

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Caring Deeply. Working Fearlessly. Changing Lives.™

At Biogen, our mission is clear: we are pioneers in neuroscience. Since our founding in 1978 as one of the world’s first global biotechnology companies by Charles Weissmann, Heinz Schaller, Kenneth Murray and Nobel Prize winners Walter Gilbert and Phillip Sharp, Biogen has led innovative scientific research with the goal over the last decade to defeat devastating neurological diseases. Millions of people around the world are affected by multiple sclerosis, Alzheimer’s disease, Parkinson’s disease and amyotrophic lateral sclerosis (ALS). Many people also suffer from less common diseases such as spinal muscular atrophy (SMA) and progressive supranuclear palsy (PSP). We believe that no other disease area holds as much need or as much promise for medical breakthroughs as neuroscience.

Biogen has some of the world’s best neurologists and neuroscientists. We engage with physicians and scientific leaders around the world with the aim to further medical research. Our focus on neuroscience, our deep scientific expertise and our courage to take risks make us leaders in the research and development of medicines to transform neuroscience to benefit society. Our technology and engineering capabilities create novel ways to seamlessly transition products from development to manufacturing with the intent of bringing our high-quality medicines to market faster.

We respect the contributions of health care providers caring for people living with neurological diseases. We honor the important role of caregivers, families and friends who care about them.

Biogen is committed to working with advocacy and patient organizations as they serve the communities they represent. Recognizing the challenges facing health care systems today, we collaborate with regulatory authorities and customers such as health care providers and payers, so that those in need can access our medicines. Professional, ethical, and compliant, we hold ourselves accountable to deliver value to our shareholders. Biogen contributes to the communities where we live. We are committed to our employees, diversity and inclusion, and environmental sustainability.

We care deeply about making a difference.

We work fearlessly. We do not give up even when challenged, pursuing innovation in all that we do.

We are humbled by the opportunity to change lives.

Biogen is listed on the Global Select Market of the NASDAQ Stock Market under the symbol BIIB. Our global headquarters in Cambridge, Mass., is also home to our research operations and small-scale manufacturing facility, with an international headquarters in Baar, Switzerland, and world-class manufacturing facilities in Research Triangle Park (RTP), N.C., and Solothurn, Switzerland. We offer therapies globally through direct affiliate presence in more than 34 countries and a network of distribution partners in more than 70 additional countries.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	January 1 2021	December 31 2021	Yes	3 years

C0.3

(C0.3) Select the countries/areas in which you operate.

- Argentina
- Australia
- Austria
- Belgium
- Brazil
- Canada
- Chile
- China
- Colombia
- Croatia
- Czechia
- Denmark
- Estonia
- Finland
- France
- Germany
- Hong Kong SAR, China
- Hungary
- Ireland
- Italy
- Japan
- Latvia
- Lithuania
- Mexico
- Netherlands
- New Zealand
- Norway
- Poland
- Portugal
- Republic of Korea
- Saudi Arabia
- Singapore
- Slovakia
- Slovenia
- Spain
- Sweden
- Switzerland
- Taiwan, China
- Turkey
- United Arab Emirates
- United Kingdom of Great Britain and Northern Ireland
- United States of America

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

USD

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Operational control

C0.8

(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

Indicate whether you are able to provide a unique identifier for your organization	Provide your unique identifier
Yes, an ISIN code	US09062X1037

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Director on board	<p>Each Director on the Board is provided information from Biogen's Healthy Climate, Healthy Lives Working Group Governance Committee, which leads our climate strategy, and Enterprise Risk Management team on climate-related issues annually. It is the responsibility of the full Board to make decisions about what the company will do and adapt those decisions based on climate-related information.</p> <p>For example, we have tied a portion of our employees' and executive officers' 2021 compensation in our Company Scorecard to advancing our environment, social and governance (ESG) strategy, which includes targets under Biogen's Healthy Climate, Healthy Lives initiative.</p>

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding risk management policies Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	<p>Annually or more frequently as needed, the Healthy Climate, Healthy Lives Working Group Governance Committee reports to the full Board to review and obtain feedback on the overall strategy of the program as well as progress against its major goals and targets, such as Biogen's Electric Vehicle Fleet program.</p> <p>Annually or more frequently as needed, the Enterprise Risk Management team reports to the full Board to review and obtain feedback on identified high priority risks, which may include climate-related financial risks, and to which global policies may be adjusted or established.</p>

C1.1d

(C1.1d) Does your organization have at least one board member with competence on climate-related issues?

	Board member(s) have competence on climate-related issues	Criteria used to assess competence of board member(s) on climate-related issues	Primary reason for no board-level competence on climate-related issues	Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future
Row 1	No, but we plan to address this within the next two years	<Not Applicable>	Important but not an immediate priority	

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Operating Officer (COO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	Annually

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

Reporting to the CEO, our Executive Vice President of Pharmaceutical Operations & Technology (this role is equivalent of a chief operating officer) is the executive sponsor of the Healthy Climate, Healthy Lives Working Group Governance Committee. This cross-functional executive-level Committee guides and delivers on the commitments of the initiative. The Committee meets quarterly and provides regular updates to the Executive Leadership Team. The responsibilities of the Committee include assessing risks and opportunities identified from the climate-related scenario analysis, monitoring implementation progress against company-wide and member-specific deliverables, budget approval, and review and feedback on potential new innovative approaches (i.e. internal price on carbon and VPPAs).

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	In 2021, as part of our commitment to climate, we tied a portion of our employees' and executive officers' 2021 compensation to advancing our ESG strategy, including Healthy Climate, Healthy Lives targets.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity incentivized	Comment
All employees	Monetary reward	Emissions reduction project Other (please specify) (Innovative ideas that address climate, health, and equity)	As part of Healthy Climate, Healthy Lives, Biogen launched an Innovation Challenge seeking ideas to address Biogen's commitment to climate, health, and equity. The idea would be reviewed by the Healthy Climate, Healthy Lives Working Group and winners would be awarded \$1,500 USD
All employees	Monetary reward	Emissions reduction project Energy reduction project Efficiency project	BIG (Biogen Great) is Biogen's Recognition and Rewards Program. BIG has three over-arching criteria for recognizing the contributions of fellow employees: Living Our Values, Achieving Excellence and Teaming and Leading.
All employees	Monetary reward	Emissions reduction project Energy reduction project Efficiency project	Our annual global EHS+S Awards recognize non-EHS+S employees who go beyond their regular duties to embrace and strengthen our commitment to sustainability, wellness and safety.
Corporate executive team	Monetary reward	Emissions reduction target	In 2021, as part of our commitment to climate, we tied a portion of our employees' and executive officers' 2021 compensation to advancing our ESG strategy, including Healthy Climate, Healthy Lives targets.
All employees	Monetary reward	Emissions reduction target	In 2021, as part of our commitment to climate, we tied a portion of our employees' and executive officers' 2021 compensation to advancing our ESG strategy, including Healthy Climate, Healthy Lives targets.

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	5	
Long-term	5		

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

A substantive financial or strategy impact on our business would entail either an impact on product development, manufacturing, or delivery OR substantial loss of business. With climate-related risks, examples of a substantive impact would include a physical plant shut down for an extended period of time (greater than an hour) due to weather or power outage and a delay of over one month for supplier materials due to extreme weather or other climate-related events, or loss of tenders due to inclusion of unmet ESG-related expectations.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered

Direct operations
Upstream
Downstream

Risk management process

Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment

More than once a year

Time horizon(s) covered

Short-term
Medium-term
Long-term

Description of process

Since 2017 we have assessed physical and transitional risk assessment related to climate change and/or the transition to a low carbon economy on an annual basis. In 2020 we began to transition this climate assessment into the overall enterprise risk management process. Additionally, we incorporated climate scenario analysis in the assessment this year. The process for this assessment is described below.

In 2020 and 2021, we utilized the Global Enabling Sustainability Initiative (GeSI)-CDP Scenario Analysis Toolkit (the Toolkit) to guide our screening study of two future climatic scenarios to explore our physical climate-related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires). Representative Concentration Pathways (RCP) 4.5 (+2°C) and RCP 8.5 (+4°C) were the selected scenarios for this study with projected impacts out from 2020 to 2030 and 2040 or 2050 depending on the criteria data set available. As an example, the WRI's Aqueduct Water Risk Atlas provides water scarcity projections for 2030 and 2040.

These scenarios were applied to Biogen's three manufacturing and R&D locations and 10 of the contract manufacturing organization sites we rely on to manufacture our products. Our commercial sites, which consists of leased office space, were out of scope as they posed a low material risk. The outcome of these screening studies across the 13 sites was combined with a revenue-based assessment to identify short, medium and/or long-term risks.

Zero of our sites were projected to be exposed to a substantive financial or strategic impact associated with extreme weather through 2040, while four of the third-party manufacturing sites were identified to be 'at-risk'. The common finding between these sites was increasing extreme heat and/or wildfire risk in southern Europe and California regions. In 2022 we began developing a Responsible Supplier Program framework, including implementing an ESG risk assessment process for select suppliers, drafting Responsible Procurement Principles and due diligence and legal criteria for suppliers and defining the program's vision, strategy, and goals. A key element of the program includes engaging with critical suppliers to evaluate their sustainability maturity (using the PSCI maturity model) to align on how we can collaborate to improve the overall performance of the supplier and make progress against our goals and targets. In 2023 we will continue to expand our physical risk assessment on the broader value chain, specific to our most critical suppliers, and put plans in place to engage directly with them.

In 2020 and 2021, we utilized the same Toolkit to identify and quantify the risks and opportunities with the transition to a low-carbon economy. Using climate scenario analysis, we adopted two scenarios: the IEA INDC Scenario (~3°C) as a base case and the IEA WEO 450 Scenario (~2°C) as a higher ambition case signed with the Paris Agreement to understand policy and technology impacts through 2040. Risks and opportunities were assessed at an enterprise level as well as specific to our biosimilar product segment.

An example of a transitional substantive financial or strategic impact finding are new expectations for sustainable low carbon products and services from healthcare providers in some countries as well as business opportunities for products that can reduce the carbon footprint of healthcare outcomes. Some national health systems have started to include expectations around the environmental life cycle impact of products they purchase (e.g., UK National Health Service to achieve its net-zero target). This could impact market access and revenue in some countries, should competitive alternatives with lower environmental impact become available. Improving the sustainability of our products and packaging as part of Healthy Climate, Healthy Lives may result in business opportunities that not only deliver therapies that improve measurable health outcomes, but also reduce environmental impacts. To respond, Biogen is initiating life cycle assessments (LCAs) for key products that include the greenhouse gas footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. Where we are not responsible for the manufacturing process, we are working with our manufacturing partners to initiate LCAs for those products. As part of HCHL, we are establishing our Sustainable Drug Development approach to incorporate the principles of Green Chemistry into the development processes and increase our use of more sustainable packaging and logistics.

Transitional risks and opportunities that could have a substantive financial or strategic impact were identified and will be reported to the Enterprise Risk Management team for integration into their multi-functional company-wide risk management process as well as to the HCHL Working Group Governance Committee for sharing with leadership. 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 or will be 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 our 2022 Taskforce on Climate-related Financial Disclosures Statement on page 153-156.

The risks and opportunities related to climate change are not only limited to the physical impacts (e.g., wildfires, floods, etc.), but also changes in policy, culture and stakeholder expectations in the markets in which we operate (e.g., expectations to align our emissions with science, reduce the environmental impacts of our products, and think equitably about how we transition to a low carbon economy). Further, as a healthcare company, we view climate as inexorably linked to health, where our opportunity to positively impact human health stretches far beyond our products. Our response to the identified climate risks and opportunities requires cross-functional action across our organization, which was the guiding ambition of our ground-breaking Healthy Climate, Healthy Lives initiative. The ambition of this initiative is guided by science and aims to advance our collective understanding on fossil fuels and health, including brain health. For more information on the initiative, visit:

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current regulation	Relevant, always included	Electricity and natural gas costs at Biogen's Solothurn next generation manufacturing facility are impacted by the EU-ETS CO2 regulations. On a monthly basis we assess its impact on the markets that informs our risk-mitigation hedging strategies.
Emerging regulation	Relevant, always included	While carbon pricing exists in some of the markets we operate, there remains uncertainty over the future environmental policy and fiscal direction many countries will take moving into the future. We anticipate that carbon pricing and/or environmental taxation will increase over the medium to long term in nearly all markets. Disclosure of climate-related risks in mainstream financial disclosure, such as the proposed SEC climate rule released in March 2022 in the US, is an evolving topic that we are monitoring. With our voluntary alignment to TCFD recommendations, we believe we are well positioned to comply with such rules, but this item still represents a compliance risk. Biogen has approximately 1,800 leased vehicles as part of its commercial fleet, consisting primarily of petrol and diesel vehicles. With some local, state and national governments banning or restricting sales of internal combustion engine vehicles in the future, Biogen will need to transition to battery electric vehicles across its markets and there is an expectation that duties on fossil fuels associated with our fleet will increase over the next decade.
Technology	Not relevant, explanation provided	The technologies that may be developed to support the transition to a low carbon economy are not relevant to Biogen's business strategy or products. Additionally, Biogen does not own assets that would require write-downs or write-offs associated with technological advancements.
Legal	Not relevant, explanation provided	Biogen's business strategy and products (biopharmaceutical therapies) are unrelated to climate-related legal considerations.
Market	Relevant, always included	Some national health systems have started to include expectations around the environmental life cycle impact of products they purchase (e.g., UK National Health Service to achieve its net-zero target). This could impact market access and revenue in some countries, should competitive alternatives with lower environmental impact become available.
Reputation	Relevant, sometimes included	Climate change is a serious risk to human health and our business. The World Health Organization identifies climate change as "the greatest threat to global health in the 21st century." The direct and indirect impacts to health are already being felt around the world due to extreme weather events, the spread of infectious diseases, and degradation of air quality. These impacts often burden the most vulnerable and least served portions of our society (e.g., children, elderly, and the poor) the hardest. As a science-based company focused on improving the quality of life, stakeholders may set expectations related to Biogen's efforts towards climate change. For example, Biogen operates in a highly competitive industry where human and intellectual capital is essential for success. Loss of highly-qualified employees to competitors due to falling short of expectations could place Biogen's research and development efforts at risk.
Acute physical	Relevant, always included	The increased frequency of extreme weather and climate-related natural disasters are always included in our climate-related risk assessments as they could significantly impact our own operations and those of our suppliers. In 2020 we performed a screening study of two future climate scenarios to explore our physical climate related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires) across three Biogen sites and 10 critical third-party manufacturing sites.
Chronic physical	Relevant, always included	The most recent science indicates significant potential changes to our climate that could result in chronic physical risks such as water scarcity, sea-level rise, and changes in cooling and heating needs. We evaluate the potential impact of these conditions over multiple timescales and under varying climate scenarios to determine the extent of this risk at our sites and within the supply chain.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Upstream

Risk type & Primary climate-related risk driver

Acute physical	Other, please specify (Increased severity and frequency of extreme weather events such as cyclones and floods)
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Primary potential financial impact

Decreased revenues due to reduced production capacity

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

We identified the increased frequency of extreme weather and climate-related natural disasters as a physical climate-related risk to our business. In 2020 we performed a screening study of two future climate scenarios to explore our physical climate related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires) across three Biogen sites and 10 critical third-party manufacturing sites. To improve business resilience, we employ Resilinc, a cognitive supply chain risk management platform, to monitor and alert us of any environmental or social disruptions specific to our logistics and distribution operations. This tool allows us to proactively adjust and minimize product impact during events such as Hurricane Maria in 2017.

Time horizon

Short-term

Likelihood

Unlikely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

20900000

Potential financial impact figure – maximum (currency)

34800000

Explanation of financial impact figure

The minimum and maximum estimated financial implications summarize the potential range of risk impact across our revenue sources, operating expenses, and asset book values. At the center of these impacts calculated using the GeSI-CDP Risk Tool is unplanned shutdowns of our primary RTP Drug Substance facility translated into the above financial impact categories within our 2 physical risk scenarios, namely 2°C (RCP 4.5) and 4°C (RCP 8.5). This cost has been increased from our prior estimates as we have updated our GeSI -CDP Scenario Risk Tool to cover a broader set of potential financial impacts on our Income Statement and Balance Sheet.

Cost of response to risk

500000

Description of response and explanation of cost calculation

Biogen is actively managing this risk via implementing redundancy into our sites and investing in the Resilinc supply chain disruption monitoring software system. This software was able to mitigate supply chain impacts resulting from the Maria Hurricane that impacted many of our biopharmaceutical supply chain partners in Puerto Rico. A Business Continuity Plan for Drought Conditions and Emergency Response plans are in place for inclement weather and wildfires. The annual estimated cost consists of the employee resources and resilience software.

Comment

Identifier

Risk 2

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Market	Changing customer behavior
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

The most significant risk consists of new expectations for sustainable low-carbon products and services from healthcare providers in some countries. Some national health systems have started to include expectations around the environmental life cycle impact of products they purchase (e.g., UK National Health Service to achieve their net-zero target). This could impact market access and revenue in some countries, should competitive alternatives with lower environmental impact become available. To mitigate against this risk Biogen is initiating life cycle assessments (LCAs) for key products that include the greenhouse gas footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. Where we are not responsible for the manufacturing process, we are working with our manufacturing partners to initiate LCAs for those products.

Time horizon

Short-term

Likelihood

Virtually certain

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

17000000

Potential financial impact figure – maximum (currency)

45900000

Explanation of financial impact figure

The potential financial impact represents an estimate of the portion of our biosimilars business that may have new environmental criteria added into the national-level tenders combined with the potential weight of the environmental criteria on the tender selection process. Our biosimilars business generates nearly \$831 million in revenue in 2021. We have increased our estimated financial impact for this risk from last year’s estimate. The figures assume environmental criteria is included in a broader range of tenders than we assumed in last year’s CDP with a scoring weight of at least the 5 to 20 percent range that we assumed last year. This estimated range includes both revenue impacts as well as impact on operating expenses within our 2 transition risk scenarios ~2C (IEA WEO 450 Scenario) and ~3C (IEA INDC Scenario).

Cost of response to risk

3000000

Description of response and explanation of cost calculation

Biogen is initiating life cycle assessments (LCAs) for key products that includes the greenhouse gas footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. Where we are not responsible for the manufacturing process, we are working with our manufacturing partners to initiate

LCAs for those products.

As part of HCHL, we are establishing our Sustainable Drug Development approach to incorporate the principles of Green Chemistry into the development processes and increase our use of more sustainable packaging and logistics. For examples of this approach in action see:

- VUMERITY Green Chemistry spotlight
- New 2025 sustainable packaging targets.

The cost of response represents the LCAs conducted by third parties and progression of the Sustainable Drug Development program over the next five years.

Comment

Identifier

Risk 3

Where in the value chain does the risk driver occur?

Downstream

Risk type & Primary climate-related risk driver

Emerging regulation	Other, please specify (ICE Vehicle bans and restrictions)
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Primary potential financial impact

Decreased revenues due to reduced demand for products and services

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Restrictions on the use of non-low emission vehicles in some markets, specifically dense urban areas such as London, may restrict our access to support healthcare institutions in these areas. The lack of patient and doctor support may reduce demand for our products.

Time horizon

Long-term

Likelihood

Very likely

Magnitude of impact

Medium-low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

5600000

Potential financial impact figure – maximum (currency)

15500000

Explanation of financial impact figure

Biogen has approximately 1,800 leased vehicles as part of its commercial fleet, consisting primarily of petrol and diesel vehicles. The potential financial impact represents reduced ability to serve patients in dense urban areas within Europe. The potential range includes assumptions such as the number of patients living in dense urban areas and the potential for reduced support. We translated these impacts into percent of revenue at risk in our two transitional scenarios, namely ~2C (IEA WEO 450 Scenario) and ~3C (IEA INDC Scenario). We also incorporated much more minor risk impacts for asset values for owned vehicles, an impact on depreciation / amortization expense, and a \$1.3-2.0 million impact on operating expenses.

Cost of response to risk

1500000

Description of response and explanation of cost calculation

As part of HCHL, we will transition to 100% battery electric vehicles by 2025 for all new leases and we are signatories to the Climate Group's EV100 commitment. To date, we have completed a market readiness study across all markets we operate in and developed a phased roll out strategy, starting with seven markets that are electric vehicle (EV) ready today. With the help of existing and new e-mobility partners, the transition in those markets will be voluntary for interested employees through 2024, mandatory for all new employees starting in 2025, and for all new leases starting in 2025.

The presented cost of response represents the estimated annual costs for the development of our EV Fleet program, which includes home chargers for all drivers, the premium associated with a comparable EV, and expansion of EV charging stations at all of our offices (around 600 stations). As EVs reach cost parity with traditional vehicles, we consider these costs an investment that will result in a lower total cost of fleet ownership moving into the future.

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Opp1

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Products and services

Primary climate-related opportunity driver

Shift in consumer preferences

Primary potential financial impact

Increased revenues resulting from increased demand for products and services

Company-specific description

Some national health systems have started to include expectations around the environmental life cycle impact of products they purchase (e.g., UK National Health Service to achieve its net-zero target). This could impact market access and revenue in some countries, should competitive alternatives with lower environmental impact become available. Improving the sustainability of our products and packaging as part of Healthy Climate, Healthy Lives may result in business opportunities that not only deliver therapies that improve measurable health outcomes but also reduce environmental impacts.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Medium-high

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

8800000

Potential financial impact figure – maximum (currency)

11000000

Explanation of financial impact figure

The potential financial impact would represent an increase in biosimilar business resulting from new environmental criteria added into the national-level tenders. With biosimilar revenue in Europe in 2020 at nearly \$800 million, the potential range assumes a modest less than 1% impact within our 2 transition risk scenarios ~2C (IEA WEO 450 Scenario) and ~3C (IEA INDC Scenario).

Cost to realize opportunity

3000000

Strategy to realize opportunity and explanation of cost calculation

Biogen is initiating life cycle assessments (LCAs) for key products that includes the greenhouse gas footprint to help assess and manage risks and target interventions to reduce the environmental footprint of our products. Where we are not responsible for the manufacturing process, we are working with our manufacturing partners to initiate LCAs for those products.

As part of HCHL, we are establishing our Sustainable Drug Development approach to incorporate the principles of Green Chemistry into the development processes and increase our use of more sustainable packaging and logistics. For examples of this approach in action see:

- VUMERITY Green Chemistry spotlight
- New 2025 sustainable packaging targets.

The cost of response represents the LCAs conducted by third parties and progression of the Sustainable Drug Development program over the next five years.

Comment

Identifier

Opp2

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Energy source

Primary climate-related opportunity driver

Use of supportive policy incentives

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

While carbon pricing exists in some of the markets we operate, there remains uncertainty over the future environmental policy and fiscal direction many countries will take moving into the future. Carbon pricing and/or environmental taxation/incentives may increase over the medium to long term in nearly all markets. An opportunity to participate in demand response programs is an example that we are currently assessing.

Time horizon

Medium-term

Likelihood

Likely

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

250000

Potential financial impact figure – maximum (currency)

2500000

Explanation of financial impact figure

The potential financial impact remains highly uncertain at this time as larger policies around carbon taxation are yet to be developed in our largest market. The impact figures provided only relates to the annual impact of energy storage demand response programs in Massachusetts and North Carolina. The low end assumes an installed base of 1MW and then high end an installed base of 10MW.

Cost to realize opportunity

15000000

Strategy to realize opportunity and explanation of cost calculation

Biogen's Healthy Climate, Healthy Lives initiative commits us to eliminate the use of fossil fuel within our operations by 2040 and transitioning our supply chain away from fossil fuels. This strategy will help to mitigate exposure to future carbon pricing and/or environmental taxation for our operations and supply chain. Managed correctly, this presents an opportunity where peers have yet to establish a pathway away from fossil fuels.

Healthy Climate, Healthy Lives is a 20-year, \$250 million initiative for Biogen, of which approximately \$15 million relates to the transition of our buildings to become fossil fuel free over the next five years.

Comment**Identifier**

Opp3

Where in the value chain does the opportunity occur?

Direct operations

Opportunity type

Resource efficiency

Primary climate-related opportunity driver

Use of more efficient modes of transport

Primary potential financial impact

Reduced indirect (operating) costs

Company-specific description

Biogen has approximately 1,800 leased vehicles as part of its commercial fleet, consisting primarily of petrol and diesel vehicles. Based on recent studies from AAA and other organizations, the total cost of ownership is lower for an electric vehicle (EV) compared to a fossil fuel vehicle. Additionally, there are concerns related to the resale value of fossil fuel vehicles and access to petrol and diesel fuel as regions accelerate their transition to EVs.

Time horizon

Medium-term

Likelihood

Virtually certain

Magnitude of impact

Low

Are you able to provide a potential financial impact figure?

Yes, an estimated range

Potential financial impact figure (currency)

<Not Applicable>

Potential financial impact figure – minimum (currency)

750000

Potential financial impact figure – maximum (currency)

1200000

Explanation of financial impact figure

The potential financial impact of transitioning our 2,000-vehicle fleet to all-electric from fossil fuel vehicles consists of energy and maintenance savings each year starting in 2028. Total cost of ownership studies, such as those from AAA, indicate the potential for savings between \$1000 to \$1500 per vehicle per year. We have conservatively translated this impact within our two transition scenarios ~2C (IEA WEO 450 Scenario) and ~3C (IEA INDC Scenario).

Cost to realize opportunity

1500000

Strategy to realize opportunity and explanation of cost calculation

As part of HCHL, we will transition to 100% BEV by 2025 for all new leases and we are signatories to the Climate Group's EV100 commitment. To date, we have completed a market readiness study across all markets we operate in and developed a phased roll out strategy, starting with seven markets that are electric vehicle (EV) ready today.

With the help of existing and new mobility partners, the transition in those markets will be voluntary for interested employees through 2022, mandatory for all new employees starting in 2023 and for all new leases starting in 2025.

The presented cost of response represents the average annual costs for the development of our EV Fleet program, which includes home chargers for all drivers, the premium associated with a comparable EV, and expansion of EV charging stations at all of our offices. As EVs reach cost parity with ICE vehicles, we consider these costs an investment that will result in lower total cost of fleet ownership moving into the future.

Comment

C3. Business Strategy

C3.1

(C3.1) Does your organization’s strategy include a transition plan that aligns with a 1.5°C world?

Row 1

Transition plan

Yes, we have a transition plan which aligns with a 1.5°C world

Publicly available transition plan

Yes

Mechanism by which feedback is collected from shareholders on your transition plan

We do not have a feedback mechanism in place, and we do not plan to introduce one within the next two years

Description of feedback mechanism

<Not Applicable>

Frequency of feedback collection

<Not Applicable>

Attach any relevant documents which detail your transition plan (optional)

Explain why your organization does not have a transition plan that aligns with a 1.5°C world and any plans to develop one in the future

<Not Applicable>

Explain why climate-related risks and opportunities have not influenced your strategy

<Not Applicable>

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?

	Use of climate-related scenario analysis to inform strategy	Primary reason why your organization does not use climate-related scenario analysis to inform its strategy	Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future
Row 1	Yes, qualitative and quantitative	<Not Applicable>	<Not Applicable>

C3.2a

(C3.2a) Provide details of your organization’s use of climate-related scenario analysis.

Climate-related scenario		Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Transition scenarios	IEA 450	Company-wide	<Not Applicable>	Since 2017 we have assessed physical and transitional risk assessment related to climate change and/or the transition to a low carbon economy on an annual basis. In 2020 we began to transition this climate assessment into the overall enterprise risk management process. Additionally, we incorporated climate scenario analysis in the assessment this year. The process for this assessment is described below. Transitional assessment: In 2020 we utilized the same Toolkit to identify and quantify the risks and opportunities with the transition to a low-carbon economy. Using climate scenario analysis, we adopted two scenarios: the IEA INDC Scenario (~3°C) as a base case and the IEA WEO 450 Scenario (~2°C) as a higher ambition case in alignment with meeting the Paris Agreement to understand policy and technology impacts through 2040. Risks and opportunities were assessed at an enterprise level as well as specific to our biosimilar product segment. Outcome of the physical and transitional assessment: A few high transitional risks and opportunities were identified and will be reported to the Enterprise Risk Management team and HCHL Working Group Governance Committee for sharing with leadership, as necessary. 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 or will be in place to address the risks and opportunities presented by climate change, including the transition to a low carbon economy.
Physical climate scenarios	RCP 4.5	Company-wide	<Not Applicable>	Since 2017 we have assessed physical and transitional risk assessment related to climate change and/or the transition to a low carbon economy on an annual basis. In 2020 we began to transition this climate assessment into the overall enterprise risk management process. Additionally, we incorporated climate scenario analysis in the assessment this year. The process for this assessment is described below. Physical assessment: In 2020 we utilized the Global Enabling Sustainability Initiative (GeSI)-CDP Scenario Analysis Toolkit (the Toolkit) to guide our screening study of two future climatic scenarios to explore our physical climate-related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires). Representative Concentration Pathways (RCP) 4.5 (+2°C) and RCP 8.5 (+4°C) were the selected scenarios for this study with projected impacts out from 2020 to 2030 and 2040 or 2050 depending on the criteria data set available. As an example, the WRI’s Aqueduct Water Risk Atlas provides water scarcity projections for 2030 and 2040. These scenarios were applied to Biogen’s three manufacturing and R&D locations and 10 of the contract manufacturing organization sites we rely on to manufacture our products. Our commercial sites, which consists of leased office space, were out of scope as they posed a low material risk. The outcome of these screening studies across the 13 sites was combined with a revenue-based assessment to identify short, medium and/or long-term risks.
Physical climate scenarios	RCP 8.5	Company-wide	<Not Applicable>	Since 2017 we have assessed physical and transitional risk assessment related to climate change and/or the transition to a low carbon economy on an annual basis. In 2020 we began to transition this climate assessment into the overall enterprise risk management process. Additionally, we incorporated climate scenario analysis in the assessment this year. The process for this assessment is described below. Physical assessment: In 2020 we utilized the Global Enabling Sustainability Initiative (GeSI)-CDP Scenario Analysis Toolkit (the Toolkit) to guide our screening study of two future climatic scenarios to explore our physical climate-related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires). Representative Concentration Pathways (RCP) 4.5 (+2°C) and RCP 8.5 (+4°C) were the selected scenarios for this study with projected impacts out from 2020 to 2030 and 2040 or 2050 depending on the criteria data set available. As an example, the WRI’s Aqueduct Water Risk Atlas provides water scarcity projections for 2030 and 2040. These scenarios were applied to Biogen’s three manufacturing and R&D locations and 10 of the contract manufacturing organization sites we rely on to manufacture our products. Our commercial sites, which consists of leased office space, were out of scope as they posed a low material risk. The outcome of these screening studies across the 13 sites was combined with a revenue-based assessment to identify short, medium and/or long-term risks.
Please select	Please select	Please select	<Not Applicable>	

C3.2b

(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.

Row 1

Focal questions

How could climate change impact our business in the next 15 years?

Results of the climate-related scenario analysis with respect to the focal questions

As a result of our scenario analysis centered on understanding how climate change could impact our business, we have been able to qualify and articulate transitional and physical risks that has directly expanded how we evaluate risk throughout our organization. This has also led to the creation of our Healthy Climate and Healthy Lives program and how we govern the overall program through projects and initiatives.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	We identified new expectations for sustainable low carbon products and services from healthcare providers in some countries as a transitional market risk within the next 2 years. After identifying the risk, Biogen undertook cross-functional discussions to address the risk in early 2021. The most substantial strategic decision made from these discussions was to initiated life cycle assessments (LCAs) for key products starting in late 2021 and expand on our Sustainable Drug Development approach with additional sustainable packaging targets through 2025. These targets can be found in our 2021 Year in Review https://www.biogen.com/en_us/yearinreview.html
Supply chain and/or value chain	Yes	In 2020 we performed a screening study of two future climate scenarios to explore our physical climate related risks (water scarcity, inland/coastal floods, extreme heat, cyclones and wildfires) across 10 critical third-party manufacturing sites, of which four were identified to be 'at-risk' for exposure to an increased risk of extreme weather by 2040. In response to the understanding that climate-related risks may exist with key suppliers, the decision was made in early 2021 to launch a Responsible Supplier Program by end of 2022. This Program will allow us to engage with suppliers to assess their climate-related risks and strategy to mitigate them. The other substantial strategic decision made, which occurred in May 2021, was to approve the establishment of a Supply Chain Sustainability CLEAN program that will incorporate the environmental impacts into distribution and logistics supplier decisions.
Investment in R&D	No	We believe that no other disease area holds as much need or as much promise for medical breakthroughs as neuroscience. Our focus on neuroscience, our deep scientific expertise and our courage to take risks make us leaders in the research and development of medicines to transform neuroscience to benefit society. This area of research and the diseases they treat are not impacted by climate-related changes. As a result, our climate-related scenario analysis did not identify any significant climate-related risks or opportunities associated with our R&D strategy.
Operations	Yes	Numerous climate-related risks and opportunities were identified without operations include acute and chronic physical risks, carbon taxation, fossil fuel vehicle restrictions, and alternative energy savings. In response to these risks and opportunities Biogen's executive team approved Healthy Climate, Healthy Lives, a 20-year \$250 million initiative to address climate, equity and health through the elimination of fossil fuel use, in June 2020. This initiative will reshape how we operate in many aspects from packaging to manufacturing, to vehicles. Healthy Climate, Healthy Lives has a number of short- and long-term targets such as transition our fleet to electric vehicles by 2025 and eliminating the use of fossil fuels in buildings by 2040.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Capital expenditures Assets	The climate-related risks and opportunities identified with our operations that led to the approval of Healthy Climate, Healthy Lives has significantly influenced our financial planning. Biogen is developing a Fossil Fuel Free Energy Plan to transition all our assets to operate without the use of fossil fuels, an approach that places us at or beyond Net Zero by 2040. Our building and asset capital plans will be adjusted from the outcomes of these Energy Plans. Healthy Climate, Healthy Lives is a 20- year, \$250 million initiative and is already impacting Biogen's financial plans as estimates for the transition are planned out annually from today through 2040. We anticipate the plans will be refined, but it provides the organization with a high-level awareness of areas that will require the most support through this transition. In the short-term Healthy Climate, Healthy Lives continues to impact financial planning for our fleet. With the transition to an all-electric fleet by 2028, we are investing in home and office charging over the next five years to allow for a successful transition and to be ready to take advantage of EV's lower total cost of ownership. From a capital expenditure perspective, we are now able to evaluate non-operation specific projects for their own merits, such as on-site solar. As a result, we anticipate our first on-site renewable project to be approved with construction planned for 2022 at our manufacturing facility in Solothurn, Switzerland.

C3.5

(C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's transition to a 1.5°C world?

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Absolute target

C4.1a

(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

Target reference number

Abs 1

Year target was set

2020

Target coverage

Company-wide

Scope(s)

Scope 1

Scope 2

Scope 2 accounting method

Location-based

Scope 3 category(ies)

<Not Applicable>

Base year

2019

Base year Scope 1 emissions covered by target (metric tons CO2e)

67031

Base year Scope 2 emissions covered by target (metric tons CO2e)

131

Base year Scope 3 emissions covered by target (metric tons CO2e)

<Not Applicable>

Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

67162

Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1

100

Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

Base year Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)

<Not Applicable>

Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

Target year

2032

Targeted reduction from base year (%)

55

Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]

30222.9

Scope 1 emissions in reporting year covered by target (metric tons CO2e)

63182

Scope 2 emissions in reporting year covered by target (metric tons CO2e)

268

Scope 3 emissions in reporting year covered by target (metric tons CO2e)

<Not Applicable>

Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

63450

% of target achieved relative to base year [auto-calculated]

10.0489724979764

Target status in reporting year

Underway

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Target ambition

1.5°C aligned

Please explain target coverage and identify any exclusions

For more information, see our target on sciencebasedtargets.org. Full wording of our target is as follows: "Biogen commits to reduce absolute scope 1 and 2 GHG emissions 55% by 2032 and 100% by 2040 from a 2019 base year. Biogen commits that 80% of its suppliers by spend covering purchased goods and services and capital goods, will have science-based targets by 2025.

The targets covering greenhouse gas emissions from company operations (scopes 1 and 2) are consistent with reductions required to keep warming to 1.5°C."

Plan for achieving target, and progress made to the end of the reporting year

The 2022 climate report from the Intergovernmental Panel on Climate Change (IPCC) shows that the climate crisis is accelerating, with deaths from floods, droughts and storms already 15 times higher in vulnerable regions. The authors state that to avoid mounting loss of life, biodiversity and infrastructure, ambitious, accelerated action is required, along with rapid, deep cuts in greenhouse gas (GHG) emissions. Biogen is taking action to eliminate our use of fossil fuels, beginning with zero emissions by 2040.

From 2019 to 2021, we achieved a 6% decrease in our direct GHG emissions from sources that are controlled and/or owned by Biogen. In that same timeframe, we decreased our emissions of carbon monoxide (CO) by 45% and nitrogen oxides (NOX) by 22%, while ensuring there were no significant increases in emissions of sulfur dioxide (SO2), volatile organic compounds (VOCs) or PM2.5 air pollution, which can have harmful health impacts. Our renewable electricity strategy includes onsite generation, reducing demand through efficiencies, direct purchase of green power and virtual power purchasing agreements (VPPAs). This marks a shift toward more impactful purchasing, actively exploring direct purchasing and options for VPPAs that can help expand the market for renewable energy. Where necessary, Biogen also purchases unbundled renewable energy credits (RECs).

In 2021, Biogen sustained our 100% renewable electricity commitment. Our 2021 progress includes: – Sourcing directly from a hydropower plant for our site in Solothurn, Switzerland, which we began last year.— Continuing to source hydropower directly from the Harriman Hydro Plant in Readsboro, Vermont to power our corporate

headquarters in Cambridge, Massachusetts. – Beginning the VPPA process in 2021, with the intention to execute in 2022.

List the emissions reduction initiatives which contributed most to achieving this target

<Not Applicable>

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?

Target(s) to increase low-carbon energy consumption or production

Net-zero target(s)

Other climate-related target(s)

C4.2a

(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.

Target reference number

Low 1

Year target was set

2020

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2020

Consumption or production of selected energy carrier in base year (MWh)

% share of low-carbon or renewable energy in base year

1

Target year

2040

% share of low-carbon or renewable energy in target year

50

% share of low-carbon or renewable energy in reporting year

26

% of target achieved relative to base year [auto-calculated]

51.0204081632653

Target status in reporting year

Underway

Is this target part of an emissions target?

This target is our performance-based approach to reduce emissions without our supply chain. Transitioning our suppliers to renewable electricity has the potential to reduce our supply chain emissions by well over 50%.

Is this target part of an overarching initiative?

Science Based Targets initiative

Please explain target coverage and identify any exclusions

Biogen commits that 50% of its suppliers, measured by total global spend, will use 100% renewable electricity globally by 2030; increasing to 90% of spend by 2040.

Plan for achieving target, and progress made to the end of the reporting year

Like many companies, Biogen's largest source of fossil fuel emissions and air pollution is embedded in the goods and services we purchase. In light of our pledge to become fossil fuel free and eliminate emissions on an accelerated timeframe, we are enhancing engagement with suppliers to identify potential risks, increase transparency, and reduce climate impacts. We typically prioritize collaborating with external business partners that we do the most business with, but in our effort to decarbonize our value chain, we are also focusing on suppliers with the highest emissions to help accelerate their transition away from fossil fuels and toward a healthier clean energy future. One way we're doing this is through our program Energize, which we launched in 2021 with nine other pharmaceutical companies. Through Energize, pharmaceutical suppliers have the opportunity to learn more about the renewable energy market, receive guidance on power purchase agreements (PPAs), and access and contract for renewable energy. We're also asking our suppliers to reduce their carbon footprint through the implementation of the following targets: - By 2025, 80% of our suppliers, by spend, covering purchased goods and services, will set climate related science-based targets (SBTs). - By 2030, 50% of our suppliers, by spend, will source 100% of their electricity from renewable sources. - By 2040, 90% of our suppliers, by spend, will source 100% of their electricity from renewable sources. To help us track progress on these targets, we have procured software that will enable us to simultaneously broaden and deepen our knowledge of our supplier impacts and operations across 21 criteria grouped into four themes: Environment, Labor and Human Rights, Ethics, and Sustainable Procurement. The criteria are based on international sustainability standards such as the Global Compact Principles, the International Labour Organization (ILO) conventions, the Global Reporting Initiative (GRI) standard, the ISO 26000 standard, and the CERES principles. Our expanded supplier evaluation will give us insight into our suppliers' progress on reducing emissions and reaching their targets and will enable us to make decisions based on the clearest and most comprehensive information we've had to date.

List the actions which contributed most to achieving this target

<Not Applicable>

Target reference number

Low 2

Year target was set

2020

Target coverage

Company-wide

Target type: energy carrier

Electricity

Target type: activity

Consumption

Target type: energy source

Renewable energy source(s) only

Base year

2020

Consumption or production of selected energy carrier in base year (MWh)

% share of low-carbon or renewable energy in base year

100

Target year

2040

% share of low-carbon or renewable energy in target year

100

% share of low-carbon or renewable energy in reporting year

100

% of target achieved relative to base year [auto-calculated]

<Calculated field>

Target status in reporting year

Underway

Is this target part of an emissions target?

Sourcing of 100% renewable electricity is a key component of our climate Science-based Target.

Is this target part of an overarching initiative?

RE100

Science Based Targets initiative

Please explain target coverage and identify any exclusions

As a member of RE100, Biogen has maintained its achievement of 100% renewable electricity across 30 of the markets in which we operate. In total, this equates to 99.9% of our global demand, with 0.1% remaining unmet in South Korea and New Zealand, where Biogen is facing barriers to sourcing RE in accordance with the strict RE100 criteria. We look forward to working with our RE100 members to improve supply in these markets.

Plan for achieving target, and progress made to the end of the reporting year

VPPA agreements and purchasing of RECs.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number

Oth 1

Year target was set

2020

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Low-carbon vehicles	Percentage of battery electric vehicles in company fleet
---------------------	--

Target denominator (intensity targets only)

<Not Applicable>

Base year

2020

Figure or percentage in base year

1

Target year

2028

Figure or percentage in target year

100

Figure or percentage in reporting year

4

% of target achieved relative to base year [auto-calculated]

3.03030303030303

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, this target is one strategy towards achieving our Science-Based Target (Abs 1).

Is this target part of an overarching initiative?

EV100

Please explain target coverage and identify any exclusions

As a member of EV100, Biogen has committed to 100% electrification of around 2,000 vehicles and deployment of charging infrastructure for workplace charging at 30 corporate locations around the world. Transitioning our fleet to electric vehicles is a key component of reducing our dependence on fossil fuels, which impacts both climate and human health.

Plan for achieving target, and progress made to the end of the reporting year

Biogen has conducted an exhaustive EV readiness assessment in each of the markets where we have fleet vehicles. The assessment includes, adequacy of charging infrastructure, availability of suitable BEV's, total cost of ownership analyses, employee attitudes / willingness and government incentives. In addition, we contracted with third party fleet management companies with experience deploying BEV's to help guide our transition. Lastly, the transition to EV's has been incorporated into corporate and functional goals with annual targets through 2025 and beyond. In 2021 Biogen had 81 BEVs on the road with another ~70 ordered. Supply chain issues in the automotive industry resulting from the pandemic have delayed out transition but we remain committed to our overall target and timeline.

List the actions which contributed most to achieving this target

<Not Applicable>

Target reference number

Oth 2

Year target was set

2020

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Fossil fuel reduction target	Percentage of fossil fuels in the fuel mix
------------------------------	--

Target denominator (intensity targets only)

<Not Applicable>

Base year

2020

Figure or percentage in base year

68

Target year

2040

Figure or percentage in target year

0

Figure or percentage in reporting year

69

% of target achieved relative to base year [auto-calculated]

-1.47058823529412

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes (Abs 1). The elimination of fossil fuels is our overarching strategy to achieve our Science-Based Target and reach zero emissions by 2040.

Is this target part of an overarching initiative?

Science Based targets initiative - other

Please explain target coverage and identify any exclusions

Healthy Climate, Healthy Lives is a ground-breaking \$250 million, 20-year initiative to eliminate our use of fossil fuels and to collaborate with key stakeholders to achieve climate targets and improve human health. Fossil fuel emissions are at the heart of our strategy because they significantly impact human health by contributing to the climate crisis and to air pollution. Emerging data suggest air pollution may be a leading cause of death globally, claiming nearly 9 million lives each year, worsening the prevalence and severity of COVID-19 and potentially harming brain health.

To address these issues, Biogen will eliminate the combustion of fossil fuels in our operations by 2040 in line with the global ambition to limit warming to 1.5°C. We consider this target beyond Net Zero as no carbon removal will be included towards its achievement.

Plan for achieving target, and progress made to the end of the reporting year

With oversight from the Executive Team, corporate Board of Directors and functional leadership, as well as employee engagement at all levels, Biogen made good progress on Healthy Climate, Healthy Lives™ activities in 2021 including: –Transitioning to an all-electric vehicle (EV) fleet, with an EV program in 12 countries. –Performing comprehensive energy audits of our U.S. operations sites with a focus on phasing out scope 1 emissions by 2030. –Sustaining our 100% renewable electricity commitment. –Creating Sustainable Drug Development principles and integrating them into several critical stages of the development process. –Completing a My Green Lab pilot program in 14 R&D and Product Technology Development labs to make our science even more sustainable. –Continuing work to phase out plastic in secondary packaging, as well as completing a life cycle assessment of several products. –Collaborating with key suppliers and industry peers to amplify the impacts of Healthy Climate, Healthy Lives and work to decarbonize the pharmaceutical sector. –Engaging 14.7% of employees in climate-related benefits and programs at work, at home and in our communities. –Collaborating with global leaders, advancing the science of climate and health and working to influence climate policy to improve health outcomes, particularly for vulnerable populations. Key efforts are underway with the Harvard T.H. Chan School of Public Health, MIT, the World Economic Forum and the World Business Council for Sustainable Development, among others.

List the actions which contributed most to achieving this target

<Not Applicable>

Target reference number

Oth 3

Year target was set

2020

Target coverage

Company-wide

Target type: absolute or intensity

Absolute

Target type: category & Metric (target numerator if reporting an intensity target)

Engagement with suppliers	Percentage of suppliers (by emissions) with a science-based target
---------------------------	--

Target denominator (intensity targets only)

<Not Applicable>

Base year

2020

Figure or percentage in base year

15

Target year

2025

Figure or percentage in target year

80

Figure or percentage in reporting year

18

% of target achieved relative to base year [auto-calculated]

4.61538461538462

Target status in reporting year

Underway

Is this target part of an emissions target?

Yes, this target is part of our SBTi-approved Science Based Target.

Is this target part of an overarching initiative?

Science Based Targets initiative – approved supplier engagement target

Please explain target coverage and identify any exclusions

Biogen commits that 80% of its suppliers by spend covering purchased goods and services and capital goods, will have science-based targets by 2025.

Plan for achieving target, and progress made to the end of the reporting year

Like many companies, Biogen’s largest source of fossil fuel emissions and air pollution is embedded in the goods and services we purchase. In light of our pledge to become fossil fuel free and eliminate emissions on an accelerated timeframe, we are enhancing engagement with suppliers to identify potential risks, increase transparency, and reduce climate impacts. We typically prioritize collaborating with external business partners that we do the most business with, but in our effort to decarbonize our value chain, we are also focusing on suppliers with the highest emissions to help accelerate their transition away from fossil fuels and toward a healthier clean energy future. One way we’re doing this is through our program Energize, which we launched in 2021 with nine other pharmaceutical companies. Through Energize, pharmaceutical suppliers have the opportunity to learn more about the renewable energy market, receive guidance on power purchase agreements (PPAs), and access and contract for renewable energy. We’re also asking our suppliers to reduce their carbon footprint through the implementation of the following targets: - By 2025, 80% of our suppliers, by spend, covering purchased goods and services, will set climate-related science-based targets (SBTs). - By 2030, 50% of our suppliers, by spend, will source 100% of their electricity from renewable sources. - By 2040, 90% of our suppliers, by spend, will source 100% of their electricity from renewable sources. To help us track progress on these targets, we have procured software that will enable us to simultaneously broaden and deepen our knowledge of our supplier impacts and operations across 21 criteria grouped into four themes: Environment, Labor and Human Rights, Ethics, and Sustainable Procurement. The criteria are based on international sustainability standards such as the Global Compact Principles, the International Labour Organization (ILO) conventions, the Global Reporting Initiative (GRI) standard, the ISO 26000 standard, and the CERES principles. Our expanded supplier evaluation will give us insight into our suppliers’ progress on reducing emissions and reaching their

targets and will enable us to make decisions based on the clearest and most comprehensive information we've had to date.

List the actions which contributed most to achieving this target

<Not Applicable>

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number

NZ1

Target coverage

Company-wide

Absolute/intensity emission target(s) linked to this net-zero target

Abs1

Target year for achieving net zero

2040

Is this a science-based target?

Yes, and this target has been approved by the Science Based Targets initiative

Please explain target coverage and identify any exclusions

Our SBTi-approved target is as follows: "Biogen commits to reduce absolute scope 1 and 2 GHG emissions 55% by 2032 and 100% by 2040 from a 2019 base year. Biogen commits that 80% of its suppliers by spend covering purchased goods and services and capital goods, will have science-based targets by 2025."

Our ground-breaking approach to eliminate the source of carbon and air emissions - fossil fuels - will result in zero actual emissions within our operations by 2040. We consider this approach beyond Net Zero as it addresses concerns of both climate and health. Additionally, we will not be relying on carbon removal mechanisms, which may have concerns of permanence and scalability.

Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?

Unsure

Planned milestones and/or near-term investments for neutralization at target year

<Not Applicable>

Planned actions to mitigate emissions beyond your value chain (optional)

C4.3

(C4.3) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Yes

C4.3a

(C4.3a) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO2e savings.

	Number of initiatives	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	3	85000
To be implemented*	3	145000
Implementation commenced*	1	9800
Implemented*	2	2912
Not to be implemented	1	4000

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in production processes	Electrification
---	-----------------

Estimated annual CO2e savings (metric tonnes CO2e)

2840

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

0

Payback period

No payback

Estimated lifetime of the initiative

<1 year

Comment

The most substantial emission reduction initiative was reducing the run rate of our natural gas-fired cogeneration unit in Cambridge, MA. The cogeneration unit results in much higher emissions compared to off-site sourcing of 100% renewable electricity. This initiative did not result in cost savings as off-site electricity is more expensive than electricity generated from the cogeneration unit.

Initiative category & Initiative type

Transportation	Company fleet vehicle replacement
----------------	-----------------------------------

Estimated annual CO2e savings (metric tonnes CO2e)

72

Scope(s) or Scope 3 category(ies) where emissions savings occur

Scope 1

Voluntary/Mandatory

Voluntary

Annual monetary savings (unit currency – as specified in C0.4)

0

Investment required (unit currency – as specified in C0.4)

36000

Payback period

No payback

Estimated lifetime of the initiative

6-10 years

Comment

Biogen launched its EV Fleet program in 2020 to support the transition of its full 2,000 vehicle fleet from fossil fuel to electric vehicles. By the end of 2020, 12 vehicles were transitioned and powered by 100% renewable electricity (through the purchase of RECs and GOs). \$3,000 per vehicle represents a general investment cost associated with charging infrastructure. We the list price of EVs reach parity with traditional fossil fuel vehicles around 2025, we anticipate this initiative to start generating operational cost savings with lower fuel and maintenance costs.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Employee engagement	Biogen launched our IMPACT, an Employee Resource Network, dedicated to climate and health, which will allow employees across the globe to engage with leadership in reducing their department/office's dependency on fossil fuels. Biogen also established employee benefit programs to support employees invest in going fossil fuel free at home.
Internal incentives/recognition programs	Biogen offers internal incentives/recognition programs, such as our annual global EHS+S Awards, and the BIG (Biogen Great) Recognition and Rewards Program to recognize employees that go above and beyond in their role to positive impact the workplace and their community. As part of Healthy Climate, Healthy Lives, Biogen launched an Innovation Challenge seeking ideas to address Biogen's commitment to climate, health, and equity. The idea would be reviewed by the Healthy Climate, Healthy Lives Working Group.
Compliance with regulatory requirements/standards	Biogen prioritizes projects associated with ensuring compliance with regulatory requirements/standards.
Dedicated budget for other emissions reduction activities	Healthy Climate, Healthy Lives™ is a bold 20-year, \$250 million initiative to accelerate action on the greatest challenges of our time: climate, health and equity. We aim to eliminate fossil fuels across our operations and collaborate with renowned institutions to advance the science, improve human health outcomes, advance brain health research and support underserved communities.
Internal finance mechanisms	When Biogen replaces equipment at its end of life, it chooses more efficient technology as replacements.
Other	Biogen uses a forecasting tool to help select and prioritize projects that will help us reduce our environmental footprint.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?

No

C5. Emissions methodology

C5.1

(C5.1) Is this your first year of reporting emissions data to CDP?

No

C5.1a

(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

Row 1

Has there been a structural change?

No

Name of organization(s) acquired, divested from, or merged with

<Not Applicable>

Details of structural change(s), including completion dates

<Not Applicable>

C5.1b

(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

	Change(s) in methodology, boundary, and/or reporting year definition?	Details of methodology, boundary, and/or reporting year definition change(s)
Row 1	No	<Not Applicable>

C5.2

(C5.2) Provide your base year and base year emissions.

Scope 1

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

64533

Comment

Biogen divested its Hillerod, Denmark manufacturing facility in 2019 to FUJIFILM. We recalculated our 2019 emissions to ensure a meaningful and consistent comparison of emissions over time for our 2032 Science-Based Target. This value will differ from our reported emissions in 2019, which represent the total release for that period.

Scope 2 (location-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

35200

Comment

Biogen divested its Hillerod, Denmark manufacturing facility in 2019 to FUJIFILM. We recalculated our 2019 emissions to ensure a meaningful and consistent comparison of emissions over time for our 2032 Science-Based Target. This value will differ from our reported emissions in 2019, which represent the total release for

Scope 2 (market-based)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

106

Comment

Biogen divested its Hillerod, Denmark manufacturing facility in 2019 to FUJIFILM. We recalculated our 2019 emissions to ensure a meaningful and consistent comparison of emissions over time for our 2032 Science-Based Target. As there were no Scope 2 emissions associated with the Hillerod facility, this value is the same as our reported emissions in 2019.

Scope 3 category 1: Purchased goods and services

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

334954

Comment

Scope 3 category 2: Capital goods

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

32759

Comment

Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2)

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

10570

Comment

Scope 3 category 4: Upstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 5: Waste generated in operations

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

645

Comment

Scope 3 category 6: Business travel

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

24083

Comment

Scope 3 category 7: Employee commuting

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 8: Upstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 9: Downstream transportation and distribution

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 10: Processing of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 11: Use of sold products

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 12: End of life treatment of sold products

Base year start

January 1 2019

Base year end

December 31 2019

Base year emissions (metric tons CO2e)

12065

Comment

Scope 3 category 13: Downstream leased assets

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 14: Franchises

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3 category 15: Investments

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (upstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

Scope 3: Other (downstream)

Base year start

Base year end

Base year emissions (metric tons CO2e)

Comment

C5.3

(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)

The Greenhouse Gas Protocol: Scope 2 Guidance

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
63182

Start date
January 1 2021

End date
December 31 2021

Comment
Comprehensive of all fossil fuel combustion within operated assets, including fleet vehicles, and refrigerants.

Past year 1

Gross global Scope 1 emissions (metric tons CO2e)
57553

Start date
January 1 2020

End date
December 31 2020

Comment
Comprehensive of all fossil fuel combustion within operated assets, including fleet vehicles, and refrigerants.

Past year 2

Gross global Scope 1 emissions (metric tons CO2e)
67031

Start date
January 1 2019

End date
December 31 2019

Comment

Past year 3

Gross global Scope 1 emissions (metric tons CO2e)
68448

Start date
January 1 2018

End date
December 31 2018

Comment

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
We utilize the market-based in all our targets as this figure represents our true emissions, while the location-based figure should be used solely to quantify the impact of our renewable electricity strategy.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based

34262

Scope 2, market-based (if applicable)

268

Start date

January 1 2021

End date

December 31 2021

Comment

Past year 1

Scope 2, location-based

36953

Scope 2, market-based (if applicable)

280

Start date

January 1 2020

End date

December 31 2020

Comment

Past year 2

Scope 2, location-based

37712

Scope 2, market-based (if applicable)

131

Start date

January 1 2019

End date

December 31 2019

Comment

Past year 3

Scope 2, location-based

37347

Scope 2, market-based (if applicable)

61

Start date

January 1 2018

End date

December 31 2018

Comment

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

No

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

321610

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

46

Please explain

Trucost uses its proprietary Environmentally Extended Input-Output (EEI-O) life cycle model to estimate the impacts of the capital goods, purchased goods and services, and upstream transportation and distribution procured by Biogen. This approach is in accordance with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and provides a comprehensive overview of the life cycle based impacts embedded within a company's supply chain, from raw material sourcing through manufacturing (cradle to gate). Trucost obtained Biogen's purchase ledger for FY 2021, cleaned the list of transactions and mapped each unique Level 4 Category (classification supplied by Biogen) to one of Trucost's 464 sectors based on the specific product lines or services procured. Spend data was cleansed by removing any spend relating to items other than capital goods, purchased goods and services, and upstream transportation and distribution. Negative spend was also removed, and finally the top 90% of spend was analyzed (in order to remove a large number of companies with relatively immaterial GHG and water impacts). Trucost then used its patented EEI-O life cycle based model to quantify the environmental performance of Biogen's emissions for Scope 3 Categories 1, 2 and 4. Trucost's EEI-O life cycle model includes environmental profiles for 464 different business activities based on the environmental impacts of each economic sector. These 464 environmental profiles are combined with company specific expenditure data and the business segment analysis to calculate a supplier's environmental footprint across its direct operations and supply chain.

Capital goods

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

34506

Emissions calculation methodology

Spend-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

46

Please explain

Capital goods are considered relevant due to the relationship and significance to Biogen's business. There are no boundary exclusions for this source. Trucost uses its proprietary Environmentally Extended Input-Output (EEI-O) life cycle model to estimate the impacts of the capital goods, purchased goods and services, and upstream transportation and distribution procured by Biogen. This approach is in accordance with the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and provides a comprehensive overview of the life cycle based impacts embedded within a company's supply chain, from raw material sourcing through manufacturing (cradle to gate). Trucost obtained Biogen's purchase ledger for FY 2021, cleaned the list of transactions and mapped each unique Level 4 Category (classification supplied by Biogen) to one of Trucost's 464 sectors based on the specific product lines or services procured. Spend data was cleansed by removing any spend relating to items other than capital goods, purchased goods and services, and upstream transportation and distribution. Negative spend was also removed, and finally the top 90% of spend was analyzed (in order to remove a large number of companies with relatively immaterial GHG and water impacts). Trucost then used its patented EEI-O life cycle based model to quantify the environmental performance of Biogen's emissions for Scope 3 Categories 1, 2 and 4. Trucost's EEI-O life cycle model includes environmental profiles for 464 different business activities based on the environmental impacts of each economic sector. These 464 environmental profiles are combined with company specific expenditure data and the business segment analysis to calculate a supplier's environmental footprint across its direct operations and supply chain.

Fuel-and-energy-related activities (not included in Scope 1 or 2)

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

11791

Emissions calculation methodology

Average data method

Fuel-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

There are no boundary exclusions for this source. Biogen includes upstream and downstream impacts of water supply, which is more comprehensive than required.

Upstream transportation and distribution

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO₂e)

17148

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

46

Please explain

Upstream transportation and distribution are considered relevant due to the relationship and significance to Biogen's business. There are no boundary exclusions for this source. As Biogen's ledger does not differentiate between upstream and downstream transportation and distribution, all related emissions are identified herein in accordance with the GHG Protocol guidance.

Waste generated in operations

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

290

Emissions calculation methodology

Average product method

Waste-type-specific method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

There are no boundary exclusions for this source. Biogen tracks the amount of waste generated and applied emission factors based on disposition of waste.

Business travel

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

2232

Emissions calculation methodology

Average data method

Fuel-based method

Distance-based method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

There are no boundary exclusions for this source.

Employee commuting

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

11879

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

There are no boundary exclusions for this source. Due to a decline in business travel and employee commute due to the COVID-19 pandemic, emissions from Scope 3, Category 7 are minimal compared to normal operating conditions. In 2020, we added impacts from employees working from home to more accurately estimate these impacts and will continue to include impacts from work from home moving forward.

Upstream leased assets

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

0

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Biogen does not have any upstream leased assets that are not included as part of our Scope 1 and 2 emissions under the operational control boundary.

Downstream transportation and distribution

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Biogen is unable to separate upstream and downstream transportation and distribution spend. Any and all emissions associated with downstream transportation and distribution is included in Scope 3, Category 4. As a result, providing a separate value for this category is not relevant.

Processing of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category was determined to not be relevant as Biogen does not sell products that require further processing; therefore emissions are deemed de minimis.

Use of sold products

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

This category was determined to not be relevant as the use form of Biogen's products are either pill or injection. The Lawrence Berkeley National Lab report "Optimization of Product Life Cycles to Reduce Greenhouse Gas Emissions in California" (2005) publication states use-phase emissions of 0 kg CO2e for over-the-counter drugs.

End of life treatment of sold products

Evaluation status

Relevant, calculated

Emissions in reporting year (metric tons CO2e)

7003

Emissions calculation methodology

Average data method

Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Please explain

There are no boundary exclusions for this source.

Downstream leased assets

Evaluation status

Not relevant, calculated

Emissions in reporting year (metric tons CO2e)

0

Emissions calculation methodology

Percentage of emissions calculated using data obtained from suppliers or value chain partners

100

Please explain

Biogen does not have any downstream leased assets that are not included as part of our Scope 1 and 2 emissions under the operational control boundary.

Franchises

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Biogen does not operate using a franchise model and therefore this category is not relevant.

Investments

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Biogen is not a financial asset management company and does not hold investments in entities that generate emissions; therefore, this category is not relevant.

Other (upstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Biogen does not have any other upstream sources of emissions not already included by one of the previously mentioned categories.

Other (downstream)

Evaluation status

Not relevant, explanation provided

Emissions in reporting year (metric tons CO2e)

<Not Applicable>

Emissions calculation methodology

<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners

<Not Applicable>

Please explain

Biogen does not have any other downstream sources of emissions not already included by one of the previously mentioned categories.

C6.5a

(C6.5a) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

Start date

January 1 2020

End date

December 31 2020

Scope 3: Purchased goods and services (metric tons CO2e)

254670

Scope 3: Capital goods (metric tons CO2e)

41356

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

8755

Scope 3: Upstream transportation and distribution (metric tons CO2e)

17701

Scope 3: Waste generated in operations (metric tons CO2e)

487

Scope 3: Business travel (metric tons CO2e)

4083

Scope 3: Employee commuting (metric tons CO2e)

12192

Scope 3: Upstream leased assets (metric tons CO2e)

0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

0

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

9141

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Past year 2

Start date

January 1 2019

End date

December 31 2019

Scope 3: Purchased goods and services (metric tons CO2e)

334954

Scope 3: Capital goods (metric tons CO2e)

32759

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

10570

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

645

Scope 3: Business travel (metric tons CO2e)

24083

Scope 3: Employee commuting (metric tons CO2e)

9516

Scope 3: Upstream leased assets (metric tons CO2e)

0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

12065

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

Past year 3

Start date

January 1 2018

End date

December 31 2018

Scope 3: Purchased goods and services (metric tons CO2e)

325928

Scope 3: Capital goods (metric tons CO2e)

51635

Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

11048

Scope 3: Upstream transportation and distribution (metric tons CO2e)

Scope 3: Waste generated in operations (metric tons CO2e)

758

Scope 3: Business travel (metric tons CO2e)

27277

Scope 3: Employee commuting (metric tons CO2e)

8133

Scope 3: Upstream leased assets (metric tons CO2e)

0

Scope 3: Downstream transportation and distribution (metric tons CO2e)

Scope 3: Processing of sold products (metric tons CO2e)

Scope 3: Use of sold products (metric tons CO2e)

Scope 3: End of life treatment of sold products (metric tons CO2e)

11574

Scope 3: Downstream leased assets (metric tons CO2e)

Scope 3: Franchises (metric tons CO2e)

Scope 3: Investments (metric tons CO2e)

Scope 3: Other (upstream) (metric tons CO2e)

Scope 3: Other (downstream) (metric tons CO2e)

Comment

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

No

C6.10

(C6.10) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity figure

5.8

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

63450

Metric denominator

unit total revenue

Metric denominator: Unit total

10982000000

Scope 2 figure used

Market-based

% change from previous year

34.9

Direction of change

Increased

Reason for change

Since the denominator decreased, the overall intensity factor increased.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	61508	IPCC Fifth Assessment Report (AR5 – 100 year)
CH4	49	IPCC Fifth Assessment Report (AR5 – 100 year)
N2O	96	IPCC Fifth Assessment Report (AR5 – 100 year)
PFCs	0	IPCC Fifth Assessment Report (AR5 – 100 year)
HFCs	1354	IPCC Fifth Assessment Report (AR5 – 100 year)
SF6	0	IPCC Fifth Assessment Report (AR5 – 100 year)
NF3	0	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (HCFCs)	122	IPCC Fifth Assessment Report (AR5 – 100 year)
Other, please specify (CFCs)	55	IPCC Fifth Assessment Report (AR5 – 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Argentina	18
Australia	13
Austria	104
Belgium	157
Canada	188
Chile	0
Colombia	4
Czechia	104
Denmark	19
Finland	22
France	555
Germany	1328
Hungary	91
Ireland	2
Italy	529
Japan	161
Netherlands	16
Norway	2
Mexico	6
Poland	280
Portugal	3
Slovakia	65
Slovenia	9
Spain	263
Sweden	53
Switzerland	8761
United Kingdom of Great Britain and Northern Ireland	42
Brazil	16
United States of America	50240
Republic of Korea	14
New Zealand	3
China	32
Estonia	0
Latvia	0
Lithuania	0
United Arab Emirates	20
Saudi Arabia	17
Croatia	1
Taiwan, China	3
Turkey	0
Singapore	0

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By facility

By activity

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Research Triangle Park, North Carolina - Drug Product	6771	35.898	-78.861
Research Triangle Park, North Carolina - Drug Substance	8004	35.898	-78.861
Cambridge, Massachusetts	28547	42.366	-71.087
US Commercial Fleet (Various locations)	6885	42.366	-71.087
Solothurn, Switzerland	8757	47.222448	7.57963
Weston, Massachusetts	29	42.371316	-71.273782
Washington, D.C.	4	38.893504	-77.01979
Vicente López, Buenos Aires, Argentina	18	-34.530923	-58.469364
Las Condes, Santiago de Chile, Chile	0	-33.415805	-70.604467
São Paulo, Brazil	16	-23.593634	-46.689973
Bogotá, Colombia	4	4.66422	-74.055792
Toronto, Ontario, Canada	188	43.645804	-79.519991
Ciudad de México, Mexico	6	19.369121	-99.181069
Baar, Switzerland - International	4	47.18859	8.512441
Zagreb, Croatia	1	45.802151	15.964333
Denmark	19	55.661279	12.391557
Paris, France	555	48.891637	2.24671
Dublin, Ireland	2	53.277925	-6.418746
Vilnius, Lithuania	0	54.687789	25.279849
Warsaw, Poland	280	52.154136	20.996867
Ljubljana, Slovenia	9	46.067068	14.54177
Upplands Väsby, Sweden	53	59.499315	17.928861
Vienna, Austria	104	48.21287	16.415441
Prague, Czechia	104	50.051841	14.440718
Tallinn, Estonia	0	59.437943	24.758265
Munich, Germany	1328	48.137355	11.624516
Milan, Italy	529	45.443517	9.189426
Badhoevedorp, The Netherlands	16	52.341725	4.76573
Lisbon, Portugal	3	38.735114	-9.146493
Madrid, Spain	263	40.43517	-3.688917
Baar, Switzerland - Affiliate	0	47.188874	8.513085
Machelen, Belgium	157	50.885403	4.451111
Maidenhead, United Kingdom	42	51.51283	-0.742094
Espoo, Finland	22	60.217369	24.815156
Budapest, Hungary	91	47.477915	19.027302
Riga, Latvia	0	56.947304	24.113226
Oslo, Norway	2	59.945714	10.778198
Bratislava, Slovakia	65	48.134486	17.106548
London, United Kingdom	0	51.523304	-0.136977
New South Wales, Australia	13	-33.778851	151.123547
Seoul, South Korea	14	37.525296	126.925261
Shanghai, China	32	31.214986	121.457114
Auckland, New Zealand	3	-36.842887	174.765817
Taipei, Taiwan	3	25.042204	121.566916
Tokyo, Japan	161	35.682755	139.775245
Riyadh, Saudi Arabia	17	24.715201	46.673554
Dubai, United Arab Emirates	20	25.100551	55.163669

C7.3c

(C7.3c) Break down your total gross global Scope 1 emissions by business activity.

Activity	Scope 1 emissions (metric tons CO2e)
Stationary Fuel Combustion	51361
Mobile Fuel Combustion	10291
Fugitive Refrigerant Emissions	1530

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
United States of America	32109	237
Denmark	7	0
Argentina	22	0
Australia	84	0
Austria	11	0
Belgium	13	0
Brazil	14	0
Canada	13	0
Chile	1	0
Colombia	6	0
Czechia	28	6
Finland	5	0
France	31	12
Germany	173	0
Hungary	4	0
Ireland	2	0
Italy	127	0
Japan	78	0
Mexico	22	0
Netherlands	25	0
New Zealand	1	0
Norway	1	0
Poland	132	1
Portugal	13	3
Slovakia	10	0
Slovenia	15	0
Republic of Korea	5	5
Spain	50	4
Switzerland	750	0
United Kingdom of Great Britain and Northern Ireland	158	0
Sweden	1	0
China	218	0
Croatia	1	0
Estonia	0	0
Saudi Arabia	60	0
Latvia	0	0
Lithuania	0	0
United Arab Emirates	60	0
Taiwan, China	8	0
Turkey	0	0
Singapore	0	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

- By facility
- By activity

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Research Triangle Park, North Carolina - Drug Product	20054	0
Research Triangle Park, North Carolina - Drug Substance	7995	0
Cambridge, Massachusetts	3410	237
Solothurn, Switzerland	734	0
US Commercial Fleet (Various locations)	0	0
Weston, Massachusetts	616	0
Washington, D.C.	34	0
Vicente López, Buenos Aires, Argentina	22	0
Las Condes, Santiago de Chile, Chile	1	0
São Paulo, Brazil	14	0
Bogotá, Colombia	6	0
Toronto, Ontario, Canada	13	0
Ciudad de México, Mexico	22	0
Baar, Switzerland - International	16	0
Zagreb, Croatia	1	0
Denmark	7	0
Paris, France	5	12
Dublin, Ireland	2	0
Vilnius, Lithuania	0	0
Warsaw, Poland	132	1
Ljubljana, Slovenia	15	0
Upplands Väsby, Sweden	1	0
Vienna, Austria	11	0
Prague, Czechia	28	6
Tallinn, Estonia	0	0
Munich, Germany	173	0
Milan, Italy	127	0
Badhoevedorp, The Netherlands	25	0
Lisbon, Portugal	13	3
Madrid, Spain	50	4
Baar, Switzerland - Affiliate	0	0
Machelen, Belgium	13	0
Maidenhead, United Kingdom	158	0
Espoo, Finland	31	0
Budapest, Hungary	4	0
Riga, Latvia	0	0
Oslo, Norway	1	0
Bratislava, Slovakia	10	0
London, United Kingdom	0	0
New South Wales, Australia	84	0
Seoul, South Korea	5	5
Shanghai, China	218	0
Auckland, New Zealand	1	0
Taipei, Taiwan	8	0
Tokyo, Japan	78	0
Riyadh, Saudi Arabia	60	0
Dubai, United Arab Emirates	60	0

C7.6c

(C7.6c) Break down your total gross global Scope 2 emissions by business activity.

Activity	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Electricity	34021	31
Steam	237	237

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Increased

C7.9a

(C7.9a) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	RE100 member Biogen has maintained its achievement of 100% renewable electricity across 30 of the markets in which they operate. In total, this equates to 99.9% of our global demand, with 0.1% remaining unmet in South Korea and New Zealand, where Biogen is facing barriers to sourcing RE in accordance with the strict RE100 criteria. We look forward to working with our RE100 members to improve supply in these markets.
Other emissions reduction activities	0	No change	0	No material emission reduction activities impacting Scope 1 and 2 emissions occurred in 2021.
Divestment	0	No change	0	No material divestments impacting Scope 1 and 2 emissions occurred in 2021.
Acquisitions	0	No change	0	No material acquisitions impacting Scope 1 and 2 emissions occurred in 2021.
Mergers	0	No change	0	No material mergers impacting Scope 1 and 2 emissions occurred in 2021.
Change in output	2613	Increased	4.5	A new state-of-the-art manufacturing facility was brought on line in 2021 in Solothurn, Switzerland. This new manufacturing facility was responsible for approximately 4.5% of the global Scope 1 and 2 increase. [2,613 / 57,813 = 4.5%]
Change in methodology	0	No change	0	There were no changes in calculation methodologies for Scope 1 and 2 in 2021.
Change in boundary	0	No change	0	Biogen maintained its operational control boundary in 2021.
Change in physical operating conditions	5850	Increased	10.1	As the COVID-19 pandemic lessened in 2021, employees began to return to the office, and sales visits and business travel began to resume. We estimate that operational changes in response to the decrease in the COVID-19 pandemic increased our Scope 1 and 2 emissions by 10% compared to 2020, approximately 6,000 MTCOe. [5,850 / 57,813 = 10.1%]
Unidentified	0	No change	0	None.
Other	0	No change	0	None.

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%

C8.2

(C8.2) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	Yes
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	No

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	327337	327337
Consumption of purchased or acquired electricity	<Not Applicable>	143470	108	143578
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	980	980
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Total energy consumption	<Not Applicable>	143470	328425	471895

C8.2b

(C8.2b) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No sustainable biomass consumed in 2021.

Other biomass

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No other biomass consumed in 2021.

Other renewable fuels (e.g. renewable hydrogen)

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No other renewable fuels consumed in 2021.

Coal

Heating value

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No coal consumed in 2021.

Oil

Heating value

HHV

Total fuel MWh consumed by the organization

171594

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

Sum of gasoline and diesel used in commercial fleet vehicles and fuel oil used in emergency generators.

Gas**Heating value**

HHV

Total fuel MWh consumed by the organization

155743

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

19972

MWh fuel consumed for self-generation of steam

61587

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

74183

Comment

Cambridge facility contains a cogeneration plant to generate facility's steam needs as well as partial electricity need.

Other non-renewable fuels (e.g. non-renewable hydrogen)**Heating value**

HHV

Total fuel MWh consumed by the organization

0

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

0

MWh fuel consumed for self-generation of steam

0

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

0

Comment

No other non-renewable fuels consumed in 2021.

Total fuel**Heating value**

HHV

Total fuel MWh consumed by the organization

327337

MWh fuel consumed for self-generation of electricity

<Not Applicable>

MWh fuel consumed for self-generation of heat

19972

MWh fuel consumed for self-generation of steam

61587

MWh fuel consumed for self-generation of cooling

<Not Applicable>

MWh fuel consumed for self- cogeneration or self-trigeneration

74183

Comment**C8.2g****(C8.2g) Provide a breakdown of your non-fuel energy consumption by country.****Country/area**

Argentina

Consumption of electricity (MWh)

76

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

76

Is this consumption excluded from your RE100 commitment?

No

Country/area

Australia

Consumption of electricity (MWh)

123

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

123

Is this consumption excluded from your RE100 commitment?

No

Country/area

Austria

Consumption of electricity (MWh)

82

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

82

Is this consumption excluded from your RE100 commitment?

No

Country/area

Belgium

Consumption of electricity (MWh)

79

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

79

Is this consumption excluded from your RE100 commitment?

No

Country/area

Canada

Consumption of electricity (MWh)

103

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

103

Is this consumption excluded from your RE100 commitment?

No

Country/area

Chile

Consumption of electricity (MWh)

3

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

3

Is this consumption excluded from your RE100 commitment?

No

Country/area

Colombia

Consumption of electricity (MWh)

31

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

31

Is this consumption excluded from your RE100 commitment?

No

Country/area

Czechia

Consumption of electricity (MWh)

49

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

49

Is this consumption excluded from your RE100 commitment?

No

Country/area

Denmark

Consumption of electricity (MWh)

74

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

74

Is this consumption excluded from your RE100 commitment?

No

Country/area

Finland

Consumption of electricity (MWh)

59

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

59

Is this consumption excluded from your RE100 commitment?

No

Country/area

France

Consumption of electricity (MWh)

356

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

356

Is this consumption excluded from your RE100 commitment?

No

Country/area

Germany

Consumption of electricity (MWh)

499

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

499

Is this consumption excluded from your RE100 commitment?

No

Country/area

Hungary

Consumption of electricity (MWh)

18

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

18

Is this consumption excluded from your RE100 commitment?

No

Country/area

Ireland

Consumption of electricity (MWh)

7

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

7

Is this consumption excluded from your RE100 commitment?

No

Country/area

Japan

Consumption of electricity (MWh)

159

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

159

Is this consumption excluded from your RE100 commitment?

No

Country/area

Netherlands

Consumption of electricity (MWh)

69

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

69

Is this consumption excluded from your RE100 commitment?

No

Country/area

Norway

Consumption of electricity (MWh)

136

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

136

Is this consumption excluded from your RE100 commitment?

No

Country/area

Mexico

Consumption of electricity (MWh)

56

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

56

Is this consumption excluded from your RE100 commitment?

No

Country/area

Poland

Consumption of electricity (MWh)

197

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

197

Is this consumption excluded from your RE100 commitment?

No

Country/area

Portugal

Consumption of electricity (MWh)

42

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

42

Is this consumption excluded from your RE100 commitment?

No

Country/area

Slovakia

Consumption of electricity (MWh)

73

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

73

Is this consumption excluded from your RE100 commitment?

No

Country/area

Slovenia

Consumption of electricity (MWh)

61

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

61

Is this consumption excluded from your RE100 commitment?

No

Country/area

Spain

Consumption of electricity (MWh)

231

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

231

Is this consumption excluded from your RE100 commitment?

No

Country/area

Sweden

Consumption of electricity (MWh)

108

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

108

Is this consumption excluded from your RE100 commitment?

No

Country/area

Switzerland

Consumption of electricity (MWh)

30972

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

30972

Is this consumption excluded from your RE100 commitment?

No

Country/area

United Kingdom of Great Britain and Northern Ireland

Consumption of electricity (MWh)

500

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

500

Is this consumption excluded from your RE100 commitment?

No

Country/area

Brazil

Consumption of electricity (MWh)

137

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

137

Is this consumption excluded from your RE100 commitment?

No

Country/area

United States of America

Consumption of electricity (MWh)

108085

Consumption of heat, steam, and cooling (MWh)

980

Total non-fuel energy consumption (MWh) [Auto-calculated]

109065

Is this consumption excluded from your RE100 commitment?

No

Country/area

Republic of Korea

Consumption of electricity (MWh)

11

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

11

Is this consumption excluded from your RE100 commitment?

Yes

Country/area

New Zealand

Consumption of electricity (MWh)

13

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

Is this consumption excluded from your RE100 commitment?

Yes

Country/area

China

Consumption of electricity (MWh)

348

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

348

Is this consumption excluded from your RE100 commitment?

No

Country/area

Taiwan, China

Consumption of electricity (MWh)

15

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

15

Is this consumption excluded from your RE100 commitment?

No

Country/area

Estonia

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

No

Country/area

Latvia

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

No

Country/area

Lithuania

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

No

Country/area

United Arab Emirates

Consumption of electricity (MWh)

119

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

119

Is this consumption excluded from your RE100 commitment?

No

Country/area

Saudi Arabia

Consumption of electricity (MWh)

98

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

98

Is this consumption excluded from your RE100 commitment?

No

Country/area

Turkey

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

No

Country/area

Croatia

Consumption of electricity (MWh)

9

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

9

Is this consumption excluded from your RE100 commitment?

No

Country/area

Italy

Consumption of electricity (MWh)

444

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

444

Is this consumption excluded from your RE100 commitment?

No

Country/area

Singapore

Consumption of electricity (MWh)

0

Consumption of heat, steam, and cooling (MWh)

0

Total non-fuel energy consumption (MWh) [Auto-calculated]

0

Is this consumption excluded from your RE100 commitment?

No

(C8.2h) Provide details of your organization's renewable electricity purchases in the reporting year by country

Country/area of renewable electricity consumption

Argentina

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

76

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

140

Country/area of origin (generation) of the renewable electricity/attribute consumed

Chile

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: S4 SOLAR Huatacondo

Country/area of renewable electricity consumption

Australia

Sourcing method

Other, please specify (Australia Large-scale Generation Certificates (LGCs))

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

123

Tracking instrument used

Australian LGC

Total attribute instruments retained for consumption by your organization (MWh)

32

Country/area of origin (generation) of the renewable electricity/attribute consumed

Australia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2011

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (Australia Large-scale Generation Certificates (LGCs))

Comment

Facility: Woodlawn Wind Farm

Country/area of renewable electricity consumption

Austria

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

82

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

Country/area of renewable electricity consumption

Belgium

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

79

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

Country/area of renewable electricity consumption

Canada

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

103

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

5013

Country/area of origin (generation) of the renewable electricity/attribute consumed

Canada

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Facility: Sheldrake Hydroelectric

Country/area of renewable electricity consumption

Chile

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

3

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

140

Country/area of origin (generation) of the renewable electricity/attribute consumed

Chile

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: S4 SOLAR Huatacondo

Country/area of renewable electricity consumption

Colombia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

31

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

42

Country/area of origin (generation) of the renewable electricity/attribute consumed

Colombia

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2005

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: La Vuelta

Country/area of renewable electricity consumption

Czechia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

49

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

Denmark

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

74

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Finland

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

59

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

France

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

356

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

Germany

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

499

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Hungary

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

18

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Ireland

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

7

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

Country/area of renewable electricity consumption

Japan

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

150

Tracking instrument used

J-Credit

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Japan

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (J-Credit)

Comment

Unknown Solar facility

Country/area of renewable electricity consumption

Netherlands

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

69

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**Vintage of the renewable energy/attribute (i.e. year of generation)**

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Norway

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

136

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Mexico

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

56

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

90

Country/area of origin (generation) of the renewable electricity/attribute consumed

Mexico

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2014

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: Hioxo Wind Farm

Country/area of renewable electricity consumption

Poland

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

197

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Portugal

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

42

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

Country/area of renewable electricity consumption

Slovakia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

73

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Slovenia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

61

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

Country/area of renewable electricity consumption

Spain

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

231

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

Sweden

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

108

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

5763

Country/area of origin (generation) of the renewable electricity/attribute consumed

Norway

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Norway - Statnett (various projects)

Country/area of renewable electricity consumption

Switzerland

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Hydropower (capacity unknown)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

30201

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Switzerland

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Unknown hydropower facility - Solothurn Green Power

Country/area of renewable electricity consumption

Switzerland

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

663

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

United Kingdom of Great Britain and Northern Ireland

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

500

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

Brazil

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

137

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

219

Country/area of origin (generation) of the renewable electricity/attribute consumed

Brazil

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2003

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: UHE PORTO PRIMAVER

Country/area of renewable electricity consumption

United States of America

Sourcing method

Direct procurement from an offsite grid-connected generator e.g. Power Purchase Agreement (PPA)

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

6908

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

6908

Country/area of origin (generation) of the renewable electricity/attribute consumed

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1924

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

The 2-year contract was established in October 2020 with a hydroelectric power facility in Vermont.

Country/area of renewable electricity consumption

United States of America

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

78125

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

5013

Country/area of origin (generation) of the renewable electricity/attribute consumed

Canada

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2013

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Facility: Sheldrake Hydroelectric

Country/area of renewable electricity consumption

United States of America

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

10684

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2011

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Facilities : Golden Spread Panhandle Wind Ranch LLC (commissioned 2011) and Hale Windfarm (commissioned 2019)

Country/area of renewable electricity consumption

United States of America

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

9524

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

United States of America

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2019

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Facility : FL-SEC-1

Country/area of renewable electricity consumption

United States of America

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Small hydropower (<25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

2844

Tracking instrument used

US-REC

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Canada

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2010

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Green-e

Comment

Facility : Franquelin Hydropower

Country/area of renewable electricity consumption

China

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

263

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

305

Country/area of origin (generation) of the renewable electricity/attribute consumed

China

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2008

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility : Dongtan Onshore Windfarm

Country/area of renewable electricity consumption

Taiwan, China

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Wind

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

15

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

305

Country/area of origin (generation) of the renewable electricity/attribute consumed

China

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2008

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility : Dongtan Onshore Windfarm

Country/area of renewable electricity consumption

United Arab Emirates

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

119

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

159

Country/area of origin (generation) of the renewable electricity/attribute consumed

United Arab Emirates

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2020

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Country/area of renewable electricity consumption

Saudi Arabia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Solar

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

98

Tracking instrument used

I-REC

Total attribute instruments retained for consumption by your organization (MWh)

159

Country/area of origin (generation) of the renewable electricity/attribute consumed

United Arab Emirates

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2020

Vintage of the renewable energy/attribute (i.e. year of generation)

2021

Brand, label, or certification of the renewable electricity purchase

Other, please specify (I-REC)

Comment

Facility: Mohammed bin Rashid Al Maktoum Solar Park Phase 3

Country/area of renewable electricity consumption

Croatia

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

9

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroelétrica de Picote I

Country/area of renewable electricity consumption

Italy

Sourcing method

Unbundled Energy Attribute Certificate (EAC) purchase

Renewable electricity technology type

Large hydropower (>25 MW)

Renewable electricity consumed via selected sourcing method in the reporting year (MWh)

444

Tracking instrument used

GO

Total attribute instruments retained for consumption by your organization (MWh)

0

Country/area of origin (generation) of the renewable electricity/attribute consumed

Portugal

Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

1958

Vintage of the renewable energy/attribute (i.e. year of generation)

2020

Brand, label, or certification of the renewable electricity purchase

Other, please specify (EECS)

Comment

Facility: Central Hidroeléctrica de Picote I

C8.2i

(C8.2i) Provide details of your organization's low-carbon heat, steam, and cooling purchases in the reporting year by country.

Country/area of consumption of low-carbon heat, steam or cooling

United States of America

Sourcing method

None (no purchases of low-carbon heat, steam, or cooling)

Energy carrier

Steam

Low-carbon technology type

Please select

Low-carbon heat, steam, or cooling consumed (MWh)

0

Comment

No low-carbon steam purchased.

C8.2j

(C8.2j) Provide details of your organization's renewable electricity generation by country in the reporting year.

Country/area of generation

United States of America

Renewable electricity technology type

Renewable electricity mix, please specify (Biogen does have any renewable electricity generation facilities.)

Facility capacity (MW)

0

Total renewable electricity generated by this facility in the reporting year (MWh)

0

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were not issued (MWh)

0

Renewable electricity directly consumed by your organization from this facility in the reporting year for which certificates were issued and retired (MWh)

0

Renewable electricity sold to the grid in the reporting year (MWh)

0

Certificates issued for the renewable electricity that was sold to the grid (MWh)

0

Certificates issued and retired for self-consumption for the renewable electricity that was sold to the grid (MWh)

0

Type of energy attribute certificate

<Not Applicable>

Total self-generation counted towards RE100 target (MWh) [Auto-calculated]

0

Comment

Biogen does have any renewable electricity generation facilities.

C8.2k

(C8.2k) Describe how your organization's renewable electricity sourcing strategy directly or indirectly contributes to bringing new capacity into the grid in the countries/areas in which you operate.

We are pursuing Power Purchase Agreements in markets where we can contribute to bringing new renewable capacity into the grid.

C8.2l

(C8.2l) In the reporting year, has your organization faced any challenges to sourcing renewable electricity?

	Challenges to sourcing renewable electricity	Challenges faced by your organization which were not country-specific
Row 1	Yes, in specific countries/areas in which we operate	<Not Applicable>

C8.2m

(C8.2m) Provide details of the country-specific challenges to sourcing renewable electricity faced by your organization in the reporting year.

Country/area	Reason(s) why it was challenging to source renewable electricity within selected country/area	Provide additional details of the barriers faced within this country/area
New Zealand	Lack of credible renewable electricity procurement options (e.g. EACs, Green Tariffs)	No market in New Zealand for renewable electricity procurement options.
Republic of Korea	Lack of credible renewable electricity procurement options (e.g. EACs, Green Tariffs)	RECs for South Korea are available from China, but they do not meet RE100 criteria.

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description

Waste

Metric value

6

Metric numerator

metrics tons to landfill

Metric denominator (intensity metric only)

% change from previous year

81.25

Direction of change

Decreased

Please explain

Last year, we made progress in developing Principles for Sustainable Drug Development, addressing Biogen’s multi-franchise portfolio with circular economy principles. Currently, we are working to build on a successful 2021 pilot of My Green Lab in which the 14 labs were awarded Green Lab Certification: four received Green (highest level), four Platinum and six Gold. This year, we expect approximately 65 lab groups to participate in total. We also are reviewing packaging solutions for our full product portfolio and conducting life cycle assessments (LCAs) to develop a roadmap toward more sustainable alternative materials for our legacy products. To advance these goals, we are developing collaborations with suppliers to increase the proportion of sustainable material in our packaging systems and the percentage of renewable energy to produce our packaging, from glass vials to cardboard. When it comes to our product packaging, we have many considerations, with the most important being focused on patients. We must ensure the packaging of our life-saving therapies maintains the safety and quality of the product while providing convenient access. We also are working to make our packaging more sustainable by reducing its life cycle impact. In balancing product quality, protection and access with environmental concerns around plastics, we have a hierarchy in considering plastic packaging adjustments: – Avoid plastic use, including replacing plastic where possible. – Reduce plastic use. – Reuse plastics, where we can do so safely. At the end of 2020, we developed a new concept of packaging design and material. The design was accepted in 2021 to support our Interferon packaging platform for autoinjector (Plegridy IM and Avonex Next Generation). The packaging system is based on the replacement of plastic material and bleached cardboard by a more sustainable molded fibers tray combined with a cardboard based on grass fibers and paper (variable percentage of recycled fibers), which provide better end-of-life options.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	Third-party verification or assurance process in place

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS.pdf

ERM CVS - Assurance Statement for Biogen 2021.pdf

Page/ section reference

See page 1 in the attached CDP-specific assurance statement from ERM CVS

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach

Scope 2 location-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS.pdf

ERM CVS - Assurance Statement for Biogen 2021.pdf

Page/ section reference

See page 1 in the attached CDP-specific assurance statement from ERM CVS.

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

Scope 2 approach

Scope 2 market-based

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS.pdf

ERM CVS - Assurance Statement for Biogen 2021.pdf

Page/ section reference

See page 1 in the attached CDP-specific assurance statement from ERM CVS.

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

C10.1c

(C10.1c) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Scope 3 category

Scope 3: Upstream leased assets
 Scope 3: Downstream leased assets

Verification or assurance cycle in place

Annual process

Status in the current reporting year

Complete

Type of verification or assurance

Limited assurance

Attach the statement

ERM CVS.pdf
 ERM CVS - Assurance Statement for Biogen 2021.pdf

Page/section reference

See page 1 in the attached CDP-specific assurance statement from ERM CVS.

Relevant standard

ERM GHG Performance Data Assurance Methodology

Proportion of reported emissions verified (%)

100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

C10.2a

(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Energy consumption	ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000	A multi-disciplinary team of EHS and assurance specialists performed the following activities: - Interviews with relevant staff to understand and evaluate any changes to the data management systems and processes (including IT systems and internal review processes) used for collecting and reporting the selected data; - An analytical review of the data and a check on the completeness and accuracy of the corporate data consolidation, including conversion factors and emission factors used. - Virtual interviews with Biogen personnel to review program documentation, including calls with business level representatives to review local reporting processes and consistency of reported annual data with selected underlying source data for each indicator, checked calculations and assessed the local internal quality and assurance process. - Cross checking that the purchased Carbon Offsets, Renewable Energy Certificates (REC), Guarantees of Origin, International-RECs and Green Power Certificates were retired/managed according to Biogen's Sustainability Data Collection and Reporting Procedure, which includes Carbon Neutral Methodology. - A review of the consolidated year end data. ERM CVS.pdf
C6. Emissions data	Renewable energy products	ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000	A multi-disciplinary team of EHS and assurance specialists performed the following activities: - Interviews with relevant staff to understand and evaluate any changes to the data management systems and processes (including IT systems and internal review processes) used for collecting and reporting the selected data; - An analytical review of the data and a check on the completeness and accuracy of the corporate data consolidation, including conversion factors and emission factors used. - Virtual interviews with Biogen personnel to review program documentation, including calls with business level representatives to review local reporting processes and consistency of reported annual data with selected underlying source data for each indicator, checked calculations and assessed the local internal quality and assurance process. - Cross checking that the purchased Carbon Offsets, Renewable Energy Certificates (REC), Guarantees of Origin, International-RECs and Green Power Certificates were retired/managed according to Biogen's Sustainability Data Collection and Reporting Procedure, which includes Carbon Neutral Methodology. - A review of the consolidated year end data. ERM CVS.pdf

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No, and we do not anticipate being regulated in the next three years

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3

(C11.3) Does your organization use an internal price on carbon?

No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?

Yes, our suppliers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement

Engagement & incentivization (changing supplier behavior)

Details of engagement

Run an engagement campaign to educate suppliers about climate change

% of suppliers by number

1

% total procurement spend (direct and indirect)

5

% of supplier-related Scope 3 emissions as reported in C6.5

10

Rationale for the coverage of your engagement

Biogen's largest source of fossil fuel emissions and air pollution is embedded in the goods and services we purchase. Our approach is to deepen our relationships with key suppliers to support their incremental shift away from fossil fuels and toward a healthier clean energy future. In 2020, we piloted an engagement program with a limited number of suppliers to which we have good relationships. With the engagement program, we aim to support key suppliers in developing tailored action plans to accelerate this transition. We aim to launch the full-scale engagement program in 2022 and 2023. To advance these ambitious targets, we recently engaged with key suppliers. From this engagement we received several commitments including from Vetter and Vifor Ltd, Fribourg site, to set science-based targets by 2025, and from Sharp, Vetter, and Vifor Ltd, Fribourg site to source 100% renewable electricity by 2030.

Impact of engagement, including measures of success

We define success in engagement as obtaining commitments from our suppliers aligned with either of our targets (SBT and renewable electricity). To advance these ambitious targets, we recently engaged with key suppliers. From this engagement we received several commitments including from Vetter and Vifor Ltd, Fribourg site, to set science-based targets by 2025, and from Sharp, Vetter, and Vifor Ltd, Fribourg site to source 100% renewable electricity by 2030.

Comment

C12.2

(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?

No, but we plan to introduce climate-related requirements within the next two years

C12.3

(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate?

Row 1

Direct or indirect engagement that could influence policy, law, or regulation that may impact the climate

Yes, we engage directly with policy makers

Yes, we engage indirectly through trade associations

Yes, we engage indirectly by funding other organizations whose activities may influence policy, law, or regulation that may significantly impact the climate

Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?

Yes

Attach commitment or position statement(s)

As a responsible biotechnology company committed to improving human health, Biogen has aligned our climate approach and strategy, Healthy Climate, Healthy Lives™, with guidance on the scale of action needed to limit warming to no more than 1.5°C. We are advancing the United Nations Sustainable Development Goal (SDG) 13: Take urgent action to combat climate change and its impacts. At the same time, we promote SDG 3: Ensure healthy lives and promote wellbeing for all at all ages.

Healthy Climate, Healthy Lives goes far beyond our previous 2014 carbon neutral commitment. With this initiative, we aim to eliminate fossil fuels across our operations and work with global organizations to advance the science and improve health, starting with the elimination of fossil fuel combustion across our global operations by 2040.

Our goal is to create an equitable future where everyone enjoys a healthy climate and a healthy life.

Describe the process(es) your organization has in place to ensure that your engagement activities are consistent with your overall climate change strategy

Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate

<Not Applicable>

C12.3a

(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?

Focus of policy, law, or regulation that may impact the climate

Climate-related targets

Specify the policy, law, or regulation on which your organization is engaging with policy makers

The proposed solution advocated for was to reach net-zero emissions by 2050 through the implementation of clean energy and clean transportation solutions.

Policy, law, or regulation geographic coverage

Regional

Country/region the policy, law, or regulation applies to

United States of America

Your organization's position on the policy, law, or regulation

Support with minor exceptions

Description of engagement with policy makers

Biogen advocated alongside our Ceres corporate partners in BICEP, calling on our home state of Massachusetts to implement climate, clean energy and clean transportation solutions to reach net-zero emissions by 2050, aligning with the commitments that companies like Biogen have already made or achieved.

Details of exceptions (if applicable) and your organization's proposed alternative approach to the policy, law or regulation

Have you evaluated whether your organization's engagement is aligned with the goals of the Paris Agreement?

Yes, we have evaluated, and it is aligned

C12.3b

(C12.3b) Provide details of the trade associations your organization engages with which are likely to take a position on any policy, law or regulation that may impact the climate.

Trade association

Please select

Is your organization's position on climate change consistent with theirs?

Please select

Has your organization influenced, or is your organization attempting to influence their position?

Please select

State the trade association's position on climate change, explain where your organization's position differs, and how you are attempting to influence their position (if applicable)

Funding figure your organization provided to this trade association in the reporting year, if applicable (currency as selected in C0.4) (optional)

Describe the aim of your organization's funding

<Not Applicable>

Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?

Please select

C12.3c

(C12.3c) Provide details of the funding you provided to other organizations in the reporting year whose activities could influence policy, law, or regulation that may impact the climate.

Type of organization

Please select

State the organization to which you provided funding

Funding figure your organization provided to this organization in the reporting year (currency as selected in C0.4)

Describe the aim of this funding and how it could influence policy, law or regulation that may impact the climate

Have you evaluated whether this funding is aligned with the goals of the Paris Agreement?

Please select

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication

In mainstream reports

Status

Complete

Attach the document

Biogen-YearInReview-2021.pdf

ERM CVS.pdf

Biogen 2021 Annual Report.pdf

Page/Section reference

Biogen Annual Report 2021 Page 3; Page 29-30

Biogen 10k Page 29 - 30

Content elements

Strategy

Comment

Climate, Health and Equity In September 2020, we launched Healthy Climate, Healthy Lives, a \$250 million, 20-year initiative to eliminate fossil fuels across our operations by 2040 and improve public health. We are the first Fortune 500 company to make such a bold commitment, which goes far beyond net zero. Collaborations related to this effort, including with MIT and the Harvard T.H. Chan School of Public Health, aim to advance the science around how fossil fuel-related air pollution may impact brain health, and will help under-resourced healthcare centers prepare for climate risks and improve health outcomes for the vulnerable populations they serve.

Publication

In voluntary sustainability report

Status

Complete

Attach the document

Biogen-YearInReview-2021.pdf

Page/Section reference

Page 153 links to our public TCFD report that outlines Biogen's climate governance and risks & opportunities Page 80-83 outlines our climate strategy and targets. Page 121-123 outlines emission figures and other related metrics including EV Fleet and renewable electricity.

Content elements

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

Other metrics

Comment

Direct link to 2021 Year in Review: https://www.biogen.com/content/dam/corporate/en_us/YIR-2021/Biogen-YearInReview-2021.pdf#page=6

C15. Biodiversity

C15.1

(C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

	Board-level oversight and/or executive management-level responsibility for biodiversity-related issues	Description of oversight and objectives relating to biodiversity	Scope of board-level oversight
Row 1	No, but we plan to have both within the next two years	<Not Applicable>	<Not Applicable>

C15.2

(C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

	Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity	Biodiversity-related public commitments	Initiatives endorsed
Row 1	Yes, we have made public commitments only	Commitment to not explore or develop in legally designated protected areas Commitment to respect legally designated protected areas	<Not Applicable>

C15.3

(C15.3) Does your organization assess the impact of its value chain on biodiversity?

	Does your organization assess the impact of its value chain on biodiversity?	Portfolio
Row 1	No, but we plan to assess biodiversity-related impacts within the next two years	<Not Applicable>

C15.4

(C15.4) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?

	Have you taken any actions in the reporting period to progress your biodiversity-related commitments?	Type of action taken to progress biodiversity-related commitments
Row 1	No, we are not taking any actions to progress our biodiversity-related commitments, but we plan to within the next two years	<Not Applicable>

C15.5

(C15.5) Does your organization use biodiversity indicators to monitor performance across its activities?

	Does your organization use indicators to monitor biodiversity performance?	Indicators used to monitor biodiversity performance
Row 1	No, we do not use indicators, but plan to within the next two years	Please select

C15.6

(C15.6) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Report type	Content elements	Attach the document and indicate where in the document the relevant biodiversity information is located
In voluntary sustainability report or other voluntary communications	Content of biodiversity-related policies or commitments	Please review the Biodiversity Position Statement available at: https://www.biogen.com/en_us/principles-policies-positions.html

C16. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C16.1

(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Executive Vice President, Pharmaceutical Operations and Technology	Chief Operating Officer (COO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

Biogen is a science-based company that cares deeply for human health, and we recognize that urgent action is needed to address climate change and other environmental issues. Given the well-documented connection between the environment and human health, we focus on science-based efforts to mitigate any environmental and human health impacts and risks related to our business: Climate change Air pollution created by the burning of fossil fuels Water, specifically withdrawal from watersheds and release of treated wastewater Waste, with an emphasis on minimization and beneficial reuse Up- and downstream impacts related to resource usage, particularly plastics We acknowledge the call from our investors to better understand Biogen's climate-related financial risks.

The connection between the environment and human health inspired us to accelerate our climate ambition in 2020 with new Science Based Targets initiative (SBTi)-approved goals. This informed the launch of our Healthy Climate, Healthy Lives™ initiative, which made Biogen the first Fortune 500 company to commit to fossil fuel free operations by 2040. Healthy Climate, Healthy Lives is a groundbreaking \$250 million, 20-year initiative to eliminate our use of fossil fuels and to collaborate with key stakeholders to achieve climate targets and improve human health. Fossil fuel emissions are at the heart of our strategy because they significantly impact human health by contributing to the climate crisis and to air pollution. Emerging data suggest air pollution may be a leading cause of death globally, claiming nearly 9 million lives each year, worsening the prevalence and severity of COVID-19 and potentially harming brain health.

To address these issues, Healthy Climate, Healthy Lives provides a framework for Biogen to:

1. Eliminate the combustion of fossil fuels in our operations by 2040 in line with the global ambition to limit warming to 1.5°C.
2. Invest in green chemistry and a comprehensive Sustainable Drug Development paradigm, including circular economy principles around resources and wastes.
3. Align with our suppliers around new climate targets, as part of our broader responsible supply chain efforts.
4. Engage Biogen employees with new programs and benefits.
5. Collaborate with global leaders, working to influence climate policy to improve health outcomes, particularly for the world's most vulnerable populations.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	10982000000

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

Biogen's 2021 data can be found publicly in its 2022 CDP Climate Change disclosure as well as in its 2021 Year in Review, available online at https://www.biogen.com/content/dam/corporate/en_us/YIR-2021/Biogen-YearInReview-2021.pdf#page=6. All Biogen greenhouse gas values were assured by an independent third-party using the ERM CVS' assurance methodology, based on the International Standard on Assurance Engagements ISAE 3000 and ISAE 3410 for GHG emissions.

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Other, please specify (Breakdown of Scope 3 emissions)	While Scope 1 allocation could be improved further through the use of life cycle analysis techniques to identify the specific impact of each production process, Scope 3 provides the largest challenge. Purchased goods and services is by far Biogen's largest area of impact and presents a significant challenge in attempting to allocate spend to individual production processes. We have not evaluated ways to overcome this challenge at the present time.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

Yes

SC1.4a

(SC1.4a) Describe how you plan to develop your capabilities.

Biogen plans to strategically conduct additional submetering as well as life cycle assessments for certain production processes to better understand their impacts. This may allow Biogen to shift from towards product and production-specific allocations.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member

Johnson & Johnson

Group type of project

Other, please specify (Aggregated VPPA)

Type of project

Other, please specify (Aggregated VPPA)

Emissions targeted

Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized

1-3 years

Estimated lifetime CO2e savings

10000

Estimated payback

Cost/saving neutral

Details of proposal

Biogen is interested in forming relationships with suppliers and customers to aggregate our collective buying power aggregate to enter into additional aggregated VPPA agreements.

SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?

No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I understand that my response will be shared with all requesting stakeholders	Response permission
Please select your submission options	Yes	Public

Please confirm below

I have read and accept the applicable Terms