

Task Force on Climate-related Financial Disclosures Statement ^{BV}

Our commitment to climate change

The COVID-19 pandemic has demonstrated the need to build resilience across society, economies and healthcare systems globally. In similar ways to the pandemic, the threat that climate change poses also places societies at higher risk financially, socially and environmentally, with many of its impacts disproportionately affecting vulnerable communities and emerging economies still struggling to recover from the pandemic. The climate crisis also poses risks to public health, with rising global temperatures increasing the prevalence of respiratory and cardiovascular disease, changes in water-borne illnesses, allergen distribution and concentration, as well as mental health effects. Health system resilience across the entire value chain, from disease prevention to treatment, has never been more important.

The commitments we have made through our flagship \$1 billion Ambition Zero Carbon programme ensure that we are playing our part in tackling the climate crisis as well as the opportunities that transitioning to a low-carbon economy could mean for our business.

We support the Task Force on Climate-related Financial Disclosures (TCFD) framework and we have made disclosures consistent with the four TCFD recommendations and the 11 recommended disclosures. The bullet point list on Page 222 set out the required disclosures and explains where in this Annual Report (or other relevant document) the various disclosures can be found. We first adopted the TCFD framework in our 2020 Annual Report, and continue to apply it this year to describe activities conducted in the year to 31 December 2021.

All our business operations worldwide are in scope, unless otherwise stated. The framework has been introduced with a risk-based approach focusing on the most material risks and opportunities. Future priorities to broaden the scope to medium- and low-risk areas are indicated in each section.

 For further information relating to our TCFD disclosures, see our website www.astrazeneca.com.


 Our Carbon Disclosure Project (CDP) response provides further disclosures (2020 performance) on our approach to climate change and is available at www.cdp.net/en.

Climate change and our strategy for physical risks

Understanding the potential impact of future climate scenarios, together with proactive mitigation, intervention plans and targeted investment, will future proof our business and build resilience to ensure our long-term financial sustainability and continued supply of medicines to patients. It is critical to understand the physical climate change risks to our workforce, local communities, our assets and supply to patients. Working in a preventive way, we want to minimise reactive

behaviour and minimise interruptions from extreme weather events across our operations and value chain.

In 2020, we screened climate impacts across our operations and in 2021 we added our strategic suppliers (defined by cost of interruption and strategic role to AstraZeneca) to assess what a worst-case scenario (Representative Concentration Pathway (RCP) 8.5) will look like in 2030, 2050 and 2100. In addition, two more optimistic scenarios (RCP 2.6 and 4.5) were modelled. By combining the results of the climate assessments with business criticality, we prioritised 12 potentially 'at risk' sites for further assessment in 2021.

 For further information, see the scenario table on page 218.

Physical climate assessments will be expanded in 2022 and 2023 to include a deep-dive analysis of all strategic sites irrespective of risk. We will also focus on strategic upstream and downstream partners to understand their resilience to climate change e.g. bulk drug manufacturing, batch/QA/QC testing, distribution centres etc.

As the work progresses, we will increase our knowledge base with regard to the potential financial impact of extreme weather events, and appropriate mitigation and intervention plans. Financial impacts, such as stranded assets, cost of interruptions of supply, and capital investments, will be further assessed and, where material, they will be disclosed.

Climate change and our strategy for transition risks and opportunities

The nature of the risks and opportunities we face depends not only on the physical aspects of climate change, but also regulatory and commercial changes in the markets in which we operate, pressures to reduce the carbon footprints of specific medicines, and our ability to shape a culture of climate action focused on de-carbonising our value chain.

To respond to the identified climate risks and opportunities, we are taking enterprise-wide actions, and are committed to:

- > Achieving net-zero greenhouse gas (GHG) emissions by maximising our energy efficiency, shifting to renewable energy sources, and investing in nature-based removals to compensate for any residual GHG footprint.
- > Building resilience by managing the physical (sites, supply chain) and transitional (regulatory, market and product) risks and opportunities from climate change in the value chain through adaptation and business continuity planning.

Through our Ambition Zero Carbon programme we are on track to reduce GHG emissions from our global operations by 98% by the beginning of 2026 and halve our entire value chain

footprint by 2030, on the way to a 90% reduction by 2045. Our emission reduction targets have been verified by the Science Based Targets initiative and we were one of the first seven companies worldwide to have our net-zero, science-based Scopes 1 to 3 targets verified under their new Net-Zero Corporate Standard. We were also an early supporter of the UN-backed Race to Zero.

Near-term targets

- > achieve 98% reduction in Scope 1 and Scope 2 GHG emissions by the beginning of 2026 from 2015 baseline
- > switch to a 100% fully electric vehicle fleet (EV100) by the end of 2025
- > use 100% renewable energy (RE100) for power and heat by the end of 2025
- > double energy productivity (EP100) from 2015 to 2025
- > launch first next-generation respiratory inhalers with near-zero climate impact
- > align supplier spend to companies with approved science-based targets by end of 2025
- > plant and steward over 50 million trees by end of 2025 as a nature-based solution to enhance climate, ecological and community resilience through our AstraZeneca Forest Global Initiative.

Long-term targets

- > achieve 50% reduction in total Scope 3 emissions by 2030 and 90% reduction by 2045, from 2019 baseline
- > become carbon negative for all residual emissions from 2030 and science-based net-zero by 2045
- > transition to next-generation respiratory inhalers with near-zero climate impact by 2030.

Recognising that the healthcare system represents approximately 4% of global GHG emissions, AstraZeneca continues to identify and exploit opportunities to deliver patient-centric, net-zero healthcare. In 2021, AstraZeneca established the Sustainable Healthcare Round Table under HRH The Prince of Wales' Sustainable Markets Initiative (SMI). This SMI Sustainable Healthcare Round Table was launched at COP26 and focuses on the environmental and clinical benefits that can be delivered through digital health, proactive supply chain management and taking a patient care pathways approach that integrates clinical and environmental considerations to accelerate the provision of net-zero healthcare.

Governance

In October 2021, the Board established the Sustainability Committee to monitor the execution of our sustainability strategy, oversee communication of our sustainability activities with stakeholders and provide input to the Board and other Committees on sustainability matters. The members of the Committee are Nazneen Rahman (Chair of the Committee), Sheri McCoy, Andreas Rummelt and Marcus Wallenberg. The launch of the Sustainability

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Committee is an important next step in advancing and delivering our sustainability goals. The Sustainability Committee met once in December 2021 for an update on progress regarding our Climate Strategy and TCFD.

For more information on the Sustainability Committee and other Committees, see from page 86.

Our CEO is responsible to the Board for the management, development and performance of our business, including AstraZeneca's Ambition Zero Carbon and climate-related risks and opportunities. Reporting to the CEO, the Executive Vice-President (EVP), Sustainability and Chief Compliance Officer (CCO), is responsible for the delivery of AstraZeneca's sustainability strategy, including our climate-related strategy.

A number of strategic groups have been established to support delivery of our sustainability and climate strategies:

> In 2020, we established an Ambition Zero Carbon Governance Group with executive-level ownership, accountable for the delivery of our Ambition Zero Carbon programme. The group includes AstraZeneca's CEO; CFO; the EVP for Sustainability and CCO; and EVP for Operations and IT. The Ambition Zero Carbon Governance Group met six times in 2021.

> In 2020, a TCFD steering group was also established with cross-functional membership (Corporate Affairs, Investor Relations, Finance Risk and Reporting, R&D, Operations and Global Sustainability) to identify and proactively manage the physical and transition risks and opportunities posed to AstraZeneca by climate change. In 2021, members of the group undertook training on climate change and principles for future climate scenarios.

The outcomes from the specialist groups are reported regularly to the Board. The Audit Committee was updated on progress in April and the Sustainability Committee was updated in December 2021. The TCFD steering group met eight times in 2021 with a focus on the (i) execution of climate risk assessments at priority sites in AstraZeneca's supply chain, (ii) mapping of transition risks and opportunities, (iii) integrating the management of climate risks and opportunities within the current governance structure and (iv) how to structure the TCFD Disclosure in the annual reporting process.

Execution

At a site level, the execution of roadmaps to deliver against our climate strategy and to manage the physical risks posed by climate change are led by the accountable site lead, executing control measures (technical or

organisational) as an integrated part of their existing risk management system.

On a commercial level, each franchise lead is accountable for integrating transition risks in their strategies and financial forecasts for each brand. By managing the risks posed by a low-carbon economy and healthcare system, each business can unlock potential opportunities to support the transition to a low-carbon, patient-centric healthcare system.

Remuneration

In 2021, to incentivise delivery of our environmental, social and governance priorities, delivery of our Ambition Zero Carbon commitment was included in our executive incentive arrangements for the Performance Share Plan (PSP), with a weighting of 10%. This underlines the importance we place on reducing our Scope 1 and Scope 2 GHG emissions by 98% by 2026.

For more information, see Directors' Remuneration Report from page 98.

Physical risks and temperature scenarios by 2100

Transition risks & opportunities and scenarios used

+2°C (RCP 2.6) > RCP 2.6 lays out a pathway and emissions trajectory that is generally aligned with the objectives of the Paris Agreement to limit global warming to well below 2°C, preferably to 1.5°C by 2100, compared to pre-industrial levels.

> 1.65°C (IEA WEO Sustainable Development Scenario (SDS) – equivalent to RCP 2.6).

> The IEA WEO SDS was used as the primary low-carbon future scenario within the Climate Financial Driver Analysis (CFDA). Renewable Electricity Generation and Transport Oil Demand figures were used from the SDS. As a 'well below 2°C' pathway, the SDS represents a gateway to the outcomes targeted by the Paris Agreement. The SDS is based on a surge in clean energy policies and investment that puts the energy system on track for key Sustainable Development Goals (SDGs).

> 1.5°C (IEA WEO Net-Zero Emissions by 2050 scenario (NZE) – equivalent to RCP 1.9).

> Within the CFDA, sensitivity analysis was carried out using carbon prices from the IEA NZE emissions scenario, to ascertain the impact that carbon prices higher than in Stated Policies Scenario (STEPS) would have. The NZE is a normative IEA scenario that shows a narrow but achievable pathway for the global energy sector to achieve net-zero CO₂ emissions by 2050, with advanced economies reaching NZE in advance of others.

+2.5°C (RCP 4.5) > RCP 4.5 is an intermediate scenario with emissions peaking in 2040 and falling rapidly thereafter until 2080.

> 2.5°C (IEA WEO Stated Policies Scenario – STEPS) – equivalent to RCP 4.5.

> The IEA WEO STEPS was used as the primary high carbon future scenario within the CFDA. Carbon prices from STEPS were used as the primary carbon price regime. Renewable Electricity Generation and Transport Oil Demand figures were also used. STEPS provides a more conservative benchmark for the future, because it does not take it for granted that governments will reach all announced goals.

+4°C (RCP 8.5) > RCP 8.5 is a worst-case scenario consistent with no policy changes to reduce emissions, where CO₂ concentrations in the atmosphere are roughly doubled by 2050 and continue on that path until 2100.

> 4°C (IEA WEO business as usual) equivalent to RCP 8.5.

> This high emissions 'business as usual' scenario was not modelled in detail but is expected to give rise to more significant physical impacts and delayed but more uncertain/disruptive transition, potentially leading to higher overall costs and representing failure to implement stated policies.

Time horizons > Present day, 2030, 2050, 2100.

> Present day, 2025, 2030, 2035 and 2040.

Identifying and managing climate risk and opportunity

To inform the wider enterprise risk management process of any specific risks and opportunities posed by climate change and/or the transition to a low-carbon economy, we have integrated climate assessments into the overall enterprise risk management process.

□ Our overall approach to risk management and a summary of our Principal Risks can be found from page 48.

Scope and definitions

Scenario analysis helps us to understand the potential impact of climate change on our business to inform our business strategy and financial planning. In line with the TCFD guidance, we decided to use a low/medium/high case scenario based on Representative Concentration Pathway shared by The Intergovernmental Panel on Climate Change.

□ For more information, see the table on page 218.

Assessment of physical risks

In 2020, working with environmental resource management experts, ERM Group, Inc. (ERM), we conducted a screening study of two future climate scenarios to explore our physical climate-related risks (floods, water scarcity, extreme heat, cyclones and wildfires). These scenarios were applied to material AstraZeneca sites with predictions out from 2020 to 2030, 2050 and 2100. The evaluated sites included all business-critical operations sites, R&D hubs, IT centres and other strategic hubs. The outcome of these screening studies was combined with a revenue-based assessment for each site to identify mid- to long-term risks. A similar study was conducted in 2021 to cover Alexion R&D and Operations sites, and their strategic suppliers with support from AECOM Limited. This has now been integrated into the AstraZeneca approach to assessing physical climate risks at sites.

During 2021, we extended our access to climate scenario data by using Jupiter, Inc. for screening of risks from climate hazards to all AstraZeneca sites in future scenarios (RCP 2.6, 4.5 and 8.5). We also used the WWF Water Risk Filter to assess site risks for droughts in water stressed areas and how these could be amplified by climate change.

□ For further information relating to the screening assessments for material sites, see our website www.astrazeneca.com.

Priorities for 2022 include:

- > Identify opportunities to take collective actions in hot spot regions, together with stakeholders, including peers, to manage water stress in a systemic way.

In 2021, we conducted a deep dive at 12 sites with high business criticality and potential exposure to climate change impacts in a worst-case scenario (RCP 8.5) by 2030 and 2050. The assessments cover:

- > inventory of hazards
- > risk analysis
- > risk evaluation
- > identification of mitigation measures.

Global Subject Matter Experts coordinated these assessments together with local representation from Manufacturing, Facilities Management, Safety, Health and Environment and the Risk Management Network. Where appropriate, the risk mitigation measures and interventions were escalated to site management and captured on the local risk register. Measures and actions to address these risks are included in the site master plans and business continuity plans as they are developed, and captured under the mid- and long-term financial planning for that site and function.

Priorities for 2022/23 include all material sites in scope for the initial climate risk screening and the Alexion sites will be subject to detailed site level physical climate impact assessments.

During 2021, we included nearly 350 strategic suppliers in a screening assessment for physical climate risks. Suppliers with a 12 month cost of interruption of more than \$200 million and with a critical role in patient supply will be prioritised for further assessment in 2022.

In 2021, we included vulnerability to climate change as a formal decision criteria for the establishment of future internal or external manufacturing capacity.

Assessment of transition risks and opportunities

To meet the Paris Agreement commitments to be net-zero and restrict global warming to 1.5°C, we need to take a product, company and healthcare system perspective to proactively manage the risks and opportunities posed by the transition to a low-carbon economy and healthcare system.

To deliver our 2030 carbon negative ambition, our products as well as our business will need to become carbon neutral. However, we also need to recognise that, given the limited period of exclusivity we have for innovative medicines, the GHG footprint of our current portfolio of products will not fully reflect our 2030 footprint. Many innovative treatments that will make up our 2030 portfolio are still in development and we can prioritise sustainability and efficiency in design, both in terms of process and product design, as well as the supplier network for manufacture and delivery. That means we are responsible for our choices in raw material sourcing, manufacture and formulation of APIs, along with device and packaging selection.

In November 2021, we launched a supplier-focused Power Purchase Agreement (PPA) programme (Energize) with peers in the pharmaceutical industry to accelerate access to renewable power for our suppliers.

We believe our patients and society will require products that have the smallest possible environmental impact, without sacrificing medical efficacy or safety. As technologies and healthcare systems evolve, so too should circular solutions to:

- > design out waste and pollution
- > keep products and materials in use
- > regenerate natural systems.

For this to happen, our scientists embrace carbon neutral design, migrate away from fossil fuels (where possible) and embrace a circular mindset to use materials (minimise by design, reuse, recycle, recover). To help our scientists prioritise what environmental aspects to focus on, we use life-cycle assessments to look at the environmental impact of our products. The GHG footprint for most medicines lies in our upstream supply chain; the exception is for the respiratory pMDI portfolio where the GHG footprint lies with the patient use.

As the wider healthcare system looks to deliver patient-centric net-zero healthcare, this will present some risks for AstraZeneca to manage, as well as some opportunities to deliver better patient and societal outcomes with a lower GHG footprint for the healthcare sector. AstraZeneca is part of the Scope 3 emissions of healthcare providers; we are part of their purchased goods and services footprint. Some healthcare providers have already set out their net-zero ambitions. For example, the NHS has established targets to procure medicines only from suppliers with climate targets aligned with, or more ambitious than their own, and they have goals to reduce the footprint of respiratory products by 50% over the next seven years. Therefore, the transition to next-generation propellants with a near-zero global warming potential within our Ambition Zero Carbon strategy is not only reducing our GHG footprint, it is also mitigating some of the transition risks we face in the market and will protect our revenue.

To better understand the financial consequences of the transition into a low-carbon economy to our business, we started to work with ERM. Risks and opportunities were assessed at an enterprise level and product-specific level for the top 10 brands where life-cycle assessment (LCA) data is available, representing approximately 50% of Total Revenue with examples from all our disease areas.

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continued

Key

● Low risk	Time horizon for impact
● Medium risk	Short-term: 1–3 years
● High risk	Mid-term: 3–7 years
● Opportunity	Long-term: 7–25 years

Risk or opportunity	Time horizon Short/Mid/Long	Potential impact	How it is managed
Physical risks			
Increased frequency of extreme weather and climate-related natural disasters.	● ● ●	<ul style="list-style-type: none"> > Detailed site-level climate risk assessments have now been conducted at 12 sites (Wuxi, Södertälje, Maihara, Chennai, Westchester, Guadalajara, Gothenburg, Cairo, Canovanas, Mount Vernon, Bensalem and Taizhou) to verify the screening results from 2020. Outcomes indicate potential for: <ul style="list-style-type: none"> > increased exposure to extreme heat events and an increased need for cooling to maintain GMP compliance > heavy rainfall causing local flooding and/or inducing landslides > high wind events that can damage site structures. > Potential risks relate primarily to disruption or delays in a single manufacturing site, product distribution, and/or product impairment due to broken cold chain logistics, along with associated increased liability insurance premiums and reputational damage. However, investment in at-risk sites, the design of our supply chains and levels of inventory held mean that we do not currently foresee a material business impact arising from these short-term events. > Three case studies underpin this conclusion by exemplifying some typical risks, the consequences and associated mitigations: Södertälje in Sweden, Maihara in Japan and Canovanas in Puerto Rico. <p>📄 For more information, see www.astrazeneca.com/sustainability/resources.html</p> <ul style="list-style-type: none"> > We will continue to expand our site assessments and business impact assessments in 2022. 	<ul style="list-style-type: none"> > Identified risks have been addressed in the local business continuity plans or planning of technical mitigations integrated into the site master plans. Any investments required are integrated into the normal mid- and long-term financial planning process. Mitigation examples include increased cooling capacity to cover periods of extreme heat, drainage systems to handle increased volumes of precipitation or strengthening of building resilience to stand up against increased wind speed. > Business resilience has been increased to mitigate our exposure to extreme weather events like hurricane Maria at Canovanas (Puerto Rico, 2017), an extended period of heat in Södertälje (Sweden, 2018) and water scarcity in Chennai (India, 2019). > For example, our site in Canovanas has taken proactive steps to increase its resilience and mitigate the risks posed to our business operations by installing its own heat and power plant to reduce reliance on the local power network complemented with on-site solar panels and emergency generators (\$12 million) and renovations of the two main manufacturing and warehouse buildings to comply with the latest building code (\$9 million). > In 2021, physical risks have been mapped in the broader supply chain based on location and then matched with climate scenarios of RCP 2.6, 4.5 and 8.5. Suppliers with high criticality (cost of 12 month interruption more than \$200 million) and exposure to significant future climate hazards will be contacted in 2022 to ensure that they build climate resilience within their business continuity plans. > Climatic risk assessments have been included in the site evaluation criteria for investment in new operations in 2021.

Transition risks and opportunities

Increased demand for sustainable low Global Warming Potential (GWP) products and services from healthcare providers in some countries may result in the potential for green substitution of medicinal products with a high GWP (e.g. anaesthetics and respiratory products).	● ● ●	<ul style="list-style-type: none"> > Some healthcare providers and professionals are actively looking to substitute medicinal products based on their GHG footprint to reduce their own Scope 3 footprint, as part of their net-zero targets. > One example is NHS England and its target for net-zero by 2045, with an ambition to reach an 80% reduction by 2036 to 2039. This could impact market access and revenue in some countries for high GWP products where alternatives with a lower GHG footprint exist. Future revenue from our pMDI inhaled medicines portfolio could be 'at risk' should substitution become widespread before the transition to our next-generation near-zero GWP pMDIs. These risks are currently low, limited to a few countries, and any impact is likely to occur in a timeframe when we have lost exclusivity for some 'at risk' brands. > Transitioning to low GWP respiratory products as part of AstraZeneca Ambition Zero Carbon, and understanding the positive impacts that disease prevention, digital, early diagnosis and clinical intervention can have on the carbon footprint of specific patient care pathways, will provide business opportunities to improve the standard of care and clinical outcomes with a lower environmental footprint. 	<ul style="list-style-type: none"> > As part of our \$1 billion AstraZeneca Ambition Zero Carbon commitment, we will transition to near-zero GWP propellants across our asthma and COPD products between 2025 and 2030. > AstraZeneca has life-cycle assessments (LCAs) in place for key brands (respiratory and wider) that includes the GHG footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. > In 2021, we have also launched an internal Product Sustainability Index (PSI) to proactively assess and manage the environmental footprint of our products. The PSI captures GHG and water intensity metrics per product, per patient and per annum, as well as measures of % renewable power and resource efficiency used to make that product. > Patients whose treatment is optimised are more likely to have a lower climate impact overall, through reduced reliever pMDI use and fewer unscheduled healthcare interventions. We are working with academics and healthcare agencies to understand the environmental impact of respiratory care pathways for patients with controlled and uncontrolled asthma and the opportunities for improved clinical care with a lower environmental footprint. The output of these environmental and clinical studies was communicated at scientific conferences and via peer-reviewed literature in 2021. > Early diagnosis and clinical intervention can provide business opportunities to improve the standard of care and clinical outcomes with a lower environmental footprint. In 2021, at COP26, AstraZeneca launched the Sustainable Healthcare Round Table under HRH The Prince of Wales' Sustainable Markets Initiative (SMI). The initiative focuses on the environmental and clinical benefits that can be delivered through digital health, proactive supply chain management and taking a patient care pathways approach that integrates clinical and environmental considerations to accelerate the provision of net-zero healthcare.
Business opportunities will exist with increased future demand for low GWP alternatives and where earlier diagnosis and clinical intervention can reduce the carbon footprint of healthcare pathways.	● ● ●		

Key

● Low risk	Time horizon for impact
● Medium risk	Short-term: 1–3 years
● High risk	Mid-term: 3–7 years
● Opportunity	Long-term: 7–25 years

Risk or opportunity	Time horizon Short/Mid/Long	Potential impact	How it is managed
Review of the US, EU, UK and other national F-Gas Regulations and their impact on respiratory medicines used to treat asthma and COPD.	● ● ●	<ul style="list-style-type: none"> > The US and EU F-Gas reviews carry the potential risk that some F-gases used in pMDI-based respiratory products could be subject to emission restrictions from which they are currently exempt (EU: 70% phase down target by 2030). The loss of the medicinal exemption, or lack of a long-term phased transition, could prevent or limit availability of products in our pMDI-inhaled medicines portfolio should these restrictions apply before the transition to our next-generation near-zero GWP pMDIs. > Inhaler device selection is a critical consideration as patient need or preference for a specific device type will influence adherence to treatment which in turn impacts clinical outcomes. Failure to maintain a patient-centric approach in the short- to mid-term could result in unnecessary adverse respiratory events and hospitalisations that could come with an increased GHG footprint. 	<ul style="list-style-type: none"> > Patient advocacy assesses both clinical and environmental outcomes: <ul style="list-style-type: none"> > As part of the \$1 billion AstraZeneca Ambition Zero Carbon commitment, AstraZeneca will transition to low GWP propellants in its asthma and COPD products between 2025 and 2030. > We are advocating a phased transition period to at least 2030 if the medicinal exemption is lifted to ensure patient safety and provide sufficient time for the regulatory approval and transition to alternative low GWP propellants.
Carbon pricing and future environmental taxation.	● ● ●	<ul style="list-style-type: none"> > There is uncertainty over the future environmental policy and fiscal landscape in many countries where we operate. We anticipate increased regulation and other developments related to carbon pricing, broader adjustment taxes, and broader environmental taxation over the medium to long term. > Carbon pricing based on the IEA Net-Zero economy forecast which follows the 1.5°C warming pathway (\$130/tCO₂ by 2030). 	<ul style="list-style-type: none"> > Our AstraZeneca Ambition Zero Carbon commitment will help to mitigate some exposure to future carbon pricing and environmental taxation for our operations and our wider value chain. Managed correctly, this presents a commercial opportunity where peers have yet to establish a path to deep decarbonisation and net-zero. > We are being positive advocates for science-based targets to address climate change across our industry and supply chain via trade associations and networks. We continue to monitor regulatory and market developments in carbon pricing to inform our strategy.
Supply-demand of renewable energy (power and heat).	● ● ●	<ul style="list-style-type: none"> > Access to clean heat alternatives to natural gas e.g. biomethane generally requires higher investment. > Participation in renewable energy programmes and adoption of energy efficiency measures to reduce operating costs and exposure to future fossil fuel price/carbon price increases. 	<ul style="list-style-type: none"> > AstraZeneca invests approximately \$25 million per annum in natural resource reduction programmes, including those that improve energy efficiency. Absolute natural resource reductions, including those that reduce our GHG emissions, are a primary metric alongside return on investment. Since 2015, we have invested \$130 million and delivered a 9% reduction in energy use and 59% reduction in our GHG emissions. This reduces our exposure to incremental costs associated with some renewable alternatives. > Renewable power implemented by 2020 at all sites with a 2% premium. In 2021, the premium increased to 3.5%. > We joined the Renewable Thermal Collaborative in 2020 to unlock opportunities for renewable biomethane in the US and UK markets to prepare for a transition by 2025. > Project started with peers in pharmaceutical industry (Energize) to enable access to renewable energy in supply chains with a start in the US and the EU, and plans to expand into less mature markets.
Change in raw material or sourcing cost.	● ● ●	<ul style="list-style-type: none"> > Costs associated with new low-carbon technology as the business needs to comply with expected new and emerging legislation for lower emissions technology (and meet stakeholder expectations for proactively decreasing emissions). > Similar increased operational costs in the supply chain may also have an effect on pricing and costs of raw materials including packaging. > There could be a significant risk associated with increased costs for using high carbon transport modes. > More efficient buildings will reduce costs; improved facilities management will lead to lower costs for repair and replacements. > Use of lower-emission sources of energy will reduce costs and will reduce exposure to fossil fuel and carbon price changes. > Use of more efficient production and distribution processes will reduce operational and logistical costs from using more efficient processes. 	<ul style="list-style-type: none"> > Carbon costs are properly factored into engineering feasibility, options appraisal and capital expenditure decision making. Engagement with contract manufacturing organisations (CMOs) and other supply chain partners covers issues such as their transition to the low-carbon economy. > Ensuring the early opportunities for gaining regulatory approvals for new and emerging transport modes and technologies so that logistics continuity is maintained. > Ensuring the costing for drugs considers potential increases associated with transition risks (such as cost of fuels and changes to approval mechanisms). > Many of the risks associated with incremental cost exposure are not unique to AstraZeneca. They will also be faced by our peers and the wider healthcare sector. > Engagement ensuring that sustainable performance is positively recognised within procurement is being explored.

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In 2021, we have focused on a pMDI product in our respiratory portfolio due to its relative high carbon intensity, strategic importance to the business, and being the initial focus for the next-generation propellant transition as part of our Ambition Zero Carbon strategy. In an initial Climate Financial Driver Analysis, risks and opportunities were identified during the transition phase where the current propellant will be substituted to a low-carbon alternative by end of 2025. The financial implications of transitioning to next-generation propellants are included in our financial forecasts, which inform our impairment assessments.

Priorities for 2022 include:

- > Define a methodology for ensuring that the climate risks associated with the franchise are fully integrated into business planning.
- > Determine the transition risks for other high carbon intensity products based on the pilot assessment.
- > Consolidate into Climate Financial Driver Analysis report (quantitative) to be included in the annual reporting process for 2022.
- > Initiate work to understand carbon intensity for Alexion products, their potential exposure to transition risks, and identify potential opportunities where their use can reduce the environmental footprint of existing healthcare pathways.
- > Conduct a study on how climate change impacts different disease areas and any future needs from patient groups.

Outcome of the physical and transitional assessments

In many cases mitigation measures are already in place to address the risks and opportunities presented by climate change, including those posed by the transition to a low-carbon economy and the provision of net-zero healthcare.

For more information, see the Risk supplement available on our website, www.astrazeneca.com/annualreport2021.

As a result of the analysis, the risk 'Failure to meet regulatory expectations on environmental impact, including climate change' is managed as a standalone risk to the Group's risk landscape. Based on current assessments, climate risk is not expected to have a material impact on our current business model. Therefore climate change is not seen as a Principal Risk for the Group and is not disclosed as a Principal Risk in the earlier Risk Overview section. This TCFD statement has been shared with the Board and Audit Committee.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

Monitoring our progress

The climate emergency is a public health emergency. It is changing our planet irreversibly, with warming reaching critical tolerance thresholds for health. Human health and the health of the planet are deeply interconnected. We have an opportunity now to reset how we live and create a more sustainable world – together and without delay.

We report on our GHG emissions and progress towards mid- and long-term targets in line with the World Resources Institute GHG Protocol guidance for defining and calculating our GHG footprint, which is disclosed separately in the Sustainability Data Summary Report.

Full details of our GHG footprint are disclosed in our Sustainability Data Summary Report 2021, www.astrazeneca.com/sustainability/resources.html

The performance report is reflecting how well we have been able to decarbonise the business and by that, reduce exposure to transition risks and unlock future opportunities for the Company and the wider healthcare sector.

During 2021, we were recognised for our efforts in sustainability across our strategic priorities. This included the following:

- > Inaugural 2021 Terra Carta Seal award
- > Dow Jones Sustainability Index constituent
- > FTSE4Good Index Series constituent
- > Financial Times 2021 European Climate Leader for reduction of GHG emissions
- > CDP Double A List for Climate and Water Security for the sixth consecutive year
- > Corporate Knights Global 100 Most Sustainable Corporations in the World.

For more information, see our Sustainability Report available on our website, www.astrazeneca.com/sustainability.

The bullet points below provide an explanation of where in this Annual Report (or other relevant document or location in respect of supplementary information) the various TCFD recommended disclosures can be found:

- > Governance
 - > Is the Board's oversight of climate-related risks and opportunities described? Pages 73, 89, 90 and 217. Sustainability Report pages 8 and 19.
 - > Is management's role in assessing and managing climate-related risks and opportunities disclosed? Pages 6, 15, and 217. Sustainability Report pages 8 and 19.
- > Strategy
 - > Are climate-related risks and opportunities the organisation has identified over the short, medium and long term disclosed? Pages 8, 30, 45 to 46, 220 to 221. Sustainability Report pages 20 to 22. Sustainability Data Summary pages 5 to 8.
 - > Is the impact of the climate-related risks and opportunities on the organisation's business, strategy, and financial planning described? Pages 48, 217, 219, 220 to 222.
 - > Is the resilience of the organisation's strategy described, taking into consideration different climate-related scenarios, including a 2°C or lower scenario? Pages 48, 218 and www.astrazeneca.com/sustainability/resources.html
- > Risk management
 - > Are the organisation's processes for identifying and assessing climate-related risks described? Pages 48, 91, 217 to 222. Sustainability Report pages 8 and 19.
 - > Is the organisation's process for managing climate-related risks disclosed? Pages 217 to 222. Risk Supplement page 5. Sustainability Report pages 8 and 19.
 - > Is it described how the organisation's process for identifying and managing climate-related risks is integrated into the organisation's overall risk management? Pages 217 to 222. Sustainability Report pages 8 and 19.
- > Metrics and Targets
 - > Is there disclosure of the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process? Pages 48 and 90.
 - > Does the organisation disclose its Scope 1, Scope 2 and, if appropriate, Scope 3 greenhouse gas (GHG) emissions, and related risks? Page 216. Sustainability Report pages 20 to 22. Sustainability Data Summary pages 5 to 7.
 - > Does the organisation describe the targets used to manage climate-related risks and opportunities and performance against targets? Pages 45 to 46, 48 and 216. Sustainability Report pages 20 to 22. Sustainability Data Summary pages 5 to 8.

For more information, see our Sustainability Report and Sustainability Data Summary available on our website, www.astrazeneca.com/sustainability.