritize implementation of resiliency measures.

*See Table 1 for a summary of our results.*

## Transition Risk and Opportunity Assessment

Our Company also completed a TCFD-aligned climate change transition risk and opportunity assessment to identify the risks and opportunities to our Company as the world transitions to a low carbon economy. For the transition risk and opportunities assessment, the World Energy Outlook (WEO) scenarios were utilized. The International Energy Agency (IEA) develops and updates the WEO scenarios and serves as the world's most authoritative source of analysis and projections. Two scenarios, Stated

Policies (STEPS) and Sustainable Development Scenario (SDS) from the WEO 2021<sup>2</sup> were selected to assess the potential climate-related transition risks and opportunities to our business and operations.

- The STEPS scenario reflects current policy settings based on a sector-by-sector assessment of the specific policies that governments presently have in place, as well as specific policy initiatives that are under development. Generally, this scenario aligns to a 2.7°C increase by 2100.
- The SDS scenario is a “well below 2 °C” pathway (1.65°C by 2100) that reaches global net zero emissions by 2070 (with many countries and regions reaching net zero much earlier). It also achieves key energy-related United Nations (UN) sustainable development goals related to the universal energy access and major improvements in air quality.

We also used resources<sup>3</sup> from the Food and Agriculture Organization of the United Nations that provided insights into the projected demand for animal-based protein sources.

For each scenario and time horizon (present day, 2030 and 2050), we analyzed future qualitative potential impacts on our operations, markets, supply chain, and associated potential effects on our revenues, costs, and expenditures. Similar to the physical climate hazard scenario analysis, all identified risks and opportunities were scored based on sensitivity (consequence) to our operations as well exposure (likelihood).

The sensitivity score assigns a value on how impactful a risk or opportunity will be to our Company and is assumed to be the same for each risk or opportunity across all examined scenarios and time horizons. If a risk will significantly impact our Company – e.g., operationally and/or financially – then the sensitivity score is assigned a higher value.

The exposure score puts a qualitative value on the potential consequence of a risk or opportunity to our Company and varies across all examined scenarios and time horizons as external factors change. For example, more risk (or opportunity) from external factors results in a higher score.

Sensitivity and exposure scores were combined to obtain a final risk or opportunity score.

## Climate-related Transition Risk and Opportunity Assessment Results

As a result of the climate change-related transition risk and opportunity assessment, we found that transition opportunities were the greatest under the SDS scenario, increasing from present-day through 2050. Under this scenario, policies, incentives, and resources will facilitate our Company’s adoption of low-carbon and efficient technologies, renewable energy sources, and support low-carbon supply chains and products and services.

Climate-related risks tended to be slightly higher under the SDS scenario, though in some cases risks were higher under the STEPS scenario. This distribution of risk across scenarios is due to the varying

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<sup>2</sup> [World Energy Outlook 2021 – Analysis - IEA](#)

<sup>3</sup> United Nations Food and Agriculture Organization: [The future of food and agriculture – Alternative pathways to 2050 \(fao.org\)](#) and [OECD-FAO Agricultural Outlook 2021-2030](#)

levers in each scenario. For example, under the STEPS scenario our Company may experience greater risk due to supply chain issues and barriers to utilizing lower emission technologies, making it more challenging for us to achieve our sustainability goals. However, under an SDS scenario, changing market demands (e.g., for animal-based protein) and stakeholder concerns may play a larger role in our risk profile.

*Tables 2 & 3* below summarize the transition risks and opportunities that were evaluated, the potential impacts to the Company, and our current risk reduction and opportunity enhancement strategies. These risks will be considered further in our ERM process, described below.

Table 1: Physical Risk Summary

Risk Type	TCFD Category	Risk	Potential Financial Impacts	Scenario Used	Short Term (Present Day)	Medium Term 2030	Long Term 2050	Example of our Current Risk Reduction Strategies
Physical Risks	Acute	Inland Flooding	Capital Expense (CapEx) and Operational Expense (OpEx) impacts: Damage to facility and infrastructure, interruptions in business operations, facility and staff egress and access risks	RCP8.5	Medium	Medium	High	<ul style="list-style-type: none"> <li>Comprehensive facility emergency response plans and business continuity plans are already in place including required training for critical employees.</li> <li>We continue to evaluate opportunities for energy and water efficiencies and facilitate site evaluations and feasibility studies in alignment with our Low Carbon Transition Playbook and GHG emission reduction goals.</li> <li>Backup electricity and water supplies are stored at many of our sites, allowing continuity of critical operations in the event of a utility disruption.</li> </ul>
		Coastal Flooding	CapEx and OpEx impacts: Damage to facility and infrastructure, interruptions in business operations, facility and staff egress and access risks	RCP8.5	Low	Medium	Medium	
		Tropical Cyclones	CapEx and OpEx impacts: Damage to	RCP8.5	Medium	High	High	

Risk Type	TCFD Category	Risk	Potential Financial Impacts	Scenario Used	Short Term (Present Day)	Medium Term 2030	Long Term 2050	Example of our Current Risk Reduction Strategies
			facility and infrastructure, interruptions in business operations, facility and staff egress and access risks, safety and health risks to employees					
		Drought	CapEx and OpEx impacts: Water intensive operational processes could face implications (e.g., cooling towers, research and development, manufacturing)	RCP8.5	Low	Medium	High	
		Wildfires	CapEx and OpEx impacts: Hazardous air quality (indoor and outdoor air quality), HVAC system disruptions,	RCP8.5	Medium	Medium	Medium	



Risk Type	TCFD Category	Risk	Potential Financial Impacts	Scenario Used	Short Term (Present Day)	Medium Term 2030	Long Term 2050	Example of our Current Risk Reduction Strategies
			safety and health risks to employees, facility and staff egress and access risks					
		Extreme Temperatures	CapEx and OpEx impacts: Increasing cooling costs, increased risks of blackouts/power reliability, increase safety and health risks to employees	RCP8.5	Medium	Medium	High	
	Chronic	Increasing Temperatures	OpEx: Increasing cooling costs	RCP8.5	Medium	Medium	High	
		Rising Sea Levels	CapEx and OpEx impacts: Increased storm surge during tropical cyclones pose danger to employees, facility access, and damage to facilities and infrastructure	RCP8.5	Low	Medium	Medium	

Risk Type	TCFD Category	Risk	Potential Financial Impacts	Scenario Used	Short Term (Present Day)	Medium Term 2030	Long Term 2050	Example of our Current Risk Reduction Strategies
		Changes in Precipitation	CapEx and OpEx impacts: Increased rainfall during extreme precipitation events creates flooding concerns, facility and infrastructure damage	RCP8.5	Low	Medium	Medium	

**Note:** For short-term (present day) trends, scoring was based on known, recent actual impacts to the facilities averaged across the 10 facilities and segmented as low, medium, or high. Facilities received a score of 1 for no known impacts, 2 for impacts affecting the community but not the facility or staff, and 3 for impacts affecting the facility or staff.

For 2030 and 2050 future time horizons, the indication of low, medium, or high are based on the average qualitative scoring across the facilities for each climate hazard. For each facility and hazard, the projections of risk were given a score of 1, 2, 3, then totals were averaged across each climate hazard resulting in a rating of low, medium, or high.

Table 2: Transition Risk Summary

TCFD Risk Category	Risk	Potential Financial Impacts	Scenario with greatest potential impact	Short-term (Present day)	Medium term (2030)	Long-term (2050)	Examples of our Current Risk Reduction Strategies
<b>Policy &amp; Legal</b>	Mandates on and regulation of existing products and services (e.g., carbon-related regulations and asset efficiency requirements).	Increase in CapEx and OpEx to move to more efficient technologies and materials (e.g., refrigerants). Increase OpEx to fulfill offsetting obligations as compliance cost (carbon price).	SDS	Low-medium	Low-medium	Medium	<ul style="list-style-type: none"> <li>We monitor and prepare for compliance with existing and emerging mandates and regulations that could affect the business.</li> <li>Our \$1B sustainability bond and Low Carbon Transition Playbook help facilities improve resource efficiency of our operations.</li> </ul>
<b>Market</b>	Supply chain raw material availability	Increased OpEx for raw material costs as some inputs become scarce. Increased costs to obtain alternative (substitution) materials. Loss of revenue if raw materials cannot be substituted with other materials. Loss of biodiversity and genetic loss for drug discovery.	STEPS	Low-medium	Medium	Medium-High	Our Company actively engages with Pharmaceutical Supply Chain Initiative (PSCI) to identify raw materials that may become an issue in coming years.
	Changing market/customer demand	Loss of revenue due to decline in livestock / animal health market if consumer preferences shift away from animal-based proteins as well as possible loss of revenue if customers opt for low-carbon	SDS	Low	Low-medium	Medium	We continue to diversify our animal health business. Our Company has carbon reduction goals that apply to our operations and is working with

TCFD Risk Category	Risk	Potential Financial Impacts	Scenario with greatest potential impact	Short-term (Present day)	Medium term (2030)	Long-term (2050)	Examples of our Current Risk Reduction Strategies
		suppliers or products, and our Company is not able to deliver on these commitments.					suppliers to reduce scope 3 emissions from the value chain.
	Logistics of the supply chain	Increase in OpEx due to reliance on cold supply chains and potential for disruptions.	STEPS	Low-medium	Low-medium	Medium	Our Company continues to research and develop products that do not require cold storage as well as explore new and more sustainable methods to package and ship cold products.
<b>Technology</b>	Transitioning to a lower emission technology	Increase in CapEx to transition to next generation lower emissions technologies. Increased OpEx in the form of R&D into new fuels and technologies. Potential for sunk cost if technologies do not end up becoming commercial.	STEPS	Medium	Medium	Medium	Our \$1B sustainability bond, as a dedicated source, helped fund internal sustainability and efficiency related projects and technologies.
<b>Reputation</b>	Stakeholder concerns and customer sentiment on pharmaceutical industry	Increasing (debt) financing costs as bondholders or other lenders may seek to impose penalties on high-emitting borrowers or withdraw from sectors altogether.	SDS	Low-Medium	Medium	Medium	We are active in PSCI and participate in various stewardship projects around the world.

**Note:** For each risk, sensitivity and exposure were assigned scores. Combined risk scores were either a score of 1, 2.5, 5, 7.5, or 10, equating to a qualitative score seen above in the table of low, low-medium, medium, medium-high, or high.

Table 3: Transition Opportunities Summary

TCFD Opportunity Category	Key Opportunities	Potential Financial Impacts	Scenario with greatest potential impact	Short-term	Mid-term	Long-term	Examples of our Current Opportunity Enhancement Strategies
<b>Resource Efficiency Technology</b>	Use of lower emission and energy efficient technologies	Reduced OpEx due to energy efficiencies. Reduced financial exposure to potential carbon pricing schemes in the long term.	SDS	Medium-high	High	High	Our \$1B sustainability bond funded projects including those that support energy and water efficient technologies.
<b>Energy Source</b>	Use of more renewable energy sources	Reduced OpEx due to energy efficiencies. Reduced financial exposure to potential carbon pricing schemes in the long term.	SDS	Medium-high	High	High	Our Company accelerated our renewable energy goal of sourcing 100 percent renewable energy such as solar and wind for purchased electricity by 2025 (Scope 2). Our \$1B bond funded renewable energy projects at our locations around the world.
<b>Products and Services</b>	Low-carbon supply chain	Increased revenues from preferred pricing or contract procurement schemes incentivizing low carbon suppliers. Reduced financial exposure to potential carbon pricing schemes in the long term.	SDS	Medium	Medium-high	High	We are working on strategies to improve engagement with our suppliers throughout our upstream and downstream value chain.
<b>Products and Services</b>	Low-carbon and eco-friendly products and services	Increased revenues from preferred pricing or contract procurement schemes incentivizing low carbon products.	SDS	Medium-high	High	High	Our Company continues to develop new products and services.

TCFD Opportunity Category	Key Opportunities	Potential Financial Impacts	Scenario with greatest potential impact	Short-term	Mid-term	Long-term	Examples of our Current Opportunity Enhancement Strategies
		Increased revenues from new markets and product lines (e.g., products that protect biodiversity, address climate-related medical conditions, reduce climate impact from livestock, and support wellness and preventative care).					
<b>Markets</b>	Access to new markets	Increased revenues from new geographic markets and sectors.	STEPS	Medium	Medium-high	Medium-high	Our Company's approach to Access to Health supports continued reach to populations around the world that may be more at risk from climate change health impacts.
<b>Resilience</b>	Enhancing local resiliency	Avoidance of lost time disruptions (savings from business continuity during/after event). Improved reputation and possible increased revenue from sale of products.	STEPS	Low-medium	Medium	Medium	We engage with the local communities in which we operate. Site interviews indicate there may be interest and need to develop resilience strategies that co-benefit our Company and the surrounding community.

**Note:** For each opportunity, exposure and impact were assigned scores. Combined opportunity scores were either a score of 1, 2.5, 5, 7.5, or 10, equating to a qualitative score seen above in the table of low, low-medium, medium, medium-high, or high.

## Organizational Resilience

Our 2022/2023 scenario analysis has helped us explore under different scenarios the potential climate change related risks to our Company. In general, our diverse, global product lines – including both human health and animal health products - help to mitigate risk in any one area. Additionally, with our \$1B sustainability bond we dedicated resources that were used to improve the resilience at our sites around the world. For more information see below.

The information and knowledge gained during the scenario analysis exercise will help us integrate climate considerations further into our business planning processes, risk management, and overall strategy.

## Risk Management

### Identify Risk

Our Company leverages a multi-faceted approach to risk identification and mitigation. It encompasses our overarching enterprise risk management (ERM) process. The ERM process allows for full Board oversight of the most significant risks facing our Company and was established to ensure a complete Company-wide approach to evaluating risk over six distinct but overlapping risk areas which includes responsibility and reputation, strategy, operations, compliance, reporting and safety.

Our ERM process seeks to identify emerging risks and address them appropriately to limit negative consequences to our Company and the data we maintain. Its goal is to provide an ongoing review, implemented across our Company and aligned to our values and ethics, to identify, assess and monitor risk and agreed-upon mitigating action. Furthermore, if a risk transforms into an incident, the ERM process ensures that effective response and business continuity plans are in place.

If the ERM process identifies a material risk, it will be elevated through the CEO and the ET to the full Board for consideration. Through the ERM process, each Board committee oversees specific areas of risk relevant to the committee through direct interactions with the CEO, members of the ET and the heads of business divisions, compliance, and corporate functions. A committee may address risks directly with management or, where appropriate, may elevate a risk for consideration by the full Board or another Board committee.

Climate-related risks, like any other identified risk, are evaluated for their impact such as potential financial implications and operational disruption. Not all risks identified by our ERM process will have potential to cause significant impact to our business, but still need to be managed carefully. Our Company believes that climate change could present risks to its business. These potential risks are integrated into the Company's business planning, including investment in reducing energy usage, water use and GHG emissions.

## Managing Risk

Management is responsible for identifying, assessing, and managing risk through the ERM process, and the Audit Committee of the Board is responsible for reviewing the ERM process to ensure it is robust and functioning effectively. Overseeing risk is an important component of the Board's engagement on strategic planning. The Board's approach to overseeing risk management leverages the Board's leadership structure and ensures the Board oversees risk through both a Company-wide approach and specific areas of competency. Specifically, the Board oversees risk through the ERM process and functioning of Board Committees.

Currently, as part of the ERM process, business segments or groups within our Company identify and retain risk mitigation plans. Climate-related risks are fully integrated into the ERM process, and follow the same identification, assessment, and managing principles as any other risk type.

EHS and business continuity groups work to embed mitigation and adaptation practices into our capital planning process and on-going operations.

Mitigation plans are prepared to address identified risks. An example of the process we have in place to track and identify transitional risks is performed by our GSE group which monitors legislation related to climate change at the global, regional, country, and local level. To help identify physical risks, we work with a consultant to do a high-level supply chain risk assessment which is based on our third-party spend data. Addressing risk at the asset level is performed by our site management and emergency services groups which plan for and react to immediate and near-term physical risks caused by climate change.

We have several initiatives dedicated to managing climate change related risk across the enterprise. Examples include:

### Low Carbon Transition Playbook

We created tools such as the Low Carbon Transition Playbook (LCTP) to support our sites' energy reduction and transition plans. The LCTP is a living document resulting from a cross-functional effort that pulled together Company experts in a "design-thinking" workshop to develop strategies to reduce GHG emissions. The LCTP includes a gap assessment for sites to evaluate the maturity of their energy programs and helps create short- and long-term plans to reduce sites' carbon intensity, build toward a low-carbon future and plan for net zero. We updated the latest version of the LCTP to include new technological solutions for energy reduction as well as an improved reporting interface to promote best practice sharing across sites.

This LCTP will be a key resource for sites to implement following the qualitative physical climate risk and climate change transition risk and opportunity scenario assessment. See the "Strategy" section for further details regarding this assessment and the identified risks and opportunities.

### Sustainability Bond

In December 2021, we completed our inaugural issuance of a \$1 billion sustainability bond. Through September 30, 2023, we have fully allocated the \$994 million of the net proceeds from our 2021



sustainability bond. Our Company used a portion of the net proceeds from the sustainability bond offering to support a subset of projects and partnerships to build resiliency and reduce our environmental footprint through green buildings and other management initiatives.

Our Sustainability Financing Committee has oversight for sustainability financing reporting, including the evaluation and selection of projects for bond allocation. This committee has cross-functional representation including individuals from the ESMT to ensure strong alignment between sustainability financing reporting and our broader sustainability priorities and commitments.

*For additional details, please refer to our 2023 Sustainability Bond Allocation Report on our [Sustainability Resource page](#).*

### Green and Sustainable Science Program

Green and Sustainable Science (G&SS) is the development and application of green chemistry principles and quantitative sustainability metrics and goals to the process of scientific inquiry. Through our G&SS program we design processes that use safer chemicals, consume less energy, use less water and other resources, and generate less waste.

We have developed a SMART (in-Silico MSD Aspirational Research Tool) process mass intensity (PMI) tool which provides ambitious, molecule-aware PMI targets for our Active Pharmaceutical Ingredient manufacturing processes. We routinely evaluate PMI at every stage to drive the development of all our new small molecule processes to achieve our aspirational goals for green and sustainable processes. For our large molecule processes, we are pioneering new modality-appropriate metrics which outperform PMI in their ability to recommend ways of reducing the environmental impact of biologics and vaccine manufacturing. We are also using streamlined life cycle analysis tools to further evaluate the environmental impacts of our processes.

### Funding and Net-zero Road Maps

We have made a significant shift in how we integrate environmental sustainability into the capital investment process for our sites. Our goal was to create lasting value by prioritizing carbon footprint reduction, water conservation and solid waste management across our global sites. To advance our journey toward achieving net-zero GHG emissions, we embedded sustainability principles and funding into all projects, regardless of their size and scope. This allows us to better position ourselves on our net-zero journey.

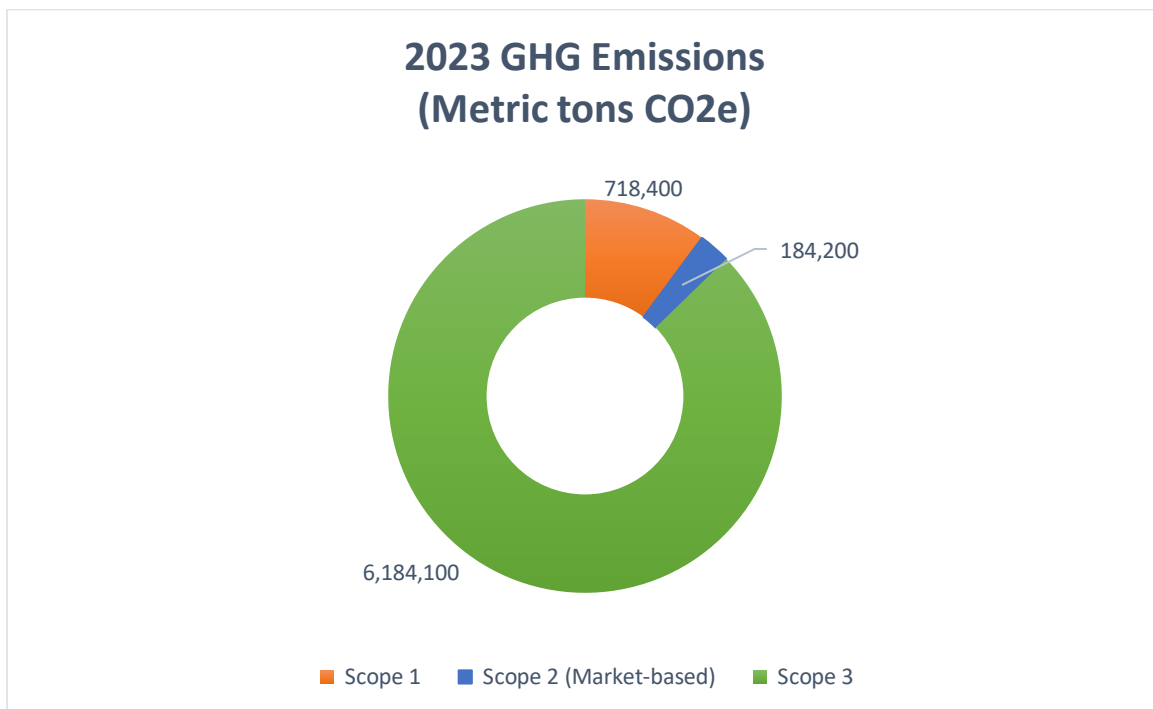
We also made a strategic decision to prioritize creation of net-zero roadmaps focused on energy consumption and decarbonization projects for the top emitting sites across our enterprise. To ensure successful implementation, our Enterprise Capital Committee—a cross-functional leadership team that ensures our portfolio of capital projects aligns to our strategy and long-range operating plan—has incorporated emissions impact into its decision-making process by approving the new Environmental Sustainability Capital Principles that are reflected in our updated building design standards. This means the committee now considers the GHG emissions impact of any proposed capital project or investment at the right size, scale and timing that will enable us to achieve our goals.

This shift demonstrates our dedication to aligning financial decisions with environmental sustainability goals within our standard capital allocation business processes. This approach also allows us to prioritize

investments that not only drive business value, but also contribute to reducing our overall carbon footprint in Scopes 1 & 2.

## Metrics and Targets

Our 2023 scope 1 & 2, and scope 3 emissions performance:



We have set the following SBTi approved targets for our scope 1 & 2 and scope 3 emissions, along with the progress to achieving these goals to date:

1. Reduce our operational GHG emissions (i.e., Scopes 1 & 2) 46% by 2030, from a 2019 baseline.
  - a. Progress: 12% reduction in scope 1 and 2 emissions from 2019 baseline in 2023.
2. Reduce our value chain (scope 3) GHG emissions by 30% by 2030, from a 2019 baseline.
  - a. Progress: 4% decrease in scope 3 emissions from 2019 baseline in 2023.
3. In 2024, we committed to a net-zero target for our GHG emissions across our global operations (Scopes 1, 2 and 3) by 2045, aligned with the guidelines of the SBTi.

In addition, we have committed to source 100% of our purchased electricity from renewable sources by 2025.

- Progress: 57% of purchased electricity sourced from renewables in 2023.

By continuing to work towards and eventually achieving these targets while also planning and managing risk, our business will be better positioned for a future affected by climate change and a transition to a low carbon economy.