

What science can do

AstraZeneca Task Force on Climate-related Financial Disclosures (TCFD) Report 2020



Taskforce on Climate-related Financial Disclosures Statement

February 2020

We support the Taskforce on Climate-related Financial Disclosures (TCFD) and aim to develop our disclosures in line with its recommendations. This is AstraZeneca's first report that follows the TCFD-recognised framework and it describes our process and actions as of 31 December 2020. All our business operations worldwide are in scope regardless of their function, unless otherwise stated. A full TCFD disclosure will be provided according to the Listing Rule for the 2021 reporting year onwards.

Our CDP response provides further disclosures on our approach to climate change and is available at <https://www.cdp.net/en>.

Governance

Non-Executive Director, Geneviève Berger, oversees our sustainability strategy on behalf of the Board, including delivery of our Ambition Zero Carbon programme, and evaluates our performance against our targets and commitments.

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 the AstraZeneca sustainability strategy, including our climate-related strategy and leads a quarterly update with the Board.

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

- > An external Sustainability Advisory Board (SAB) advises on strategic direction, recommends opportunities and provides insight. Our SAB comprises five SET members (EVP, Sustainability and CCO; EVP, Operations and IT; EVP, Human Resources; EVP & President, BioPharmaceuticals R&D; and EVP & President, International) and four external sustainability experts (Pankaj Bhatia, Deputy Director, Climate Program, World Resources Institute; Dame Polly Courtice, Director, Cambridge Institute for Sustainability Leadership, University of Cambridge; Louise Nicholls, Managing Director of Suseco and Vice Chair of IEMA; and Rain Henderson, Founder, Elementor Advisors). The SAB met once in 2020 where an update was provided on our climate strategy.

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

- > 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 meets monthly and includes AstraZeneca's CEO; CFO; the EVP, Sustainability and CCO; and EVP, Operations and IT.
- > In 2020, a TCFD steering group was also established with cross-functional membership to identify and proactively manage the physical and transitional risks and opportunities posed to AstraZeneca by climate change. The Board was updated on progress in September 2020.

The outcomes from the specialist groups are regularly reported to the AstraZeneca Board.

Identifying and managing climate risk and opportunity

Our overall approach to risk management and a summary of our Principal Risks can be found from page 80 of the 2020 AstraZeneca Annual Report. 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 risk management process. In 2020, we conducted physical and transitional risk assessments and the process for these assessments is described below.

Physical assessment

In 2020, working with environmental resource managements experts, ERM Group, Inc, (ERM), we conducted a screening study of two future climatic scenarios to explore our physical climate-related risks (floods, water scarcity, extreme heat, cyclones and wild fires); Representative Concentration Pathways (RCP) 4.5 (+2°C) and RCP 8.5 (+4°C) were used for this study. These scenarios were applied to 61 AstraZeneca sites with predictions out from 2020 to 2030 and 2050. The sites evaluated included all business-critical operations sites, R&D Hubs, IT centres and other strategic hubs; pure commercial sites were out of scope as they posed a low material risk. The outcome of these screening studies across the 61 sites was combined with a revenue-based assessment for each site to identify medium- to long-term risks.

Transitional assessment

In 2020, working with ERM we defined the risks and opportunities associated with the transition to a low-carbon economy. To measure these transitional risks, we adopted two scenarios; a base case (~3.5°C) and low carbon (~2°C) scenario with predictions out to 2025, 2030, 2035 and 2040. Risks and opportunities were assessed at an enterprise level and product-specific level for the top ten brands where life-cycle assessment (LCA) data is available, representing approximately 50% of Total Revenue with examples from all therapy areas.

Outcome of the physical and transitional assessments

As a result of this analysis, a new risk 'Failure to meet regulatory expectations on environmental impact, including climate change' has been added as a standalone risk to the Group's risk landscape. This risk has been shared with the Board and Audit Committee. The risk is not currently assessed to be financially material and does not impact our current business model. In many cases mitigation measures are already in place to address the risks and opportunities presented by climate change, including the transition to a low carbon economy. These risks and opportunities are explained in more detail in the table overleaf.

Climate change and our strategy

The nature of the risks and opportunities we face depends not only on the physical aspects of climate change, but also changes in the regulations in the markets in which we operate, pressures to reduce the carbon footprints of specific medicinal products, and our ability to understand and shape a culture of climate action. Our response to the identified climate risks and opportunities requires enterprise-wide action, in addition to further integration of environmental considerations in drug development and manufacture, and a greater focus on responsible procurement and sourcing across the entire value chain.

To mitigate the impact of AstraZeneca's business operations on the environment, the Board of Directors approved a new climate strategy in 2019. Our Ambition Zero Carbon strategy was launched in January 2020 when we disclosed new targets to be zero carbon across our global operations by 2025 (Scopes 1 and 2) and be carbon negative across our entire value chain by 2030 (Scopes 1, 2 and 3). Ambition Zero Carbon goes beyond the verified reduction goals of our existing Scope 1 and 2 Science Based Targets to limit global warming to 1.5°C. To support achievement of Ambition Zero Carbon we will double energy productivity, use 100% renewable energy for both power and heat, and switch to a 100% electric vehicle fleet five years ahead of schedule. Our actions to tackle climate change include plans to launch next-generation near-zero Global Warming Potential (GWP) respiratory inhalers and plant 50 million trees under the 'AZ Forest' programme. Overall, the \$1 billion Ambition Zero Carbon programme brings forward our decarbonisation plans by more than a decade.

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

Key

R Risk

O Opportunity

Risk or opportunity	Potential impact	How it is managed
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Physical risks

Increased frequency of extreme weather and climate-related natural disasters.

R

In 2020, we conducted a screening study of two future climatic scenarios to explore our physical climate related risks (floods, water scarcity, extreme heat, cyclones and wildfires) across 61 business critical sites.

Eight sites were predicted to be exposed to increased risk of severe or very severe climate-related hazards in the next 10 years based on the worst-case scenario.

Out of the eight 'at-risk' sites, a deep dive was conducted at the manufacturing site in Wuxi, China to verify the global screening results with help from local climate data and infrastructure. The outcome indicated increased risk of (a) heavy rainfall causing localised flooding, and (b) an extreme heat event in combination with air pollution that could cause increased need of cooling capacity, impact workers' health and potentially impact our licence to operate in the long term.

In 2021, indicative findings of increased risks (extreme heat, floods, drought and wild fires) will be verified by local assessments (based on learnings from the Wuxi study) across other potentially 'at risk' strategic sites (Södertälje, Maihara, Chennai, West Chester, Guadalajara, Gothenburg, Cairo, Canovanas, Mount Vernon, Newark, Frederick, Bensalem, North Ryde and Taizhou). Any climate risks identified will be integrated into our existing risk management processes including local site and business continuity plans to ensure they contain measures to proactively manage any physical climate risks and embed climate resilience in their short-, medium- and long-term planning.

Business resilience has also been increased as a result of exposure to extreme weather events like hurricane Maria at Canovanas (Puerto Rico, 2016), an extended period of heat in Södertälje (Sweden, 2018) and water scarcity in Chennai (India, 2019).

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.

In 2019, we restored two lakes next to our site in Chennai, together with the local community, to help protect against extremes in water stress and availability.

In 2021, physical risk assessments will be conducted on the broader value chain and our critical suppliers for (i) our top ten products, and (ii) our long-term strategic suppliers responsible for bulk drug production.

Transitional 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).

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.

R O

Some healthcare providers and professionals are actively looking to substitute medicinal products based on their Greenhouse Gas (GHG) footprint in order to reduce their own Scope 3 footprint, as part of their net-zero targets (e.g. UK NHS). This could impact market access and revenue in some countries for high GWP products. Future revenue from our pMDI inhaled medicines portfolio could be 'at risk' should substitution become widespread before the transition to our next-generation low GWP pMDIs. These risks are currently low and limited to a few countries.

Transitioning to low GWP respiratory products as part of AstraZeneca Ambition Zero Carbon, and understanding the positive impacts that 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.

> 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.

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

> In 2020 we developed a Product Sustainability Index (PSI) as part of our Product Environmental Stewardship strategy. The PSI captures carbon and water intensity metrics per product, per patient, per annum – as well as measures of % renewable power and resource efficiency used to make that product.

> As part of our \$1 billion AstraZeneca Ambition Zero Carbon commitment, we will transition to low GWP propellants across our asthma and COPD products between 2025 and 2030.

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

> Patients whose treatment is optimised are more likely to have a lower carbon 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 will be communicated at scientific conferences and via peer-reviewed literature in 2021.

Key

 Risk

 Opportunity

Risk or opportunity	Potential impact	How it is managed
<p>Transitional risks and opportunities <i>continued</i></p> <p>Review of the US, EU, UK and other national F-Gas Regulations and their impact on respiratory medicines used to treat asthma and COPD.</p>	<ul style="list-style-type: none"> > The US and EU F-Gas review carries 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. Loss of the medicinal exemption, or failure to have a long-term phased transition, could prevent or limit availability of products in our pMDI inhaled medicines portfolio, should these restrictions become applicable before the transition to our next-generation low 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. 	<p>Patient-centric advocacy assesses both clinical and environmental outcomes.</p> <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 to at least 2030 if the medicinal exemption is lifted to ensure transition to alternative low GWP propellants within the scope of the AstraZeneca Ambition Zero Carbon programme. > 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.
<p>Ban and/or restrictions on the sale of petrol and diesel vehicles in some markets.</p>	<p>AstraZeneca has approximately 16,900 leased vehicles as part of its commercial fleet, of which 51% are internal combustion engine (ICE), 39% are self-generating hybrids, 7% are plug-in hybrid electric vehicles (PHEVs) and 0.3% are battery electric vehicles (BEVs). With some countries banning or restricting sales of ICE vehicles in the future, AstraZeneca will need to transition to BEVs across its markets and there is an expectation that duties on fossil fuels associated with our fleet will increase over the next decade.</p> <p>There is also an increase in the number of clean air zones globally with cities or regions either restricting fossil fuel vehicles or charging a daily premium for ICE vehicles to access those regions. A proactive shift to BEVs opens up an opportunity to decrease the future cost of ownership and maintain access to these restricted clean air zones.</p>	<ul style="list-style-type: none"> > As part of AstraZeneca Ambition Zero Carbon we will transition to 100% BEV by 2025 and we are signatories to the Climate Group's EV100 commitment. > A market readiness study has been conducted for our top markets and those countries that are BEV ready have been identified. Transitioning to BEVs will start in 2021 as part of the existing fleet renewal cycles in those market ready countries. Incremental costs can be offset by relatively small reductions in fleet number and kilometres driven or through adopting mobility as a service and digitalisation as described in the two bullet points below. > We are also looking at mobility options as a holistic service, where we will reduce our reliance on vehicles within urban regions and make more use of low carbon integrated private and public transport systems. > An increase in digitalisation (e-detailing) and virtual selling to reduce our reliance on a physical vehicle fleet is also being adopted.
<p>Carbon pricing and future environmental taxation.</p>	<p>There is uncertainty over the future environmental policy and fiscal landscape in many countries where we operate. We anticipate that carbon pricing and environmental taxation will increase over the medium to long term.</p>	<ul style="list-style-type: none"> > Our AstraZeneca Ambition Zero Carbon commitment will help to mitigate 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 net-zero or carbon 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.

Monitoring our progress

Since 2015, we have invested over \$100 million in a natural resource reduction programme that has reduced our carbon emissions from operations by almost one third and our water consumption by almost one fifth.

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

In 2020, we sourced 99.9% of our imported electricity globally from renewable sources and generated over 5 GWh from solar PV installations on our own sites from renewable sources.

In 2019, the Science Based Targets Initiative confirmed that our Scope 1 and Scope 2 emissions targets aligned with the more progressive Paris Agreement target to limit global warming to 1.5°C. In 2019, AstraZeneca was also the first pharmaceutical company to join the EV100 initiative for electric vehicles.

AstraZeneca is the first pharmaceutical company worldwide to reinforce its commitment to sustainability and climate control by joining all three of the Climate Group's initiatives: RE100 (renewable energy), EV100 (electric vehicles) and EP100 (energy productivity).

We are one of only three companies worldwide to have been CDP A rated for Climate Change and Water Security for the last five years.

The information given here has been independently assured by Bureau Veritas.