# **SUBARU CORPORATION - Climate Change 2020**

## **C0. Introduction**

## **C0.1**

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

Subaru Corporation, Established on July 15, 1953 (Founded in May 1917).

Head office location: Ebisu Subaru Bldg. 1-20-8, Ebisu, Shibuya-ku, Tokyo. Main listed number: 81-3-6447-8000.

Representative: Tomomi Nakamura, Representative Director of the Board and President.

Main business:

[Automotive business] The manufacture, repair, and sales of passenger cars and their components

[Aerospace company] The manufacture, repair, and sales of airplanes, aerospace-related machinery, and their components.

Paid-in Capital\*: 153,795 million yen.

Number of employees\*: 15,806 (total of consolidated companies: 35,034). \*As of March 31, 2020

## **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 | April 1 2019 | March 31 2020 | Yes | 1 year |

## **C0.3**

### **(C0.3) Select the countries/areas for which you will be supplying data.**

Canada

Japan

United States of America

## **C0.4**

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

JPY

## **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.**

Financial control

## **C-TO0.7/C-TS0.7**

### **(C-TO0.7/C-TS0.7) For which transport modes will you be providing data?**

Light Duty Vehicles (LDV)

## **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** |
| Other C-Suite Officer | A director, who is responsible for Subaru’s climate-related issues, assumes the title of CRMO (Chief Risk Management Officer) and chairs the Environment Committee, which discusses the details of climate-related issues. CRMO reports the results of discussions held at the Environment Committee at the CSR Committee chaired by the Representative Director of the Board. If these climate change agenda items are matters of particularly high importance to business management, the CRMO, who is a director, explains them at the Executive Management Board Meeting and the Board of Directors meeting, and the Board of Directors makes decisions on matters related to climate change. At the Board of Directors, the CRMO has substantive oversight responsibility for addressing climate-related issues. As an example of a climate-related decision, the medium- to long-term targets for Scope 1 and Scope 2 emissions approved by the Environment Committee were reported by the CRMO at the Board of Directors meeting. Medium- to long-term targets for reducing Scope 1 and Scope 2 emissions ・By 2050: Achieve carbon neutrality. ・By 2030: Reduce to 30% below FYE2017 levels (on a total emissions volume basis) |

## **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 – all meetings | Reviewing and guiding strategy  Reviewing and guiding major plans of action  Reviewing and guiding risk management policies  Reviewing and guiding annual budgets  Reviewing and guiding business plans  Setting performance objectives  Monitoring implementation and performance of objectives  Overseeing major capital expenditures, acquisitions and divestitures  Monitoring and overseeing progress against goals and targets for addressing climate-related issues | <Not Applicable> | It is recognized that climate change matters in Subaru’s entire value chain have a significant impact on the management of Subaru as an automobile manufacturer. All selected governance mechanisms are relevant to climate change matters, and such matters are regularly monitored at the Board of Directors, the CSR Committee, and the Environment Committee. A director, who is responsible for climate-related issues and serves as CRMO, has been appointed as a chair of the Environment Committee in FYE2020. Responses to climate change are discussed at the “Environment Committee” which includes major executives as members. Agenda items that are particularly important for business management are explained by the CRMO at the Board of Directors meeting and are then conclusively decided. For example, in FYE2020, from the perspective of aiming at the realization of a decarbonized society, the “Environment Committee” approved the formulation of targets for Scope 1 and Scope 2 emissions up to 2050, which were then reported to the Board of Directors by the CRMO. As these long-term targets are directly related to Subaru’s business activities, the Environment Committee will continue to oversee the progress towards the targets. ・By 2050: Achieve carbon neutrality. ・By 2030: Reduce to 30% below FYE2017 levels (on a total emissions volume basis) In addition, Subaru has set medium- to long-term targets for CO2 emissions during product use. ● By 2050: Reduce average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. ● By the first half of the 2030s: Apply electrification technologies to all Subaru vehicles sold worldwide ● By 2030: Make at least 40% of Subaru global sales electric vehicles (EVs) or hybrid electric vehicles (HEVs). The issues related to the reduction of Scope 1 and Scope 2 emissions from the Subaru Group and the reduction of CO2 emissions during product use are incorporated into a selected governance mechanism. As a result, at the meeting bodies, such as the Board of Directors, the Executive Management Board Meeting, the CSR Committee, and the Environment Committee, emission reduction targets are monitored, and decisions are made on the implementation of each measure for achieving the targets, such as capital investment and R&D, both regularly. |

## **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** |
| Other C-Suite Officer, please specify (Director of the Board, Executive Vice President, CRMO（Chief Risk Management Officer）) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |

## **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).**

· A description of the positioning within the organization and rationale for the responsibilities

At Subaru, the Board of Directors is positioned as the highest decision-making body in the organizational structure relevant to the environment. The CSR Committee, which is chaired by the Representative Director and President, is set up as a subordinate body, and the Environment Committee is further positioned as its subordinate organization. The CRMO is a position with oversight responsibility for Subaru’s risks, including those related to climate change, and serves as a director/Executive Vice President and chair of the Environment Committee in Subaru.

At the Environment Committee, in which a director serves as CRMO and as Chair, the progress towards climate change targets and the assessment results of risks and opportunities are reported and approved. Furthermore, matters of particularly high importance to business management, which are relevant to climate change and were discovered in the above process, are reported to the Board of Directors by the CRMO before being conclusively approved. As an example related to climate change, at the Environment Committee chaired by the CRMO in FYE2020, the formulation of targets for Scope 1 and Scope 2 emissions through 2050 was discussed, approved, and then reported to the Board of Directors by the CRMO.

· Authority and responsibilities of the position with regard to the assessment and monitoring of climate-related issues

In addition to reinforcing the structure such as overseeing the Risk Management Group, Subaru has set the CRMO position with an aim to further enhance the opportunities for discussions at the Board of Directors meeting, and approaches have been taken to grasp risks and reinforce the management system. Also, at the Environment Committee chaired by a director, the progress towards targets concerning climate change is monitored.

· A rationale for why responsibilities for climate-related issues have been assigned to CRMO

Since climate-related issues (climate-related risks and opportunities), including the tightening of regulations on the fuel efficiency of products, have a significant impact on Subaru’s business, Subaru has a system in which the CRMO has oversight responsibility for addressing climate-related issues.

## **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 |  |

## **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 inventivized** | **Comment** |
| All employees | Monetary reward | Energy reduction project | Assessments are conducted regularly through personnel assessment, salary increase, and the Improvement Suggestion System. Monetary and other rewards are provided under the Improvement Suggestion System. For excellent proposals, monetary rewards are provided as an additional award. |
| All employees | Non-monetary reward | Energy reduction project | Assessments are conducted regularly through personnel assessment, salary increase, and the Improvement Suggestion System. Furthermore, excellent proposals are subject to an award from the President. |

## **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 | 5 | FYE2017 to FYE2021 The time horizon for assessing climate-related risks and opportunities is consistent with Subaru’s time horizon for practical operations |
| Medium-term | 5 | 15 | FYE2021 to FYE2031 The time horizon for assessing climate-related risks and opportunities is consistent with Subaru’s time horizon for practical operations |
| Long-term | 15 | 35 | FYE2031 to FYE2051 The time horizon for assessing climate-related risks and opportunities is consistent with Subaru’s time horizon for practical operations |

## **C2.1b**

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

Within the frame of the Board of Directors Regulations and the operational standards regarding the agenda items of the Board of Directors, matters to be resolved at the Board of Directors are defined in consideration of substantive financial or strategic impact on the business. Quantitative indicators, such as 1% and 0.01% of total assets, are set for each item of matters to be resolved at the Board of Directors, including the mid-term business plan and capital contribution. Projects that meet those criteria are regarded as having a substantive impact on business management and thus they are treated as matters to be resolved at the Board of Directors. Financial impacts concerning climate change are treated similarly.

## **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**

When identifying and assessing the climate-related risks and opportunities associated with the operation of offices, we cover the operation of offices and the greenhouse gases emitted during operation. The climate change-related risks in these offices are extracted at the environment subcommittee held at each site, and the Environmental Management System in each office identifies and assesses the risks and opportunities in each facility/department. With the results of these extractions, the risks that may have a substantive financial impact are discussed and determined at the Environment Committee. “Risks that may have a substantive financial impact” are defined as risks that the Environment Committee determines as having a substantial impact in terms of the “frequency of occurrence” and “significance.” Among climate-related risk assessment processes and results, those that are particularly relevant to business management are reported by the CRMO to the Board of Directors and the Executive Management Board Meeting. Since the emission of greenhouse gases during the operation was recognized as an important risk, the Environment Committee and each subcommittee have set medium- to long-term reduction targets and are examining the reduction measures to be taken at each office. Transitional risks of climate change associated with products are relevant to all value chains and cover an extensive range, such as regulatory and policy trends, the demands of investors and other stakeholders, and market needs. As a response process to these transitional risks, meeting bodies mainly led by departments in charge are responsible for the environmental response of products, discussions on product development, and progress management, for each of the short, medium, and long term. Risks and opportunities that are identified in these meeting bodies as being particularly relevant to business management are discussed/examined at the Executive Meeting and reported to the Board of Directors, followed by decision-making. As a response to the transitional risks of climate change, medium- to long-term targets were set for the reduction of CO2 emissions during product use. In addition, the Sustainability Promotion Department provides information regarding the procurement risk attributed to climate change. Based on this information, the Purchasing Committee examines the climate change risk against suppliers and product development, encouraging suppliers to take countermeasures as necessary. A case study where the above process was applied to transitional risks and/or opportunities When the world shifts to a low-carbon economy based on the Paris Agreement to address climate change, cost increase associated with the tightening of climate change-related regulations/systems, such as carbon pricing and energy-saving regulations, is identified as a risk through the process of assessing risks and opportunities related to climate change in the Environmental Management System of each office. Subaru determined to aim for achieving carbon neutrality in Scope 1 and Scope 2 emissions in FYE2051, which makes it work on the reduction of Scope 1 and Scope 2 emissions from a medium- to long-term perspective. As a result of the examination in the reporting year at the Environment Committee regarding how to work on the medium-term reduction plan for Scope 1 and Scope 2 emissions through FYE2031, the importance of introducing renewable energy into major production sites, such as the Gunma Plant, Utsunomiya Plant, Subaru of Indiana Automotive, Inc., as well as a large number of offices within and outside of Japan, was recognized again and decided to be implemented. The Environment Committee examines which renewable energy shall be introduced at which site, and how to introduce renewable energy utilization equipment within an office, or how to purchase green power from outside, all of which are finally approved by the Representative Director/President or an executive officer. In FYE2020, a group of self-consumption type solar power generation facilities was introduced in the Subaru Accessory Center and in the Kanto PDI Center of Subaru Logistics Co., Ltd. Moreover, through a similar process, “Aqua Premium” power, which is derived from hydroelectric power and is provided by TEPCO Energy Partner, Incorporated, was introduced at the Main Plant of Gunma Plant (Ota City, Gunma Prefecture) and the Tokyo Office (Mitaka City, Tokyo). Also, the Renewal Energy Certificate and Renewal Heat Certificate were determined to be utilized at the Head Office in Ebisu Subaru Bldg. (Shibuya-ku, Tokyo), Subaru Training Center (Hachioji City, Tokyo), and the Tokyo Office (Mitaka City, Tokyo). As a result of these measures, the annual reduction of greenhouse gas emissions by 15,764 t-CO2 was achieved in FYE2020. The progress of these activities is reviewed twice a year at the Global Warming Prevention Subcommittee and once a year at the Environment Committee, followed by the examination of future measures for the reduction of Scope 1 and Scope 2 emissions. A case study where the above process was applied to physical risks and/or opportunities As a result of conducting a water risk survey as part of the assessment of physical risk associated with climate change, such as the suspension of operations due to river flooding around plants during torrential rainfall, the Gunma Plant, the Utsunomiya Plant, and Subaru of Indiana Automotive, Inc. were determined to be at a medium risk level. However, at the Utsunomiya Plant in Utsunomiya City, Tochigi Prefecture, where there are frequent torrential rains, there was an emerging physical risk that the plant is flooded by an unexpected amount of heavy rainfall beyond the drainage capacity, resulted the production stoppage. In order to address this risk, large rainwater pipes were buried at the Utsunomiya Plant. As the frequency of torrential rainfall varies from year to year, it becomes difficult to make a quantitative determination. However, while these physical risks of climate change have already been emerging, no problem related to the operation in the plant during torrential rains has been confirmed.

## **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 | As a risk related to current regulations, there is a risk that penalties or credit purchase costs will be incurred if Subaru cannot comply with regulations such as fuel consumption regulations related to automobiles and regulations on the sales ratio of low-carbon vehicles as automobiles are Subaru’s representative products. For example, in the US, which accounts for about 70% of Subaru’s sales ratio, there is a ZEV mandate, and if Subaru is unable to comply with said regulation, there is a risk of incurring credit purchase costs. This risk affects commodity prices and may lead to a decline in Subaru’s competitiveness. Measures for risks related to current regulations are being examined at the Board of Directors, the Environment Committee, and the Purchasing Committee, as well as at the environment subcommittee and development review meeting at each office. |
| Emerging regulation | Relevant, always included | As risks related to new regulations, there are business risks associated with the regulations on vehicles against climate change, which are planned to be introduced in the US, the EU, and China. Subaru has been taking approaches to promote the development of electrified vehicles, such as by launching sales of PHVs (model name: Subaru Crosstrek Hybrid) in North America and the joint development of an SUV model of EVs with Toyota Motor Corporation (hereinafter referred to as Toyota). However, in case of the delay in the development of electrified vehicle models or the tightening of regulations related to climate change, new vehicles may not be sold in the market, which potentially brings risks such as a decrease in vehicle sales and an increase in costs such as credit purchase costs. Measures for risks related to current regulations are being examined at the Board of Directors, the Executive Meeting, the Environment Committee, and the Purchasing Committee, as well as by the environment subcommittee and development review meeting at each office. |
| Technology | Relevant, always included | A horizontally-opposed engine, which utilizes Subaru’s original technology, is particularly excellent in driving stability in internal-combustion engine vehicles and is highly evaluated by customers. It is necessary to proactively promote development in the area of electrified vehicles, in addition to continuing research and development on the fuel efficiency of internal-combustion engines as a measure against climate change. In the future, it will be necessary to realize driving stability and environmental compatibility by developing Subaru’s proprietary technologies such as the application of Subaru’s all-wheel drive (AWD) technology to electrified vehicles. For example, in its alliance with Toyota, Subaru will proceed with the development of electrified vehicles by utilizing the electrification technology as well as the all-wheel drive (AWD) technology that Subaru has cultivated over the years. In the development of such electrified vehicles that maintain driving stability, an increase in the amount of investment, an increase in the number of development personnel, and a delay in human resource development may pose technological risks. With these risks in mind, priority discussion items for the development are discussed and assessed at each meeting body and are determined at the Executive Management Board Meeting and the like before being reported to the Board of Directors. |
| Legal | Relevant, always included | As laws concerning automobiles, which are Subaru’s representative products, in each country there are regulations on fuel consumption and on the sales ratio of low-carbon vehicles, regulations on resource recycling, and regulations on prohibited substances. In addition, for offices, regulations are set on CO2 reduction obligations, such as emissions trading systems. Failure to comply with these environmental laws/regulations may result in risks such as penalties and loss of market confidence. For example, the US, which accounts for about 70% of Subaru’s sales ratio, has a ZEV mandate, and if Subaru is unable to comply with said regulation, there is a risk of being subject to penalties and damaging market confidence. Legal risks related to products are confirmed and assessed at the development review meetings and technology-related meetings; legal risks concerning raw materials are confirmed and assessed by the Purchasing Committee; legal risks applied to offices are confirmed and assessed by environmental personnel in each country. Among these processes, those that are regarded as risks particularly requiring management decisions are discussed at the Executive Meeting and the Board of Directors. |
| Market | Relevant, always included | Brought by combining all-wheel drive (AWD) and the horizontally-opposed engine, one of our advantages is driving stability in snowfall areas including North America, which accounts for about 70% of our product sales volume. However, it can be anticipated that the market needs for driving stability in snowfall areas will decline due to a decrease in the amount of snowfall attributed to climate change. In addition, an increase in market needs is expected for the driving stability of vehicles under bad road conditions in the event of torrential rains or hurricanes attributed to rapid climate change. These future transitions in market needs regarding driving stability are considered to be risks. Moreover, market needs may shift to low-carbon vehicles (such as EVs and HEVs), affected by the Paris Agreement, regulations in each country, and a rise in energy price. By providing products that cannot meet the transitions of market needs related to climate change, Subaru bears the loss of sales opportunities and the risk in the price range. Subaru potentially faces a risk that sales and profits will decrease in areas where Subaru has an advantage, such as snowfall areas including North America, which accounts for about 70% of Subaru’s sales ratio. As the market needs shift to EVs and HEVs, Subaru has been trying to manufacture attractive products that only EVs can realize, by utilizing its alliance with Toyota and bringing each company’s technological advantages such as electrification technology and all-wheel drive (AWD) technology. Risks related to Subaru’s existing proprietary technologies and the transition of market needs are investigated, examined, and assessed at the development review meetings and the like. |
| Reputation | Relevant, always included | If the approaches to climate change-related issues and the contents of the disclosed information cannot meet the demands of Subaru’s stakeholders, there is a risk that Subaru’s corporate value may decline due to a lowered reputation. For example, if Subaru’s response to climate change does not meet the demands of institutional investors with ESG awareness, the risks described above may increase. In particular, Subaru’s reputation may decline if Subaru does not adequately respond to the demands of the stakeholders in North America, which accounts for about 70% of Subaru’s product sales. Information on such risks related to reputation is shared, examined, and assessed at the Board of Directors, the Executive Meeting, the Environment Committee, and the environment subcommittee and development review meeting at each office, and countermeasures are examined. |
| Acute physical | Relevant, always included | Acutephysical risks include the operational risk due to suspended supply of raw materials and flooded plants, which could be caused by frequent torrential rains in various regions associated with the emergence of climate change. For example, the Utsunomiya Plant in Utsunomiya City, Tochigi Prefecture, where there are frequent torrential rains, was flooded by an unexpected amount of heavy rainfall beyond the drainage capacity, and resulted the production stoppage. As a countermeasure against this, large rainwater pipes are buried in the center of the plant so that a large volume of drainage can be achieved during heavy rains, thus avoiding operational risks during heavy rains. In addition, in the past, the Kyuhaku River near the Oizumi Plant of Gunma Plant in Oizumi Town, Gunma Prefecture overflowed during heavy rain, and said plant had flood damage. Since a decline in the infiltration capacity of the land due to regional development in the surrounding area was considered to be the cause, Subaru has provided its land for river expansion in coordination with the local government and has taken measures to prevent the river flooding and to eliminate highly urgent risks as much as possible. A system has been established in a way that the risk of operating plants, which is listed as an acute physical risk, is discussed and assessed at the production environment subcommittee, and the results are reported to the Environment Committee. |
| Chronic physical | Relevant, always included | Climate change is becoming increasingly severe, and meteorological risks, such as a rise in the average temperature in each region, are increasing. In North America, which accounts for about 70% of Subaru’s product sales, Subaru’s driving stability in snowfall areas gains popularity, but due to the emergence of chronic physical risks, a decrease in snowfall areas is considered to be a factor leading to a decline in Subaru’s sales volume. Subaru believes that it is necessary to take measures to reduce risks through climate change mitigation and to take adaptation measures, such as the development of new markets, as measures for chronic physical risks in climate change. Moreover, located in the vicinity of Tatebayashi City, Gunma Prefecture (neighboring city of Ota City), where the highest temperature in Japan is occasionally recorded, Subaru has concerns over the following risks associated with temperature increase: the reduced labor force of workers at production plants due to deterioration of health conditions such as heat stroke; risk of product quality deterioration; and an increase in cost and CO2 emissions associated with increased electricity consumption due to an increase in the air conditioning load in summer. As a countermeasure, approaches have timely been taken such as installing heat-resistant sheets and applying heat-resistant paint on the roofs of plants. Furthermore, each plant independently supplies employees with ice, sports drinks, and salt candies to reduce the risk of developing heat stroke among employees. With respect to such risks, information is shared, examined, and assessed at the Board of Directors, the Executive Meeting, the Environment Committee, and the environment subcommittee and development review meeting at each office while countermeasures are examined. |

## **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?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Emerging regulation | Mandates on and regulation of existing products and services |

### **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**

Subaru sells various products, such as Forester, Impreza, Subaru XV, Legacy, WRX, and Levorg, in Japan, the US, Europe, and China as its main sales areas. If vehicles developed/sold by Subaru cannot meet the fuel consumption regulations of Japan, the US, Europe, and China, negative incentives due to regulatory infringement, such as penalties/non-penal fines and credit purchases, may be imposed, and Subaru may incur additional costs and losses, affecting its sales competitiveness. Moreover, in the US, which accounts for about 70% of Subaru’s product sales ratio, there are the ZEV mandate and CAFE (Corporate Average Fuel Economy) standards; if Subaru cannot meet these regulations and standards in the US, it may lose the sales opportunities for new vehicles, limiting the sales opportunities of products. The transition risk of these regulations is believed to affect financial indicators such as operating income.

### **Time horizon**

Medium-term

### **Likelihood**

Very likely

### **Magnitude of impact**

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)**

18424000000

### **Potential financial impact figure – maximum (currency)**

20026000000

### **Explanation of financial impact figure**

The automotive sector accounts for about 95% of Subaru’s operating income (210,319 million yen in FYE2020), and the sector’s operating income amounts to 200,263 million yen. Japan, the US, Europe, and China, which are Subaru’s main sales areas, have already introduced fuel consumption regulations and/or the ZEV mandate, and it is expected that the regulations will be tightened in a stepwise manner in the future. It is assumed that risks related to the tightening of laws and regulations will have a stepwise financial impact over the medium-term time frame (10 years). With regard to the impact of the tightening of regulations on operating income in the automobile sector, it can be calculated that the operating income in Japan, the US, Europe, and China in FYE2020 is 184,242 million yen (= 200,263 million yen × 92%, which is the sales ratio in those four regions), as a minimum quantitative impact, and that the operating income in Subaru’s automobile sector is 200,263 million yen as the maximum quantitative impact. Since these amounts of annual operating income are considered to be affected in a stepwise manner over 10 years, the minimum annual quantitative impact associated with the risk of tightening laws and regulations is calculated as 18,424 million yen (= 184,242 million yen/10 years), and the maximum annual quantitative impact is calculated as 20,026 million yen (= 200,263 million yen/10 years).

### **Cost of response to risk**

237400000000

### **Description of response and explanation of cost calculation**

Medium- to long-term targets of products for climate change response from 2030 to 2050 were set in order to improve the fuel consumption of conventional gasoline engine vehicles, to expand the electrified vehicle models, to further promote the development of EVs in anticipation of fuel consumption regulations becoming increasingly stringent year by year in each country, and to proactively work on the reduction of CO2 emissions. ● By 2050: Reduce average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. ● By the first half of the 2030s: Apply electrification technologies to all Subaru vehicles sold worldwide ● By 2030: Make at least 40% of Subaru global sales electric vehicles (EVs) or hybrid electric vehicles (HEVs). · “Forester,” which was released in July 2018 as a gasoline engine vehicle with improved fuel consumption, is equipped with “a newly developed 2.5L direct injection engine” with improved combustion efficiency, realizing class-leading fuel efficiency as a small SUV. The “Outback/Legacy,” which was launched in the US in the fall of 2019, is also equipped with the same gasoline engine, and a further improvement in fuel efficiency can be achieved in combination with the improved CVT (continuously variable transmission). · In contrast, as an expansion of the electrified vehicle models, “Forester” and “Subaru XV” are equipped with a newly developed power unit “e-BOXER,” which combines a horizontally-opposed engine and electrification technology. Moreover, in December 2018 Subaru started accepting orders in the US for “Crosstrek Hybrid,” a Subaru original plug-in hybrid vehicle that utilizes Toyota’s expertise in hybrid vehicle technology. These approaches allow the reduction of risks of fuel consumption regulations and the ZEV mandate. [How the costs of response were calculated] As costs to respond to regulation risk, Subaru added up a total of 237,400 million yen, including an amount of capital investment of the automotive sector in FYE2020 (119,300 million yen), R&D expenses (116,100 million yen), and an investment amount of 2,000 million yen per year in the private fund “Subaru-SBI Innovation Fund,” which was set up on July 9, 2018, aiming at creation of innovation.

### **Comment**

### **Identifier**

Risk 2

### **Where in the value chain does the risk driver occur?**

Direct operations

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Acute physical | Increased severity and frequency of extreme weather events such as cyclones and floods |

### **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**

The risk of direct damage to plants caused by typhoons, torrential rain, heavy snow, etc., which are increasing in frequency worldwide in recent years, can affect our operations. If Subaru fails to carry out stable operations, its sales volume and sales will decrease. 1. At the Utsunomiya Plant in Utsunomiya City, Tochigi, where torrential rain often falls, there was a case in which the plant was flooded by an unexpected torrential rainfall beyond the drainage capacity, resulted the production stoppage. 2. In the past, the Kyuhaku River flowing near the Oizumi Plant of Gunma Plant in Oizumi-machi, Gunma overflowed in torrential rain to flood the plant. These offices at high flood risk at the time of torrential rain require measures to avoid operation risk in the event of torrential rain.

### **Time horizon**

Short-term

### **Likelihood**

Likely

### **Magnitude of impact**

Medium

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

13091000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

When a plant’s operation stops for a day, our sales are expected to decrease by about 13,091 million yen. Average unit sales price per car = Annual actual car sales (yen)/Annual actual car production (cars) = 3,193,949 million yen ÷ 1,034 thousand cars = 3,088,926 yen/car Average production volume per day = Annual car production volume (cars)/Annual number of working days (days) = 1,034 thousand cars ÷ 244 days = 4,238 cars Production value per day = Average sales price × Average production volume per day = 3,088,926 yen/car × 4,238 cars ≈ 13,091 million yen

### **Cost of response to risk**

1680000000

### **Description of response and explanation of cost calculation**

Outline Operation risk of plant flooding caused by frequent torrential rains in various places with actualized climate change can be listed as an acute physical risk. It is necessary to examine factors of operation risk caused by flooding at each production site and respond to the risk. At the Utsunomiya Plant operating in Utsunomiya City, Tochigi, where torrential rain often falls, there was a case in which the plant was flooded by an unexpected torrential rainfall beyond the drainage capacity, to stop production. Reinforcing the drainage capacity in the event of torrential rain was considered a task, so large rainwater pipes were buried at the center of the plant to avoid operation risk in the event of torrential rain. At the Oizumi Plant in Oizumi-machi, Gunma, in the past the neighboring Kyuhaku River overflowed in torrential rain to flood the plant. The cause seemed to be a decline in the infiltration capacity of land caused by development of the surrounding area, etc. Concerning this matter, coordinating with the local government, we provided our land for river expansion, and have made responses to prevent river overflowing and taken measures to eliminate urgent risks as much as possible. The frequency of torrential rains varies from year to year, so it is difficult to assess the results of these measures quantitatively. However, while physical climate change risks including torrential rains have been already obvious, no issues with operation in the plant have arisen at the time of torrential rain, so Subaru thinks these efforts contribute to reduction in physical risks. [How the costs of response were calculated] The costs in burying pipes at the Utsunomiya Plant in FYE2020 was 240 million yen. Physical risks would occur in the same way at Subaru’s main production sites in the future. Therefore, Subaru added up the risk response expenses of 1,680 million yen (= 240 million yen × 7 production sites) in the case of the same responses being made at 6 production sites (including 4 production sites of the Gunma Plant) in the country and an overseas production site.

### **Comment**

### **Identifier**

Risk 3

### **Where in the value chain does the risk driver occur?**

Downstream

### **Risk type & Primary climate-related risk driver**

|  |  |
| --- | --- |
| Market | Changing customer behavior |

### **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**

Brought by combining all-wheel drive (AWD) and the horizontally-opposed engine, one of our advantages is driving stability in snowfall areas. However, it can be anticipated that the market needs for driving stability in snowfall areas will decline due to a decrease in the amount of snowfall attributed to climate change. In addition, a shift of the market needs to driving stability under bad road conditions at the time of torrential rain or hurricane attributed to rapid climate change can be expected. With this shift of the future market needs for our driving stability, a risk of the decrease in our sales and income could occur. Moreover, if the market needs shift to low carbon cars (EV, HEV, etc.) under the influence of the Paris Agreement, each country’s regulations, and energy price increase, a risk of decrease in our sales and income could occur, as we would lose sales opportunities and take a price range risk by delivering products that cannot meet the customer needs due to delay in response to climate change, which cannot be accepted in the market.

### **Time horizon**

Medium-term

### **Likelihood**

Likely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

8011000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

If the market needs shift to low carbon cars (EV, HEV, etc.), Subaru would lose sales opportunities by delivering products that cannot meet the customer needs due to delay in response to climate change, which cannot be accepted in the market. It is assumed that the market shift risk will have a stepwise financial impact over the medium-term time frame (10 years). The impact of the market shift risk related to climate change on our automotive sector’s operating income was estimated at 80,105 million yen, calculated by multiplying the automotive sector’s operating income in FYE2020, 200,263 million yen, by the target electrified vehicle ratio of 40% in 2030. These amounts of annual operating income would receive a stepwise impact over 10 years so that Subaru added up 8,011 million yen (= 80,105 million yen/10 years) as an annual impact amount of the market shift risk.

### **Cost of response to risk**

237400000000

### **Description of response and explanation of cost calculation**

Description of the responses Subaru is enhancing driving stability on bad roads and trying to manufacture attractive products that only EV can realize, by utilizing its alliance with Toyota and bringing both companies’ technological advantages of electrification technology and all-wheel drive (AWD) technology. With climate change, the market needs could shift to driving stability, which is our advantage, and low carbon cars (EV, HEV, etc.). If we fail to deliver products that can meet this market needs shift, we would lose sales opportunities and take a price range risk, which could lead to a risk of decrease in our sales and income. In June 2019, Subaru, utilizing its alliance with Toyota Motor, announced joint development of EV-dedicated platforms for medium- and large-sized cars and EV of SUV model in the C-segment class with Toyota. The two companies are trying to manufacture attractive products that only EV can realize, by bringing both companies’ technological advantages such as utilizing Toyota’s electrification technology and the all-wheel drive (AWD) technology Subaru has built up over many years, aiming at launching in the early 2020s. Subaru also set mid-to-long-term targets of products as a responses to climate change in 2030 to 2050. Subaru thinks that achievement of these targets makes it possible to respond to the market needs shift related to climate change as well. ● By 2050: Reduce average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. ● By the first half of the 2030s: Apply electrification technologies to all Subaru vehicles sold worldwide ● By 2030: Make at least 40% of Subaru global sales electric vehicles (EVs) or hybrid electric vehicles (HEVs). [How the costs of response were calculated] As costs to respond to regulation risk, Subaru added up a total of 237,400 million yen, including an amount of capital investment of the automotive sector in FYE2020 (119,300 million yen), R&D expenses (116,100 million yen), and an investment amount of 2,000 million yen per year in the private fund “Subaru-SBI Innovation Fund,” which was set up on July 9, 2018, aiming at creation of innovation.

### **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**

Development of new products or services through R&D and innovation

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

We sell all-wheel drive (AWD) cars globally as our main strategic products, and AWD cars account for about 90% of the market introduction amount of our products. AWD cars can display their strengths in terms of driving stability and safety on bad roads after torrential rain with climate change or on compacted snow after heavy snow. Against unusual weather unavoidable on a certain scale in various parts of the world, safe and secure products being Subaru’s advantage can gain further support, and are likely to increase sales opportunities such as creation of new markets.

### **Time horizon**

Medium-term

### **Likelihood**

Very likely

### **Magnitude of impact**

High

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

18024000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

It is assumed that the climate change opportunity on development of new products or services will have a stepwise financial impact over the medium-term time frame (10 years). The impact of the market shift risk related to climate change on our automotive sector’s operating income was estimated at 180,237 million yen, calculated by multiplying the automotive sector’s operating income in FYE2020, 200,263 million yen, by 90% (AWD car ratio). These amounts of annual operating income would receive a stepwise impact over 10 years, so Subaru added up 18,024 million yen (= 180,237 million yen/10 years) as an annual impact amount of the climate change opportunity on development of new products or services.

### **Cost to realize opportunity**

237400000000

### **Strategy to realize opportunity and explanation of cost calculation**

The AWD technology being Subaru’s advantage ensures driving stability and safety in the event of torrential rain or heavy snow. Subaru will pursue this advantage even if its production shifts to electrified cars. In development of electric vehicles, Subaru will manufacture attractive products that only EV can realize, by utilizing its alliance with Toyota and bringing both companies’ technological advantages of electrification technology and AWD technology. In our mid-term management vision “STEP,” we specify “the relation between the environment and products Subaru considers,” as well as the policy to promote development and popularization of products that meet social and customer needs comprehensively in terms of reliability, durability, safety, practicality, and fuel consumption, and that contribute to the environment. In June 2019, Subaru, utilizing its alliance with Toyota Motor, announced joint development of EV-dedicated platforms for medium- and large-sized cars and EV of SUV model in the C-segment class with Toyota. We are trying to manufacture attractive products that only EV can realize, by bringing both companies’ technological advantages such as utilizing Toyota’s electrification technology and the AWD technology Subaru has built up over many years, aiming at launching in the early 2020s. Subaru also set mid-to-long-term targets on its products’ responses to climate change in 2030 to 2050. If expansion of products that keep our driving stability through technology development can be realized, it is expected to become possible to maintain management using our strengths even after the shift related to climate change. ● By 2050: Reduce average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. ● By the first half of the 2030s: Apply electrification technologies to all Subaru vehicles sold worldwide ● By 2030: Make at least 40% of Subaru global sales electric vehicles (EVs) or hybrid electric vehicles (HEVs). [How the costs to realize the opportunity were calculated] As the costs to realize the opportunity, Subaru added up a total of 237,400 million yen, including an amount of capital investment of the automotive sector in FYE2020 (119,300 million yen), R&D expenses (116,100 million yen), and an investment amount of 2,000 million yen per year in the private fund “Subaru-SBI Innovation Fund,” which was set up on July 9, 2018, aiming at creation of innovation.

### **Comment**

### **Identifier**

Opp2

### **Where in the value chain does the opportunity occur?**

Downstream

### **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**

Brought by combining all-wheel drive (AWD) and the horizontally-opposed engine, one of our advantages is driving stability in snowfall areas. If our advantage of driving stability under bad road conditions at the time of torrential rain or hurricane attributed to rapid climate change is evaluated by the market, an opportunity of increase in sales volume could occur through development of new markets. In addition, if Subaru continues to deliver characteristic products “typical of Subaru even in the electrified vehicle field” meeting the customer needs for EV and HEV that will increase in the future, by bringing both companies’ technological advantages through its alliance with Toyota, such as utilizing electrification technology and all-wheel drive (AWD) technology, Subaru can expect a new profit increase in electric car sales.

### **Time horizon**

Medium-term

### **Likelihood**

Likely

### **Magnitude of impact**

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)**

18424000000

### **Potential financial impact figure – maximum (currency)**

20026000000

### **Explanation of financial impact figure**

The automotive sector accounts for about 95% of our operating income (210,319 million yen in FYE2020), and the sector’s operating income amounts to 200,263 million yen. Our main sales areas are Japan, the United States, Europe, and China. It is assumed that the opportunity with change in consumer preference will have a stepwise financial impact over the medium-term time frame (10 years). The minimum impact amount of this opportunity on the automotive sector’s operating income is the operating income in Japan, the United States, Europe, and China, 184,242 million yen (= 200,263 million yen × Percentage of sales volume in the 4 areas, 92%), and the maximum impact amount is our operating income, 200,263 million yen. These amounts of annual operating income would receive a stepwise impact over 10 years, so Subaru added up the minimum impact amount, 18,424 million yen (= 184,242 million yen/10 years), and the maximum impact amount, 20,026 million yen (= 200,263 million yen/10 years), as annual impact amounts of the opportunity with change in consumer preference.

### **Cost to realize opportunity**

237400000000

### **Strategy to realize opportunity and explanation of cost calculation**

As a response to the two changes in consumer preference for driving stability and electrified cars, Subaru will deliver characteristic products “typical of Subaru even in the electric vehicle field” by bringing both companies’ technological advantages through its alliance with Toyota such as utilizing electrification technology and all-wheel drive (AWD) technology. Subaru started to sell a new type of car in 2018 for increasing types of electrified cars. · As improvement of electrified car types, “Forester” and “Subaru XV” have been equipped with a newly developed power unit “e-BOXER” in which a horizontally-opposed engine and electrification technology are combined. In December 2018, Subaru also started to accept orders for Subaru’s original plug-in hybrid car “Crosstrek Hybrid,” which utilizes knowledge on the hybrid car technology of Toyota Motor Corporation (hereinafter referred to as Toyota). Subaru will deliver these products that can meet the change in consumer preference conscious of climate change. [How the costs to realize the opportunity were calculated] As the costs to realize the opportunity, Subaru added up a total of 237,400 million yen, including an amount of capital investment of the automotive sector in FYE2020 (119,300 million yen), R&D expenses (116,100 million yen), and an investment amount of 2,000 million yen per year in the private fund “Subaru-SBI Innovation Fund,” which was set up on July 9, 2018, aiming at creation of innovation.

### **Comment**

### **Identifier**

Opp3

### **Where in the value chain does the opportunity occur?**

Direct operations

### **Opportunity type**

Energy source

### **Primary climate-related opportunity driver**

Use of lower-emission sources of energy

### **Primary potential financial impact**

Reduced indirect (operating) costs

### **Company-specific description**

Considering the case that the world shifts to a low-carbon econom based on the Paris Agreement, we decided to aim at carbon neutral of Scope 1 and Scope 2 emissions in FYE2051, and endeavor to reduce Scope 1 and Scope 2 emissions from a medium- to long-term perspective. For realizing carbon neutral of Scope 1 and Scope 2 emissions, it is necessary to take various measures, including review of energy sources in use, utilization of electric power derived from renewable energy, and reduction of energy consumption at the time of operation. By examining and conducting these reduction activities at an early stage, our knowledge on reduction of Scope 1 and Scope 2 emissions will be accumulated, so we can use it for the future reduction activities, and reduce energy cost.

### **Time horizon**

Long-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium-high

### **Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

### **Potential financial impact figure (currency)**

250000000

### **Potential financial impact figure – minimum (currency)**

<Not Applicable>

### **Potential financial impact figure – maximum (currency)**

<Not Applicable>

### **Explanation of financial impact figure**

Subaru added up 250 million yen, a reduction amount of electric power and fuel purchase expenses in FYE2020 through two measures for reduction of energy consumption in the production processes. Breakdown of the reduction amount of electric power and fuel purchase expenses “High efficiency heat source system”: 200 million yen “Introduction of co-generation system”: 50 million yen

### **Cost to realize opportunity**

11766540000

### **Strategy to realize opportunity and explanation of cost calculation**

After examining measures to realize carbon neutral of Scope 1 and Scope 2 emissions in FYE2051, we again appreciated the importance of introduction of renewable energy at business locations, and decided to implement it. To realize carbon neutral, Subaru will actively use renewable energy at production sites. After examining measures to realize carbon neutral of Scope 1 and Scope 2 emissions in FYE2051, we decided to actively promote utilization of renewable energy at production sites. Subaru examines and implements which renewable energy will be introduced at which site, and how to install renewable energy utilization equipment within an office, or how to purchase green power from outside. In FYE2020, a self-consumption type solar power generation equipment group was introduced in our production sites of the Subaru Accessory Center and Kanto PDI Center of Subaru Logistics Co., Ltd. Moreover, through the same process, the “Aqua Premium” power derived from hydroelectric power provided by TEPCO Energy Partner, Inc., was introduced at the Main Plant of Gunma Plant (Ota City, Gunma), Utsunomiya Plant (Utsunomiya City, Tochigi), and the Tokyo Office (Mitaka City, Tokyo), and it was decided that the Renewal Energy Certificate and Renewal Heat Certificate would be utilized at the Head Office in Ebisu Subaru Bldg. (Shibuya City, Tokyo), Subaru Training Center (Hachioji City, Tokyo), and the Tokyo Office (Mitaka City, Tokyo). Through these measures, greenhouse gas emissions in FYE2020 were reduced by 16,793 t-CO2/year. [How the costs to realize the opportunity were calculated] Our past capital investment amount per CO2 reduction in introduction of solar power generation is about 30,000 yen/t. The CO2 emissions deriving from electric power in FYE2020 were 392,218 tons. Assuming the case in which this is covered with solar power generation, Subaru added up 392,218 tons × 30 thousand yen/t = 11,766,540 thousand yen as the response expenses for CO2 reduction with renewable energy.

### **Comment**

## **C3. Business Strategy**

## **C3.1**

### **(C3.1) Have climate-related risks and opportunities influenced your organization’s strategy and/or financial planning?**

Yes, and we have developed a low-carbon transition plan

## **C3.1a**

### **(C3.1a) Does your organization use climate-related scenario analysis to inform its strategy?**

Yes, qualitative and quantitative

## **C3.1b**

### **(C3.1b) Provide details of your organization’s use of climate-related scenario analysis.**

|  |  |
| --- | --- |
| **Climate-related scenarios and models applied** | **Details** |
| RCP 2.6  RCP 8.5  Nationally determined contributions (NDCs) | 1. Scenarios and inputs/assumptions used This scenario analysis aims at confirming the necessity of efforts for reduction of Scope 1 and Scope 2 emissions, setting reduction targets, and examining effective reduction measures. The major market area where our vehicles show off the advantage of driving stability is the snow belt centering on North America. Assuming the area of the snow belt through the latter part of the 21st century and the impact of climate change, Subaru decided to utilize the RCP2.6 scenario estimating a temperature rise of 0.3-1.7 degrees and the RCP8.5 scenario estimating a temperature rise of 2.6-4.8 degrees in 2100, to analyze change in snowfall in main areas in each scenario. Since we have major plants in Japan, we also utilized Japan’s nationally determined contribution (NDC) in this analysis, for evaluating relevance of strategies on Scope 1 and Scope 2. 2. Scope of the scenario analysis In the analysis, we set 2030 and 2050 as the time horizons in accordance with the mid-to-long-term targets. We used the RCP2.6 scenario and the BAU (RCP8.5) scenario to examine our automotive sector’s superior markets over a long-term time frame through 2050. On the other hand, Japan’s NDC scenario was used for analysis of reduction plans of Scope 1 and Scope 2 emissions at major production sites in the country through 2030 and responses to emission regulations. 3. Results of the scenario analysis (Outlines) It was found that in the case of climate change in accordance with the RCP2.6 scenario, our sales markets would be sustainably maintained if the world temperature rise is kept below 2 degrees, while in the case of the BAU (RCP8.5) scenario, the snow belt would disappear from North America in the latter part of the 21st century, which would have a serious impact on our business since the sales in North America account for more than 70%. As a result of Japan’s NDC scenario analysis, it was also found that use of renewable energy is effective as a measure to reduce Scope 1 and Scope 2 emissions at major production sites in the country. 4. How the results have informed the business objectives and strategy To sustainably maintain our sales markets, we decided to set almost the same level targets as Japan’s NDC scenario, and set the mid-to-long-term targets of reduction in CO2 emissions by 30% in FYE2031 and carbon neutral in FYE2051 as targets meeting the case of a temperature rise below 2 degrees in the RCP2.6 scenario, to endeavor to reduce Scope 1 and Scope 2 emissions. 5. Case study As a result of analysis of the RCP2.6 scenario and the RCP8.5 scenario, it was found that efforts to reduce Scope 1 and Scope 2 emissions from a medium- to long-term perspective can contribute to sustainable maintenance of our sales markets. It became a task to determine how measures to reduce Scope 1 and Scope 2 emissions should be taken. Based on Japan’s NDC scenario analysis, Subaru set the target of CO2 reduction by 30% in FYE2031 as a milestone to achieve carbon neutrality in FYE2051. As a strategy for reduction by 2030, Subaru prepared a roadmap towards FYE2031, in which introduction of solar power generation equipment at the Gunma Plant, switchover to electricity derived from hydroelectric power at production sites, and utilization of the Renewal Heat Certificate and Renewal Energy Certificate are listed as main CO2 reduction measures. By utilizing renewable energy, greenhouse gas emissions in FYE2020 were reduced by 15,764 t-CO2/year. |
| 2DS  IEA B2DS  Nationally determined contributions (NDCs) | 1. Scenarios and inputs/assumptions used This scenario analysis aimed to predict the shift in the future product portfolio and the trends in fuel consumption regulations in each country in order to set mid-to-long-term targets on products. Subaru referred to the future prediction data on the fuel consumption regulations, electric vehicle ratios, and penetration rates of renewable energy in IEA’s 2DS, B2DS, and 1.5°C scenarios and NDCs for analysis of its car product portfolio (internal-combustion engine and EV composition ratio). 2. Scope of the scenario analysis The automotive sector was subjected to the analysis of fuel consumption regulation value, penetration rate of electric vehicles, and necessary information related to electrification in 2020 to 2050, based on the 2DS, B2DS, and 1.5°C scenarios. 3. Results of the scenario analysis It was found that the regulation of CO2 emissions from vehicles in operation would be strengthened, and the penetration rate of electrified vehicles would increase in each country from 2030 on, under both the 2DS and B2DS scenarios. In light of social trends on climate change based on the Paris Agreement, Subaru decided to formulate a strategy for fuel consumption regulation with a view to the non-binding target in the Paris Agreement, achievement of 1.5°C. 4. How the results have informed the business objectives and strategy Comparing the initial product plan and environmental regulations in each country in light of the results of the scenario analysis, Subaru set the following mid-to-long term targets on emissions: equipping all new Subaru vehicles with electrification technology by the early 2030s , making at least of 40% of Subaru global sales electric vehicles (EVs) and hybrid electric vehicles (HEVs) by 2030, and reducing the average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. 5. Case study On premise of shifting to the future product portfolio and passing fuel consumption regulation in each country based on the scenario analysis, Subaru set mid-to-long-term targets on products from 2020 on, and how we deal with those are the challenge. Aiming to solve this challenge, Subaru is promoting the following efforts. · Efforts to improve fuel consumption of internal-combustion engines HV is also a combination of a gasoline engine and electrification technology. Subaru thinks it is essential to improve the fuel efficiency of internal-combustion engines. The new-model “Outback/Legacy” launched in the United States in 2019 is equipped with a “newly developed 2.5L direct injection engine,” which provides high fuel efficiency in combination with the improved continuously variable transmission. In addition, the 2020 North America models “Forester” and “Ascent” maintain the best fuel consumption in the SUV class, and Subaru has successfully expanded new products to meet the fuel consumption standards. · Efforts for hybrid cars With regard to hybrid cars, we plan to expand cars equipped with the power unit “e-BOXER,” which is a combination of a horizontally-opposed engine and electrification technology, launch Subaru’s original plug-in hybrid cars which use Toyota Motor’s hybrid car know-how, and expand strong hybrid cars in which our style and environmental performance are compatible on a high level in the 2020s. We also planned xEV, whose fuel efficiency is improved by equipping gasoline engine cars with a variety of electrification technologies. · Efforts for electric vehicles In 2019, we announced an agreement with Toyota on joint development of EV-dedicated platforms for medium- and large-sized cars and an EV of SUV model in the C-segment class. We are trying to manufacture attractive products that only EV can realize by bringing both companies’ technological advantages such as utilizing Toyota’s electrification technology and our AWD technology, and promoting product development aiming at launching in the early 2030s. |

## **C3.1d**

### **(C3.1d) 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 | How our strategy has been influenced and the time horizon Climate-related risk and opportunity greatly affect the strategy of our products. While fuel consumption is being improved in existing gasoline engine vehicles, it is necessary to promote EV vehicle development by focusing on the expansion of various EV vehicles and anticipating regulation on fuel consumption of each country that grows in severity every year and actively work on reducing CO2 emission from vehicles in operation. Subaru set the following mid-to-long term targets on emissions: making at least of 40% of Subaru global sales EVs and HEVs by 2030, equipping all new Subaru vehicles with electrification technology by the early 2030s, and reducing the average well-to-wheel CO2 emissions from new vehicles (in operation) sold worldwide by 90% or more compared to 2010 levels. Case study In the background such as strengthening of regulations on fuel consumption, improvement of fuel consumption and shift to electrified vehicles in the product portfolio are listed as issues/tasks. In order to mitigate climate change risk s, decisions have been made to include climate change elements in our strategy as follows. · Efforts to improve fuel consumption of internal-combustion engines Customer needs for the existing gasoline engine are still high. Subaru recognizes that evolution of the internal-combustion engine is indispensable for the improvement of fuel efficiency as HV is a combination of a gasoline engine and electrification technology. 2020 U.S. models of “Forester” and “Ascent” maintain top level fuel consumption in the SUV class. · Efforts for hybrid cars We plan to expand the power unit “e-BOXER” that is a combination of a horizontally-opposed engine and electrification technology, sell Subaru’s original PHV vehicle using Toyota’s hybrid vehicle know-how, and develop strong hybrid vehicles in the 2020s. In addition, we also plan to develop xEV, whose fuel efficiency is improved by installing motorized technology in gasoline engine vehicles. · Efforts for electric vehicles In June 2019, we announced an agreement with Toyota on joint development of EV-dedicated platforms for medium- and large-sized cars and an EV of SUV model in the C-segment class. We will challenge to create attractive products special to EV by gathering advantages of Toyota and our company and release them in the early 2020s |
| Supply chain and/or value chain | Yes | How our strategy has been influenced and the time horizon As influence related to supply chain is connected with stable supply and sales of the products, it is a risk related to climate change in short-term time horizon. In order to reduce CO2 reduction risk in the supply chain due to climate change and the risk of stable procurement and supply, Subaru has developed its supply chain strategy that secures stable supply of parts, which contains a code of conduct that incorporates climate change KPIs in supplier selection and management mechanisms, and share it at the orientation to be thoroughly notified. We plan to revise Green Procurement Guidelines within 3 years and request the report of goal setting and energy data related to climate change. Case study As described above, we strategically determine the code of conduct that contains the climate change KPIs in supplier selection and management mechanism. All Tier 1 suppliers have already been ISO14001 certified. As for Tier 2 suppliers, we build and manage our unique mechanism to support acquisition of Eco Action 21 if they wish. Currently, 20 companies have acquired EA21 certification. In addition, in 2015 Subaru Logistics Co., Ltd. was ISO39001 certified, which is an international standard of road traffic safety management systems. The introduction of Environmental Management System by suppliers establishes governance related to the environment, which leads to the reduction of unexpected situations such as parts supply stoppage, etc. due to environmental accidents and we can reduce a risk related to climate change in the supply chain, such as influence of manufacturing stop. |
| Investment in R&D | Yes | How our strategy has been influenced and the time horizon If vehicles to be developed/sold cannot meet the fuel consumption regulations of Japan, the U.S., Europe, China, etc., negative incentives due to regulatory infringement such as penalties/non-penal fines and credit purchases may be imposed, and Subaru may sustain additional costs and losses. In addition, if the vehicle does not satisfy certain fuel consumption standards, there is a possibility of limiting sales opportunity of the products. The influence of these risks cannot be ignored as management in the long-term time horizon. Climate related risk and opportunity have influence on fuel consumption and product portfolio. R&D in the mid-term business plan through 2020 also includes items related to fuel consumption and electrified vehicles. Case study Improvement of fuel consumption and R&D for development of electrified vehicles are listed as climate change risk. In Subaru’s mid-term management vision “STEP,” Subaru specified “the relationship between environment and products that Subaru considers” and has decided the policy of promoting development and popularization of products that meet social and customer needs comprehensively in terms of reliability, durability, safety, practicality, and fuel consumption, and contributes to the environment. The new-model “Outback/Legacy” launched in the United States in 2019 is equipped with a “newly developed 2.5L direct injection engine,” which provides high fuel efficiency in combination with the improved continuously variable transmission. In addition, 2020 North American models of “Forester” and “Ascent” maintain top level fuel consumption in the SUV class. Also, utilizing Toyota’s electrification technology and the all-wheel drive (AWD) technology that Subaru has built up over many years, both companies are trying to manufacture attractive products that only EV can realize by bringing technological advantages of both companies, aiming at launching in the early 2020s. With these strategies of R&D to realize these goals, climate change risk is reduced. |
| Operations | Yes | How our strategy has been influenced and the time horizon Operation risk of plant flooding caused by frequent torrential rains in various places with actualized climate change was listed as an acute physical risk. These risks have already become apparent and affected stable operation of factories. Therefore, we need to consider operation risk due to inundation at every location and pursue countermeasures as business operation strategies in a short-term time horizon. Case study Operation risk of plant flooding caused by frequent torrential rains in various places with actualized climate change was listed as an acute physical risk. At the Utsunomiya Plant operating in Utsunomiya City, Tochigi, where torrential rain often falls, there was a case in which the plant was flooded by an unexpected torrential rainfall beyond the drainage capacity, to stop production. As a strategic decision of reinforcing the drainage capacity at the time of torrential rain, large rainwater pipes were buried at the center of the plant to avoid operation risk at the time of torrential rain. The frequency of torrential rains varies from year to year, so it is difficult to assess the results of these measures quantitatively. However, while physical climate change risks including torrential rains have already been obvious, no issues with operation in the plant at the time of torrential rain have arisen, so Subaru considers that these approaches are effective as business operation strategies. |

## **C3.1e**

### **(C3.1e) 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 | Revenues | Market accepts expansion of our unique SUV model and AWD (all-wheel drive) functions, which leads to an increase in number of sales. In regard to the fuel consumption regulations and the product portfolio shift to electrified vehicles that are listed as risk and opportunity related to climate change, Subaru specifies the policy to promote development and popularization of products that meet social and customer needs comprehensively and fuel consumption, and contribute to the environment as “the relationship between environment and products that Subaru considers” in the mid-term management vision “STEP” through 2025. As listed in the analysis of climate change risk and opportunity, fuel consumption regulation and shifting product portfolio to EV are requested. The mid-term management vision also considers product development that contributes to the environment, and as consolidated profit planning by 2020, 10 trillion yen sales, 950 billion yen operating income, 9.5% operating income rate, 400 billion yen R&D expenses, 450 billion yen capital investment, and 300 billion yen depreciation expenses are added up. |

## **C3.1f**

### **(C3.1f) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).**

## **C4. Targets and performance**

## **C4.1**

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

Both absolute and intensity targets

## **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**

2017

### **Target coverage**

Company-wide

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

### **Base year**

2016

### **Covered emissions in base year (metric tons CO2e)**

682377.2

### **Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

### **Target year**

2030

### **Targeted reduction from base year (%)**

30

### **Covered emissions in target year (metric tons CO2e) [auto-calculated]**

477664.04

### **Covered emissions in reporting year (metric tons CO2e)**

671892

### **% of target achieved [auto-calculated]**

5.12189836745227

### **Target status in reporting year**

Underway

### **Is this a science-based target?**

No, and we do not anticipate setting one in the next 2 years

### **Please explain (including target coverage)**

Emission reduction activities are carried out centering on the introduction of renewable energy.

### **Target reference number**

Abs 2

### **Year target was set**

2019

### **Target coverage**

Company-wide

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

### **Base year**

2019

### **Covered emissions in base year (metric tons CO2e)**

671892

### **Covered emissions in base year as % of total base year emissions in selected Scope(s) (or Scope 3 category)**

100

### **Target year**

2050

### **Targeted reduction from base year (%)**

100

### **Covered emissions in target year (metric tons CO2e) [auto-calculated]**

0

### **Covered emissions in reporting year (metric tons CO2e)**

671892

### **% of target achieved [auto-calculated]**

0

### **Target status in reporting year**

New

### **Is this a science-based target?**

No, and we do not anticipate setting one in the next 2 years

### **Please explain (including target coverage)**

Carbon neutral is set as a target by FYE2051 subject to Scope 1 and Scope 2 emissions in the entire company.

## **C4.1b**

### **(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).**

### **Target reference number**

Int 1

### **Year target was set**

2012

### **Target coverage**

Business activity

### **Scope(s) (or Scope 3 category)**

Scope 1+2 (market-based)

### **Intensity metric**

Metric tons CO2e per unit of production

### **Base year**

2006

### **Intensity figure in base year (metric tons CO2e per unit of activity)**

23.66

### **% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure**

100

### **Target year**

2020

### **Targeted reduction from base year (%)**

14

### **Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]**

20.3476

### **% change anticipated in absolute Scope 1+2 emissions**

14

### **% change anticipated in absolute Scope 3 emissions**

0

### **Intensity figure in reporting year (metric tons CO2e per unit of activity)**

13.92

### **% of target achieved [auto-calculated]**

294.046612727931

### **Target status in reporting year**

Achieved

### **Is this a science-based target?**

No, and we do not anticipate setting one in the next 2 years

### **Please explain (including target coverage)**

This is an intensity target to reduce CO2 emissions at production sites in Japan. At present, the production sites have already achieved the target and will continue to manage with the same set target through 2020. After 2021, we consider setting the intensity target in production activity in accordance with the absolute emissions target of Scope 1 and Scope 2 (market-based) which is “a target of reducing emissions by 30% from FYE2017 levels by 2030.”

## **C4.2**

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

No other climate-related targets

## **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 | 0 | 0 |
| To be implemented\* | 2 | 4030 |
| Implementation commenced\* | 0 | 0 |
| Implemented\* | 7 | 23803 |
| Not to be implemented | 0 | 0 |

## **C4.3b**

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

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Low-carbon energy consumption | Hydropower |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

13076

### **Scope(s)**

Scope 2 (market-based)

### **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**

6-10 years

### **Comment**

We purchase electricity generated by hydroelectric power using Tochigi Furusato Denki /Aqua Premium programs.

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in production processes | Smart control system |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

2926

### **Scope(s)**

Scope 1

### **Voluntary/Mandatory**

Voluntary

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

200000000

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

0

### **Payback period**

No payback

### **Estimated lifetime of the initiative**

6-10 years

### **Comment**

High efficiency heat source system centering on heat pump

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in production processes | Combined heat and power (cogeneration) |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

5892

### **Scope(s)**

Scope 1

### **Voluntary/Mandatory**

Voluntary

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

50000000

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

0

### **Payback period**

No payback

### **Estimated lifetime of the initiative**

6-10 years

### **Comment**

Renewal of cogeneration facilities

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Low-carbon energy generation | Solar PV |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

41

### **Scope(s)**

Scope 2 (market-based)

### **Voluntary/Mandatory**

Voluntary

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

1730000

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

27000000

### **Payback period**

16-20 years

### **Estimated lifetime of the initiative**

16-20 years

### **Comment**

Solar power generation equipment is installed in Technical Training Center, Subaru of Indiana Automotive, Inc.

### **Initiative category & Initiative type**

|  |  |
| --- | --- |
| Energy efficiency in buildings | Lighting |

### **Estimated annual CO2e savings (metric tonnes CO2e)**

1868

### **Scope(s)**

Scope 2 (market-based)

### **Voluntary/Mandatory**

Voluntary

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

72190

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

741249

### **Payback period**

4-10 years

### **Estimated lifetime of the initiative**

16-20 years

### **Comment**

Lighting equipment is replaced with LED lighting to improve energy saving in the buildings.

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Compliance with regulatory requirements/standards | Research on improvement of fuel consumption to comply with regulations related to automobile exhaust gas and EV and development of EV products |
| Dedicated budget for energy efficiency | Capital investment on energy saving facilities in factories and offices to achieve CO2 reduction target |

## **C4.5**

### **(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?**

Yes

## **C4.5a**

### **(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.**

### **Level of aggregation**

Group of products

### **Description of product/Group of products**

Gasoline engine vehicles, EV, and hybrid vehicles that are expected to reduce CO2 by improving fuel consumption and using low carbon electricity

### **Are these low-carbon product(s) or do they enable avoided emissions?**

Low-carbon product and avoided emissions

### **Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Evaluating the carbon-reducing impacts of ICT

### **% revenue from low carbon product(s) in the reporting year**

10

### **% of total portfolio value**

<Not Applicable>

### **Asset classes/ product types**

<Not Applicable>

### **Comment**

In accordance with the mid-to-long-term target, by 2050, we gradually promote installation of electrification technology, percentage of EV and hybrid vehicles, and emission reduction when vehicles are in use.

## **C5. Emissions methodology**

## **C5.1**

### **(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).**

### **Scope 1**

### **Base year start**

April 1 2016

### **Base year end**

March 31 2017

### **Base year emissions (metric tons CO2e)**

271844.4

### **Comment**

### **Scope 2 (location-based)**

### **Base year start**

April 1 2016

### **Base year end**

March 31 2017

### **Base year emissions (metric tons CO2e)**

447692.2

### **Comment**

### **Scope 2 (market-based)**

### **Base year start**

April 1 2016

### **Base year end**

March 31 2017

### **Base year emissions (metric tons CO2e)**

410532.8

### **Comment**

## **C5.2**

### **(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

Act on the Rational Use of Energy

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)**

279674.2

### **Start date**

April 1 2019

### **End date**

March 31 2020

### **Comment**

### **Past year 1**

### **Gross global Scope 1 emissions (metric tons CO2e)**

268738

### **Start date**

April 1 2018

### **End date**

March 31 2019

### **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**

## **C6.3**

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

### **Reporting year**

### **Scope 2, location-based**

426247.2

### **Scope 2, market-based (if applicable)**

392217.8

### **Start date**

April 1 2019

### **End date**

March 31 2020

### **Comment**

### **Past year 1**

### **Scope 2, location-based**

443600.21

### **Scope 2, market-based (if applicable)**

409831.5

### **Start date**

April 1 2018

### **End date**

March 31 2019

### **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?**

Yes

## **C6.4a**

### **(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.**

### **Source**

Non-production sites of affiliated companies in Japan and overseas dealers

### **Relevance of Scope 1 emissions from this source**

Emissions are not relevant

### **Relevance of location-based Scope 2 emissions from this source**

Emissions are not relevant

### **Relevance of market-based Scope 2 emissions from this source (if applicable)**

Emissions are not relevant

### **Explain why this source is excluded**

Excluded, as it is less than 0.01% of total amount.

## **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

### **Metric tonnes CO2e**

1992046

### **Emissions calculation methodology**

Σ Purchase amount of each supply good × emissions unit value used by our LCA data or emissions unit value of each supply good in the database released by the Ministry of the Environment

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

0

### **Please explain**

Calculated by multiplying purchase amount of each purchased good by emissions unit value used by our LCA data or by emissions unit value of each purchase good in the database released by the Ministry of the Environment.

### **Capital goods**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

413287

### **Emissions calculation methodology**

Consolidated capital investment amount × emissions unit value (t-CO2e/capital investment amount "Yen" ) of “passenger car” in the database released by the Ministry of the Environment

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

0

### **Please explain**

Calculated by multiplying annual capital investment amount of Subaru group by emissions unit value of capital goods of “passenger car” released by the Ministry of the Environment.

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

105323

### **Emissions calculation methodology**

Energy consumption of Subaru Group × emissions unit value from the stage of resource extraction to the transportation stage for each type of energy released

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

100

### **Please explain**

Calculated by multiplying each energy amount used by Subaru Group by emissions unit value from the stage of resource extraction to the transportation stage for each type of energy released.

### **Upstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

737817

### **Emissions calculation methodology**

Transportation in Japan: Calculated by using Fuel method, Fuel consumption method, and ton-kilometer method defined in Act on the Rational Use of Energy in Japan. Transportation by ship: Calculate conveying distance per destination of export based on transportation amount of each product and country/region distance database of CFP program. Calculate by multiplying ton-kilometer of transportation by ship by CO2 emissions unit value of transportation by ship released by the Ministry of the Environment.

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

0

### **Please explain**

CO2 emissions generated by land transportation and transportation by ship in Japan are calculated by using the Fuel method, Fuel consumption method, and ton-kilometer method regulated in the Act on the Rational Use of Energy in Japan. As for CO2 emissions generated by transporting export products by ship, conveying distance per destination of export is calculated based on transportation amount of each product and country/region distance database of CFP program. Calculated by multiplying ton-kilometer of transportation by ship by CO2 emissions unit value of transportation by ship released by the Ministry of the Environment.

### **Waste generated in operations**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

32095

### **Emissions calculation methodology**

Waste discharge amount of Subaru group × CO2 emissions unit value at waste treatment in database released by the Ministry of the Environment

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

0

### **Please explain**

Calculated by multiplying waste discharge amount of Subaru Group by CO2 emissions unit value at waste treatment released by the Ministry of the Environment.

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

4554

### **Emissions calculation methodology**

Number of employees in Subaru Group × annual CO2 emissions unit value per employee at business trip released by the Ministry of the Environment

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

0

### **Please explain**

Calculated by multiplying number of employees in Subaru Group by annual CO2 emissions unit value per employee at business trip released by the Ministry of the Environment.

### **Employee commuting**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

13835

### **Emissions calculation methodology**

Number of employees in Subaru Group × number of annual workdays (prescribed working days 244 days) × daily CO2 emissions unit value per employee at commuting released by the Ministry of the Environment

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

0

### **Please explain**

Calculated by multiplying number of employees in Subaru Group by daily CO2 emissions unit value per employee at commuting released by the Ministry of the Environment.

### **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

As CO2 emissions of upstream lease assets are included in Scope 1 and Scope 2, the emissions are not specified in this category under Scope 3.

### **Downstream transportation and distribution**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

As CO2 emissions of export FOB for which we do not spend transportation expenses are included in Category 4, the emissions are not specified in this category.

### **Processing of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

CO2 emissions of concerned company that conducts product manufacturing of Subaru are included in Scope 1 and Scope 2. As it is presumed that Scope 3 emissions associated with other Subaru product manufacturing are insignificant, they are not specified in this category.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

31390639

### **Emissions calculation methodology**

Σ CAFÉ (average fuel consumption) of Japan, U.S., Europe, and China × number of sales in all Subaru sales area × lifetime travel distance 130,000 km × CO2 emission factor of gasoline

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

0

### **Please explain**

Calculated by multiplying number of sales and average fuel consumption, lifetime travel distance, and CO2 emission factor of gasoline of all Subaru sales area.

### **End of life treatment of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

575107

### **Emissions calculation methodology**

CO2 emission at the stage of LCA waste calculated by Subaru (average value of each type of car) × number of sales

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

0

### **Please explain**

Calculated by multiplying average value of CO2 emissions per vehicle at the stage of waste by vehicle type calculated by Subaru as LCA data and number of sales.

### **Downstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

As CO2 emissions of downstream lease assets are included in Scope 1 and Scope 2, they are not specified in this category under Scope 3.

### **Franchises**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

As CO2 emissions of dealers corresponding to franchise are included in Scope 1 and Scope 2, they are not specified in this category under Scope 3.

### **Investments**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

As CO2 emissions of affiliated companies not subject to main consolidation are included in Scope 1 and Scope 2, they are not specified in this category under Scope 3.

### **Other (upstream)**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

Scope 3 emissions presumed in upstream are included in each Category.

### **Other (downstream)**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes 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**

Scope 3 emissions presumed in downstream are included in each Category.

## **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**

20.07

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

671253.1

### **Metric denominator**

unit total revenue

### **Metric denominator: Unit total**

33441

### **Scope 2 figure used**

Market-based

### **% change from previous year**

1.43

### **Direction of change**

Decreased

### **Reason for change**

Due to effect of CO2 emission reduction by installation of energy saving facility and usage of renewable electricity at production site with high emission percentage

## **C7. Emissions breakdowns**

## **C7.1**

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

No

## **C7.2**

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

|  |  |
| --- | --- |
| **Country/Region** | **Scope 1 emissions (metric tons CO2e)** |
| Japan | 224242.9 |
| United States of America | 55005.3 |
| Canada | 426 |

## **C7.3**

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

By facility

## **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** |
| Gunma Plant | 164553.7 | 36.299695 | 139.384356 |
| Utsunomiya Plant | 17525.7 | 36.537826 | 139.877287 |
| Tokyo Office | 3550.3 | 35.684638 | 139.535724 |
| Subaru Head Office, etc. (Major location: Subaru Head Office) | 1076 | 35.646815 | 139.713299 |
| Dealers in Japan (Representative dealer: Tokyo Subaru) | 24713.4 | 35.703868 | 139.761435 |
| Total of affiliated companies in Japan (Major company: Fuji Kikai Kogyo Co., Ltd.) | 12823.9 | 36.401761 | 139.054023 |
| Overseas production site (Subaru of Indiana Automotive, Inc.) | 52339.9 | 40.378781 | -86.798906 |
| Overseas dealers (Representative: Head Office of Subaru of America, Inc.) | 3091.3 | 39.941841 | -75.109176 |

## **C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4**

### **(C-CE7.4/C-CH7.4/C-CO7.4/C-EU7.4/C-MM7.4/C-OG7.4/C-ST7.4/C-TO7.4/C-TS7.4) Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gross Scope 1 emissions, metric tons CO2e** | **Net Scope 1 emissions , metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 276123.9 | <Not Applicable> | Deduct emissions of Utsunomiya Plant that belong to aerospace business from emissions of entire Group. |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **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)** | **Purchased and consumed electricity, heat, steam or cooling (MWh)** | **Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)** |
| Japan | 265636.6 | 231607.3 | 544337.3 | 34554.6 |
| United States of America | 159711.6 | 159711.5 | 214666 | 0 |
| Canada | 899 | 899 | 1918 | 0 |

## **C7.6**

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

By facility

## **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)** |
| Gunma Plant | 154903.9 | 138440.5 |
| Utsunomiya Plant | 20247.6 | 14060.3 |
| Tokyo Office | 15464.7 | 10528.1 |
| Subaru Head Office, etc. (Major location: Subaru Head Office) | 2978.3 | 1769.3 |
| Dealers in Japan (Representative dealer: Tokyo Subaru) | 18326.8 | 18688.2 |
| Total of affiliated companies in Japan (Major company: Fuji Kikai Kogyo Co., Ltd.) | 53715.3 | 48120.8 |
| Overseas production site (Subaru of Indiana Automotive, Inc.) | 148236.6 | 148236.6 |
| Overseas dealers (Representative: Head Office of Subaru of America, Inc.) | 12374 | 12374 |

## **C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7**

### **(C-CE7.7/C-CH7.7/C-CO7.7/C-MM7.7/C-OG7.7/C-ST7.7/C-TO7.7/C-TS7.7) Break down your organization’s total gross global Scope 2 emissions by sector production activity in metric tons CO2e.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scope 2, location-based, metric tons CO2e** | **Scope 2, market-based (if applicable), metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 410782.4 | 381689.7 | Excluded emissions of Utsunomiya Plant that belong to aerospace business from emissions of entire Group. |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C-TO7.8**

### **(C-TO7.8) Provide primary intensity metrics that are appropriate to your indirect emissions in Scope 3 Category 11: Use of sold products from transport.**

### **Activity**

Light Duty Vehicles (LDV)

### **Emissions intensity figure**

0.000148

### **Metric numerator (Scope 3 emissions: use of sold products) in Metric tons CO2e**

31390639

### **Metric denominator**

p.km

### **Metric denominator: Unit total**

212532057400

### **% change from previous year**

0.01

### **Vehicle unit sales in reporting year**

1033900

### **Vehicle lifetime in years**

13

### **Annual distance in km or miles (unit specified by column 4)**

205563

### **Load factor**

1.5

### **Please explain the changes, and relevant standards/methodologies used**

Fuel consumption: Use average fuel consumption of each area. Annual travel distance: Quote annual travel distance data of each area of SMP. Vehicle lifetime: Quote 13 years of vehicle life that is set by LCA calculation method of Subaru. Number of sales: Use annual sales of new cars.

## **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?**

Decreased

## **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 | 2517.9 | Decreased | 0.37 | Amount of emission reductions by using electricity generated by hydropower or solar power Amount of annual emission reductions = amount of hydropower or solar power used × emission factor of the average grid electricity (This is used to determine the emissions if the said renewable electricity is not used.) Amount of emission reductions in FYE2019 = Amount of emission reductions by purchase of electricity generated by hydropower ＝22314MWh×0.475（t/MWh） =10599.15 tCO2 Amount of emission reductions in FYE2020 = Amount of emission reductions by purchase of electricity generated by hydropower + by self-consumption of solar power ＝28737MWh×0.455（t/MWh）+55.1 MWh×0.744（t/MWh） =13117.0 tCO2 Change in emissions = Amount of emission reductions in FYE2020 - amount of emission reductions in FYE2019 = 2517.85 tCO2 Emission percentage (%) = Change in emission / emission in FYE2019 ×100＝2517.85/678,569.6×100=0.37% |
| Other emissions reduction activities | 6273 | Decreased | 0.92 | 6,273 t CO2 are reduced from the previous year by using CGS, renewing air conditioner, and replacing lighting with LED lighting. Emission percentage (%) = Change in emission / Emission in FYE2019×100 ＝6,273/678,569.6×100=0.92% |
| Divestment |  | <Not Applicable> |  |  |
| Acquisitions |  | <Not Applicable> |  |  |
| Mergers |  | <Not Applicable> |  |  |
| Change in output |  | <Not Applicable> |  |  |
| Change in methodology |  | <Not Applicable> |  |  |
| Change in boundary |  | <Not Applicable> |  |  |
| Change in physical operating conditions |  | <Not Applicable> |  |  |
| Unidentified |  | <Not Applicable> |  |  |
| Other |  | <Not Applicable> |  |  |

## **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 | No |
| Consumption of purchased or acquired cooling | No |
| Generation of electricity, heat, steam, or cooling | Yes |

## **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 | 1476187 | 1476187 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 28737 | 732184 | 60921 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 55 | <Not Applicable> | 55 |
| Total energy consumption | <Not Applicable> | 28792 | 2208371 | 2237163 |

## **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 | No |
| 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.**

### **Fuels (excluding feedstocks)**

Town Gas

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

1243287

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

861374

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

381913

### **Emission factor**

0.0136

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

### **Fuels (excluding feedstocks)**

Petrol

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

103532

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

103532

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

### **Emission factor**

0.0183

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

### **Fuels (excluding feedstocks)**

Kerosene

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

16392

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

16392

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

### **Emission factor**

0.0185

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

### **Fuels (excluding feedstocks)**

Diesel

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

14632

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

14632

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

### **Emission factor**

0.0187

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

### **Fuels (excluding feedstocks)**

Fuel Oil Number 1

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

12990

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

12990

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

### **Emission factor**

0.0189

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

### **Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

### **Heating value**

HHV (higher heating value)

### **Total fuel MWh consumed by the organization**

85354

### **MWh fuel consumed for self-generation of electricity**

<Not Applicable>

### **MWh fuel consumed for self-generation of heat**

### **MWh fuel consumed for self-generation of steam**

85354

### **MWh fuel consumed for self-generation of cooling**

<Not Applicable>

### **MWh fuel consumed for self-cogeneration or self-trigeneration**

### **Emission factor**

0.0161

### **Unit**

metric tons CO2 per GJ

### **Emissions factor source**

Emission factor regulated by the Law Related to the Promotion of Global Warming Countermeasures in Japan

### **Comment**

## **C8.2d**

### **(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total Gross generation (MWh)** | **Generation that is consumed by the organization (MWh)** | **Gross generation from renewable sources (MWh)** | **Generation from renewable sources that is consumed by the organization (MWh)** |
| Electricity | 55 | 55 | 55 | 55 |
| Heat |  |  |  |  |
| Steam | 1476187 | 1476187 | 0 | 1476187 |
| Cooling |  |  |  |  |

## **C8.2e**

### **(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.**

### **Sourcing method**

Power purchase agreement (PPA) with a grid-connected generator with energy attribute certificates

### **Low-carbon technology type**

Hydropower

### **Country/region of consumption of low-carbon electricity, heat, steam or cooling**

Japan

### **MWh consumed accounted for at a zero emission factor**

28737

### **Comment**

### **Sourcing method**

Unbundled energy attribute certificates, other - please specify (Renewal Energy Certificate issued in Japan)

### **Low-carbon technology type**

Biomass

### **Country/region of consumption of low-carbon electricity, heat, steam or cooling**

Japan

### **MWh consumed accounted for at a zero emission factor**

5817.6

### **Comment**

## **C-TO8.5**

### **(C-TO8.5) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

30.36

### **Metric numerator**

tCO2

### **Metric denominator**

Production: Vehicle

### **Metric numerator: Unit total**

31390639

### **Metric denominator: Unit total**

1039900

### **% change from previous year**

1

### **Please explain**

CO2 emissions from vehicles in operation per vehicle sold is an efficiency indicator. In FYE2020, due to change in production volume, number of sales in Japan, which has the most efficient fuel consumption, decreases by 7% compared to the previous year. Number of sales in the U.S., that has the second most efficient fuel consumption, increases by 6% compared to the previous year. Therefore, CO2 emission in operation per vehicle sold deteriorates by 1% compared to the previous year.

## **C9. Additional metrics**

## **C9.1**

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

### **Description**

Waste

### **Metric value**

186382

### **Metric numerator**

Annual waste discharge amount of Subaru Group

### **Metric denominator (intensity metric only)**

### **% change from previous year**

0.3

### **Direction of change**

Increased

### **Please explain**

We report waste discharge amount that is an active mass of Category 5 “emission at waste treatment” under Scope 3 emission to be able to be reduced by our effort. As discharge amount of waste liquid increases, waste treatment amount of Subaru Group increases by 0.3% from the previous year.

## **C-TO9.3/C-TS9.3**

### **(C-TO9.3/C-TS9.3) Provide tracking metrics for the implementation of low-carbon transport technology over the reporting year.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Other, please specify (Percentage of vehicles equipped with “EyeSight”)

### **Metric figure**

57

### **Metric unit**

% of total sales

### **Explanation**

As sales of cars equipped with EyeSight increases, effect of CO2 reduction by improving EyeSight percentage reduces accidents, reduces traffic jams drastically, and reduces CO2 caused by traffic jams.

## **C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6**

### **(C-CE9.6/C-CG9.6/C-CH9.6/C-CN9.6/C-CO9.6/C-EU9.6/C-MM9.6/C-OG9.6/C-RE9.6/C-ST9.6/C-TO9.6/C-TS9.6) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?**

|  |  |  |
| --- | --- | --- |
|  | **Investment in low-carbon R&D** | **Comment** |
| Row 1 | Yes |  |

## **C-TO9.6a/C-TS9.6a**

### **(C-TO9.6a/C-TS9.6a) Provide details of your organization’s investments in low-carbon R&D for transport-related activities over the last three years.**

### **Activity**

Light Duty Vehicles (LDV)

### **Technology area**

Smart systems

### **Stage of development in the reporting year**

Basic academic/theoretical research

### **Average % of total R&D investment over the last 3 years**

21-40%

### **R&D investment figure in the reporting year (optional)**

116100000000

### **Comment**

Describe total amount of R&D expenses in automobile field.

## **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 | No third-party verification or assurance |

## **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**

Underway but not complete for reporting year – previous statement of process attached

### **Type of verification or assurance**

Reasonable assurance

### **Attach the statement**

[外部検証結果（検証結果報告書）2019.12.19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/SBWrLeyLv0S1VdMGjO-Pcw/%E5%A4%96%E9%83%A8%E6%A4%9C%E8%A8%BC%E7%B5%90%E6%9E%9C%E6%A4%9C%E8%A8%BC%E7%B5%90%E6%9E%9C%E5%A0%B1%E5%91%8A%E6%9B%B82019.12.19.pdf)

### **Page/ section reference**

Attached verification report p.1-4

### **Relevant standard**

Tokyo cap-and-trade guideline for verification

### **Proportion of reported emissions verified (%)**

1

## **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 market-based

### **Verification or assurance cycle in place**

Annual process

### **Status in the current reporting year**

Underway but not complete for reporting year – previous statement of process attached

### **Type of verification or assurance**

Reasonable assurance

### **Attach the statement**

[外部検証結果（検証結果報告書）2019.12.19.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/SBWrLeyLv0S1VdMGjO-Pcw/%E5%A4%96%E9%83%A8%E6%A4%9C%E8%A8%BC%E7%B5%90%E6%9E%9C%E6%A4%9C%E8%A8%BC%E7%B5%90%E6%9E%9C%E5%A0%B1%E5%91%8A%E6%9B%B82019.12.19.pdf)

### **Page/ section reference**

Attached verification report p.1-4

### **Relevant standard**

Tokyo cap-and-trade guideline for verification

### **Proportion of reported emissions verified (%)**

3

## **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?**

No, but we are actively considering verifying within the next two years

## **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)?**

Yes

## **C11.1a**

### **(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.**

Tokyo CaT - ETS

## **C11.1b**

### **(C11.1b) Complete the following table for each of the emissions trading schemes you are regulated by.**

### **Tokyo CaT - ETS**

### **% of Scope 1 emissions covered by the ETS**

1

### **% of Scope 2 emissions covered by the ETS**

3

### **Period start date**

April 1 2019

### **Period end date**

March 31 2020

### **Allowances allocated**

18479

### **Allowances purchased**

0

### **Verified Scope 1 emissions in metric tons CO2e**

3550

### **Verified Scope 2 emissions in metric tons CO2e**

12146

### **Details of ownership**

Facilities we own and operate

### **Comment**

## **C11.1d**

### **(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?**

As the Tokyo Office is subject to have an application of Tokyo Metropolitan Government's Ordinance on Environmental Protection, the Tokyo Office has an obligation to reduce the absolute emissions as a large scale company in the cap-and-trade system.

The Tokyo Office is mainly engaged in R&D of power units such as engines and transmissions for Subaru vehicles and the development of elements. As for global warming countermeasures, energy consumption is greatly affected by the progress of various development projects while R&D is a main business composition and it is difficult to save energy on a downward trend every year.

As for strategies for responding to this system, we establish two focused approaches “energy saving promotion by facility improvement” and “energy saving promotion by adopting energy saving equipment positively” to promote measures for the system.

Case study for strategy to respond to the system In regard to global warming countermeasures, as energy consumption is greatly affected by the progress of various development projects while R&D is a main business component and it is difficult to save energy on a downward trend every year, we establish two focused approaches “energy saving promotion by facility improvement” and “energy saving promotion by adopting energy saving equipment positively” to promote measures for the system.

The focused approaches are as follows.

1. Energy saving promotion by facility improvement

(1) Reduce amount of water used by circulating cool water for cool water for experiment.

(2) Improve facility equipment operation management

(3) Promote energy saving by installing electric measurement system in research experiment building

(4) Control inverter of existing air conditioner

2. Energy saving promotion by adopting energy saving equipment positively

(1) Introduce high efficiency transformer facility positively

(2) Renew facility to high efficiency air conditioner, etc

(3) Renew to Hf type lighting equipment

(4) Increase LED lighting and motion sensor

As a result of these focused approaches, about 15,000 t CO2 emission were reduced toward the quota in the 2nd planning period (5 years) of this system.

## **C11.2**

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

Yes

## **C11.2a**

### **(C11.2a) Provide details of the project-based carbon credits originated or purchased by your organization in the reporting period.**

### **Credit origination or credit purchase**

Credit purchase

### **Project type**

Biomass energy

### **Project identification**

Green Energy Certificate

### **Verified to which standard**

Other, please specify (Green Energy CO2 Reduction Equivalent Certification Committee Office)

### **Number of credits (metric tonnes CO2e)**

2647

### **Number of credits (metric tonnes CO2e): Risk adjusted volume**

2647

### **Credits cancelled**

Yes

### **Purpose, e.g. compliance**

Compliance

## **C11.3**

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

No, and we do not currently 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

Yes, our customers

## **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**

100

### **% total procurement spend (direct and indirect)**

100

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

100

### **Rationale for the coverage of your engagement**

As Subaru determines that it is important that all business partners to respond to the environment, all Tier 1 business partners that are direct business partners of Subaru are covered by the engagement. We specify recommendation of ISO14001 certification in our procurement guideline, obtain a copy of ISO14001 certification from all Tier 1 business partners, and confirm that 100% of Tier 1 business partners are certified.

### **Impact of engagement, including measures of success**

Our measures of success is that 100% of EMS installation percentage in all Tier 1 suppliers who are direct business partners. Currently, 100% Tier 1 suppliers have been ISO14001 certified or continued to be certified, and management level to the environmental response including climate change improves. With these activities, we are able to get presentation in regard to the request of environmental certification (Eco Action 21) of Tier 2 suppliers, and EMS has been introduced to suppliers at Tier 2 and higher.

### **Comment**

## **C12.1b**

### **(C12.1b) Give details of your climate-related engagement strategy with your customers.**

### **Type of engagement**

Education/information sharing

### **Details of engagement**

Run an engagement campaign to education customers about your climate change performance and strategy

### **% of customers by number**

0.5

### **% of customer - related Scope 3 emissions as reported in C6.5**

0.5

### **Portfolio coverage (total or outstanding)**

<Not Applicable>

### **Please explain the rationale for selecting this group of customers and scope of engagement**

As forest conservation activities along national highways, a retailer in the U.S., Carter Subaru Ballad, conducts a campaign that if a customer gives a Subaru car a test run, one tree will be planted, and if a customer purchases a car, three more trees will be planted. 200,000 trees have been planted in total over 13 years. In order to promote awareness of environmental issues such as climate change in Seattle, which is the business location of Carter Subaru Ballad, by conducting a tree planting campaign with customers and local residents, the campaign covered customers visiting Carter Subaru Ballad.

### **Impact of engagement, including measures of success**

“Impact of engagement, including measures of success”: Our measure of success of this project is number of years continued. Currently, this project has been conducted for 13 years and more than 50,000 customers in total have participated in this CO2 reduction activity. In addition, by explaining that lifetime absorption of 4 trees is almost the same as the emissions that one vehicle exhausts a year, the dealer enlightens customers about the influence of global warming caused by cars, through tree planting. According to our calculation of CO2 emissions from vehicles in operation, as lifetime travel years are set to 13 years, our measure of success in the project is a duration of 13 years.

## **C12.3**

### **(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?**

Trade associations

## **C12.3b**

### **(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

## **C12.3c**

### **(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

### **Trade association**

Automobile Manufacturers Association

### **Is your position on climate change consistent with theirs?**

Consistent

### **Please explain the trade association’s position**

We participate in a committee related to climate change countermeasures of an industry group, Japan Automobile Manufacturers Association (JAMA), as a committee member. In addition, the Representative Director and the Director and Executive Vice President participate in decisions made by the organization as JAMA executives. Decisions made in JAMA are linked with our mid-term management vision “STEP.”

### **How have you influenced, or are you attempting to influence their position?**

We participate in each committee actively, summarize opinions of our company, and conduct proper proposal to establish industry standards.

## **C12.3f**

### **(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?**

· We participate in a committee related to climate change countermeasures of an industry group, Japan Automobile Manufacturers Association (JAMA), as a committee member. In addition, the Representative Director and the Director and Executive Vice President participate in decisions made by the organization as JAMA executives.

As a draft in JAMA is notified to member companies in advance, we consult with concerned departments in our company about the draft notified. We express our opinion to JAMA about content that is considered not to match with our climate change strategy and request adjustment of the draft.

Outside of Japan, a local subsidiary (North American Subaru Inc. concerning North American strategy) serves as a contact point and regarding information concerning policy obtained from the local subsidiary, after the information is examined in the concerned departments such as the Technology Business Division and the Liaison Department in our company, our opinion etc. is reported to the policy side through the local subsidiary.

## **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 voluntary sustainability report

### **Status**

Complete

### **Attach the document**

[SUBARU\_ CSRreport2020.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/vE6sWyvbrUOa9nWSIkEQWg/SUBARUCSRreport2020.pdf)

### **Page/Section reference**

CSR Report 2020 P31-59

### **Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

### **Comment**

CSR Report Library(English) URL https://www.subaru.co.jp/en/csr/report/

### **Publication**

In mainstream reports

### **Status**

Complete

### **Attach the document**

[ms\_89.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Tw__oKH32E-td1dEmIW2vQ/ms89.pdf)

[2020\_4qf\_all\_e.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/amhAWJEqE0mHxZUqmziK-A/20204qfalle.pdf)

### **Page/Section reference**

Annual securities report (term ending in March 2020) and risk related to industry and business activity p. 14-17

### **Content elements**

Strategy

Risks & opportunities

Emission targets

### **Comment**

IR Library (English) URL https://www.subaru.co.jp/en/ir/library/results\_archive.html

## **C15. 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.**

## **C15.1**

### **(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

|  |  |  |
| --- | --- | --- |
|  | **Job title** | **Corresponding job category** |
| Row 1 | Director of the Board, Executive Vice President, CRMO（Chief Risk Management Officer） | Other C-Suite Officer |