# **Toyota Motor Corporation - Climate Change 2019**

## **C0. Introduction**

## **C0.1**

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

Toyota primarily conducts business in the automotive industry. Toyota also conducts business in finance　and other industries. Toyota sold 8,964 thousand vehicles in this reported year on a consolidated basis.Toyota sells its vehicles in approximately 190 countries and regions. Toyota’s primary markets for its automobiles are Japan, North America, Europe and Asia.

Toyota’s business segments are automotive operations, financial services operations and all other operations.

Toyota’s automotive operations include the design, manufacture, assembly and sale of passenger vehicles,

minivans and commercial vehicles such as trucks and related parts and accessories. Toyota’s financial services　business consists primarily of providing financing to dealers and their customers for the purchase or lease of　Toyota vehicles.

Toyota’s financial services business also provides retail installment credit and leasing through　the purchase of installment and lease contracts originated by Toyota dealers. Related to Toyota’s automotive　operations, Toyota is working towards having all of its vehicles become connected vehicles, creating new value　and reforming businesses by utilizing big data obtained from those connected vehicles, and establishing new　mobility services. Toyota’s all other operations business segment includes the design and manufacture of　prefabricated housing and information technology related businesses including a web portal for automobile　information called GAZOO.com, etc.

Toyota had net revenues of ¥29,379,510 million in　this reported year(Automotive: ¥ 26,347,229 million Financial Services: ¥1,959,234 million All Other: ¥1,073,047 million).

## **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** |
| Row 1 | avril 1 2017 | mars 31 2018 | Yes | 1 year |

## **C0.3**

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

Argentina

Australia

Austria

Belgium

Brazil

Canada

Chile

China

Czechia

Denmark

Estonia

Finland

France

Germany

Hungary

India

Indonesia

Italy

Japan

Malaysia

Mexico

Netherlands

New Zealand

Norway

Pakistan

Peru

Philippines

Poland

Portugal

Republic of Korea

Russian Federation

Singapore

Slovakia

South Africa

Spain

Sweden

Taiwan, Greater China

Thailand

Turkey

United Arab Emirates

United Kingdom of Great Britain and Northern Ireland

United States of America

Venezuela (Bolivarian Republic of)

Viet Nam

## **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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas 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)

Heavy Duty Vehicles (HDV)

## **C1. Governance**

## **C1.1**

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

Yes

## **C1.1a**

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

|  |  |
| --- | --- |
| **Position of individual(s)** | **Please explain** |
| Director on board | In Toyota’s organization, the Board of Directors is responsible for oversight of climate issues. In particular, the Executive Vice President, a Member of the Board of Directors, who manages technology development, is responsible for assessing and addressing climate issues. These climate issues include proposal/execution/monitoring of goals and strategies to address climate risks and opportunities in Toyota’s business, with a focus on assessment of climate risks and opportunities, powertrain development, product design/development, and facility/infrastructure development. Climate risks and opportunities are the issues at stake for Toyota’s business. Its technology development, product strategy, its launch strategy and management, all of which are a core part of addressing climate risks and opportunities, are defined as one of the Toyota’s most important business agenda items. It forms the rationale of his responsibilities . |

## **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** | **Please explain** |
| Scheduled – all meetings | Reviewing and guiding strategy  Reviewing and guiding major plans of action  Reviewing and guiding business plans  Monitoring and overseeing progress against goals and targets for addressing climate-related issues | Toyota oversees its climate agenda through integrating climate issues into selected governance mechanisms at each monthly Board of Directors meeting. Below is how the governance mechanisms contribute to climate agenda oversight. Three of the climate-integrated governance mechanisms are explained here . (1) Reviewing and guiding strategy (2) Reviewing and guiding major plans of action (3) Reviewing and guiding business plans Incorporating or considering climate issues into the above-mentioned (1) - (3) governance mechanisms at the monthly Board of Directors meeting is effective in ensuring proposals and implementations of strategies that match social trends including climate issues. For instance, integrating climate-related issues, including risks and opportunities related to product-related regulations such as fuel economy/tailpipe emission regulations, and risks and opportunities relating to development of low carbon technology, into the (1) - (3) governance mechanisms contributes to in developing Toyota’s long-term strategy including Toyota Environmental Challenge 2050, and proposing/reviewing mid-and-long term targets and the action plan. As an example in the reporting year, as one of the mid-and-long term initiatives relevant to the Challenge, the 2020-2030 goal of making more electrified vehicles available to the public, with a focus on development and penetration of electrified vehicles, was developed and announced based on (1) - (3) governance mechanisms. Thus, (1) - (3) governance mechanisms contribute to climate agenda oversight at the Board of Directors, and proposing and implementing strategies that match social trends including climate issues. |

## **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)** | **Responsibility** | **Frequency of reporting to the board on climate-related issues** |
| Chief Risks Officer (CRO) | Both assessing and managing climate-related risks and opportunities | 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).**

Description of where the position/committee lies in the organizational structure

The Board of Directors is the ultimate decision-making and oversight body in the corporate structure to address climate challenges. The Sustainability Meeting is set as an execution arm in accordance with decisions by the Board of Directors.

The Sustainability Meeting, which consists of Chief Risk Officers and outside board members, is held biannually.

The Sustainability Meeting is in charge of comprehensively looking at changes in ESGs and other internal/external situations to realize mid-and-long term sustainable growth, and checking/executing important business agenda items to enhance long-term competitiveness and to manage risks.

The Sustainability Meeting discusses/evaluates overall corporate governance, risk management, and security trade control as main agenda items, including environmental issues such as tighter regulations on fuel efficiency in each country and management of intellectual property rights related to those issues, and has oversight of monitoring of the attainment/progress of overall targets and execution of countermeasures.

The Chief Risk Officer (CRO) chairs the Sustainability Meeting, and is responsible for agenda-setting and reporting to the Board of Directors.

Under the Sustainability Meeting, there is an Environmental Product Design Assessment Committee, which manages assessment of products-related risks and opportunities, and proposal/execution/monitoring of strategy and planning; a Production Environment Committee, which manages assessment of plants/production-related risks and opportunities, and decisions /monitoring on countermeasures; and a Resource Recycling Committee, which discusses/decides what to do about recycling of resources. Each of these committees makes practical examinations in their own specialty.

In the reporting year, the Sustainability Meeting was held with the attendance of up to 14 members - outside board members, Audit & Supervisory Board Members, Executive Vice President, Senior Managing Officers, Managing Officers and Executive General Managers. The subordinate Environmental Product Design Assessment Committee and Production Environment Committee measured progress in CO2 reduction efforts and discussed how to make further progress.

Rationale for why responsibility lies with the position/committee

The Chief Risk Officer (CRO) is responsible for that position because he/she has the commanding/supervision authority for Toyota’s business risks and opportunities.

As an automaker, Toyota’s climate issues such as product/technology risks and opportunities, as well as operational risks and opportunities, are part of the most important business risks and opportunities. This suggests it’s most rational for the CRO to assume responsibility for Toyota’s business risks in terms of responses to climate change and risk management.

A company specific description of the responsibilities of each position and/or committee with regard to the assessment and monitoring of climate related issues

The Chief Risk Officer (CRO) is responsible for climate assessment and monitoring. To be specific, at the biannually-held Sustainability Meeting, under his responsibility, the CRO, along with the meeting members, are involved in the assessment of climate risks and opportunities, considering/exchanging opinions on climate risks and opportunities relating to products/low carbon technology and production at a global level, based on discussions at the Environmental Product Design Assessment Committee, the Production Environment Committee and the Resource Recycling Committee.

The CRO is also responsible for monitoring and checking responses to the climate agenda (electrified vehicles strategy) and their progress, examining/deciding Toyota’s global-scale responses based on the monitoring results, and reporting to the Board of Directors.

For example, in the reporting year, as the monitoring identified that growing momentum for reduction of CO2 emissions raises demand for electrified vehicles, Toyota announced the 2020-2030 goal of making more electrified vehicles available to the public, recognizing a strategic advantage in external communication of their sales target.

## **C1.3**

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

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).**

### **Who is entitled to benefit from these incentives?**

Director on board

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency project

### **Comment**

Remuneration and bonuses paid to board members have to ensure balance with Toyota’s business performance, and consider their job responsibility, performance and bonus standards in countries they are from. Business performance includes sales of low-emission vehicles, EVs, PEVs and FCVs, and effect of energy-saving activities at plants. Bonus payout is based on thorough consideration such as dividends, bonuses of employees, and trends of competitors, mid-to-long-term business performance forecast and past bonus payout. A proposal of remuneration and bonuses paid to board members is made at the internal meeting to decide on remuneration, and finalized at the Board of Directors.

### **Who is entitled to benefit from these incentives?**

Other, please specify (consolidated overseas affiliates)

### **Types of incentives**

Recognition (non-monetary)

### **Activity incentivized**

Emissions reduction project

### **Comment**

Toyota has the Global Environment Award to to recognize excellent improvements such as CO2 reduction and recycling activities at consolidated overseas affiliates. A testimonial and a trophy are presented to awardees, and their best practice is shared globally to honor their achievement and learn/introduce the practice with each other . Such best practice is also introduced in our Environmental Report. In the reporting year, the top 6 teams out of 19 selected in 6 regions present their achievement in Japan. The Brazil team that presented their continued CO2 reduction effort was given the most excellent award.

### **Who is entitled to benefit from these incentives?**

All employees

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Energy reduction project

### **Comment**

Toyota has “Creative Suggestion System.” Employees make proposals for emission cuts, and excellent proposals are given money reward (500 yen - 200 thousand yen). Also, the excellent proposals are screened again, and selected proposal are sent to “the Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science and Technology.” Every year, Toyota employees are awarded “the Prize for Creativity.”

## **C2. Risks and opportunities**

## **C2.1**

### **(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **From (years)** | **To (years)** | **Comment** |
| Short-term | 0 | 5 |  |
| Medium-term | 5 | 15 |  |
| Long-term | 15 | 50 |  |

## **C2.2**

### **(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

## **C2.2a**

### **(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Frequency of monitoring** | **How far into the future are risks considered?** | **Comment** |
| Row 1 | Six-monthly or more frequently | >6 years | The Sustainability Meeting (SM) directly under the Board of Directors discusses climate risks as part of company-wide business strategy. SM is held twice a year. The SM's 3 subcommittees (Environmental Product Design Assessment Committee, Production Environment Committee and Resource Recycling Committee) are held in every quarter to make detailed assessment on the short–to-long term climate risks at company-wide levels. |

## **C2.2b**

### **(C2.2b) Provide further details on your organization’s process(es) for identifying and assessing climate-related risks.**

Description of a process for identifying and assessing climate-related risks

(1) Company Level

Basic information on risks and opportunities including climate change collected by the Groups/Companies converges at the Sustainability Meeting (SM) directly under the Board of Directors. The SM oversees the responses to risks and their progress status at the Company/Group levels together with the company-wide business strategy.

The SM is composed of up to 14 members – outside board members, Audit & Supervisory Board Members, Executive Vice Presidents, Senior Managing Officers, Managing Officers and Executive General Managers. The SM is held biannually, and comprehensively discusses the identification and assessment of risks and opportunities including climate change.

The Environmental Product Design Assessment Committee and the Production Environment Committee, both of which consist of officer or general manager-class members, are held every quarter. Both these committees identify and assess company-wide and detailed short-to-long term risks and opportunities. The Environmental Product Design Assessment Committee covers fuel economy regulations and electrified vehicle incentives, while the Production Environment Committee covers CO2 emission regulations for plants. There are Companies/Groups under those meeting bodies (details are mentioned later).

The identification and assessment process is conducted based on the Toyota Global Risk management Standard (TGRS).

(2) Asset Level

At Toyota, Companies/Groups gather/analyze/prioritize information on the detailed risks related to fuel economy regulations and electrified vehicles incentives in each country and report to/share with the SM once a year.

Company Presidents and Group Chief Officers oversee activity at the company level, and General Managers oversee activity at the division level.

Frequency of information gathering and analysis varies between the different Companies/Groups, but the standard for identification and assessment is based on the Toyota Global Risk management Standard (TGRS).

Prioritized risks are reported at the company-wide level, namely the Environmental Product Design Assessment Committee, the Production Environment Committee, and the SM.

Groups in charge of reducing CO2 emissions from plants check the CO2 emission volume from ten major Toyota plants located in Aichi Prefecture, Japan, every month. If a regulation risk is identified and assessed as serious, the assessment is reported to the quarterly-held Production Environment Committee. The Production Environment Committee will then identify it as a company-wide risk, assess its level of seriousness, and discuss countermeasures.

Definition of 'substantive financial impact' when identifying or assessing climate-related risks

Toyota has the Toyota Global Risk management Standard (TGRS) to identify and assess risks. TGRS defines risk identification standards, coverage, targets, structure, roles/responsibilities and operation processes, which are also used to assess substantive financial impact.

Based on TGRS, financial impact is assessed on a 5-point scale, with a certain percentage relative to sales amount defined as a maximum.

Financial impact is assessed by Companies/Groups along with reputation, regulatory infringement and business continuation, then identified/recognized as a serious risk, before being conclusively confirmed by the SM.

## **C2.2c**

### **(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?**

|  |  |  |
| --- | --- | --- |
|  | **Relevance & inclusion** | **Please explain** |
| Current regulation | Relevant, always included | -An example of the risk type: Risks of current regulations including fuel economy and CO2 emission regulations in countries/regions are crucial for Toyota’s business, given the potential significant impact on technology development and sales/production planning. For example, in North America, where Toyota’s sales volume is 2.8 million units, which represents 30% of Toyota’s global sales of 8.96 million units in the reporting year, some states require automakers to comply with the ZEV mandate. If Toyota fails to comply with the fuel economy/emission regulations in those states, ESG investors would pull out their capital, recognizing it as a serious regulatory infringement. If it fails to meet those regulations, Toyota would face penalties or be required to purchase credits. ESG investors have become a significant factor, particularly in recent years; Toyota recognizes it as a new risk. If the top three shareholders excluding Toyota group companies sell all their shares, the divestment would amount to 673,172 thousand shares (4,594,399 million yen; the closing share price as of March 31, 2018 was 6,825 yen). (But in reality, such risk is unlikely because Toyota has already taken precautionary measures.) -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses the risks of current regulations. The SM assesses the short-to-long term current regulation climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM . At the asset level, risk information including current regulation risks flows from persons in charge of risk management at Divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee, and that related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to and discussed at the biannually-held SM, and then reported to the Board of Directors. |
| Emerging regulation | Relevant, always included | -An example of the risk type : Countries/Regions have been tightening their fuel economy/emission regulations. In particular, more bans are expected of conventional gasoline/diesel vehicles, for example Aygo and Land Cruiser, and stronger carbon pricing representing a carbon tax in Europe. If Toyota doesn’t fully comply with fuel economy/emission regulations in countries/regions, Toyota would see a decrease in its sales volume/amount. For instance, if these conventional gasoline/diesel vehicles are banned in Europe, and if it doesn’t sell enough electrified vehicles, Toyota would see a fall in sales volume in Europe. In Europe, net revenue was 3,185,224 million yen in the reporting year. Suppose 1% of this is affected by the downturn. The decrease would be calculated at 31,852 million yen. Toyota assesses that even a 1% downturn is not small. -An explanation of how it is included in climate-related risk assessment : The biannually-held Sustainable Meeting (SM) discusses the risk of how Toyota prepares for potential fuel economy/emission regulations in countries/regions. The SM assesses the short-to-long term emerging regulation climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including emerging regulation risks flows from persons in charge of risk management at Divisions to Company Presidents/Group Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee. The Committee makes a company-wide risk assessment, and the results are reported to the biannually-held Sustainable Meeting. |
| Technology | Relevant, always included | -An example of the risk type : Fuel economy/emission regulations have been tightened as climate policy worldwide, such as CAFE standards and ZEV programs in the US, and emission standards in the EU. The demand for low-emission vehicles has been increasing. Considering tightening fuel economy regulations and rising market demand, Toyota launched its first HV Prius in 1997, and in the reporting year, Toyota announced its corporate strategy which aims for sales of more than 5.5 million EVs by 2030. Toyota develops its R&D plans with these factors in mind. However, the auto industry could be urged to drastically improve their fuel economy with tighter regulations earlier than expected. In such a scenario, Toyota would have to introduce new technology accordingly, which would increase Toyota’s R&D cost. Toyota’s R&D costs for automotive segment in the reporting year was 1,038,856 million yen. Suppose 1% of this is affected, the increase would be calculated at 10,388 million yen. -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses the risk of rising R&D cost caused by tightened fuel economy regulations and rising demand for low emission vehicles. The SM assesses the short-to-long term climate risks in detail with collected information from Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is included in the risk assessment process as the standard. This process is also applied to technology risk assessment. At the asset level, risk information including technology risks flows from persons in charge of risk management at Divisions to Company Presidents/Group Chief Officers. Similar to the company-wide level, asset level risk assessment is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held SM. To be specific, the Regulation & Certification Division obtains regulatory information related to fuel economy in countries, and reports it to Company Presidents/Group Chief Officers. |
| Legal | Relevant, always included | -An example of the risk type: Toyota sells its products worldwide. In the reporting year, Toyota recorded sales volume of 2.26 million units in Japan, 2.80 million units in North America, and 970 thousand units in Europe. Meanwhile, more countries/regions have been tightening or introducing fuel economy/emission regulations, such as CAFE standards and ZEV programs in the US, and emission standards in the EU. If it fails to fulfil the minimum regulatory requirements, Toyota’s long-held environmental technology credibility will be shaken from its very foundation, and ESG investors would pull out their capital, considering it as a serious regulatory violation. If it fails to meet these regulations, Toyota would also face penalties or be required to purchase credits. ESG investors have become a significant factor, particularly in recent years; Toyota recognizes it as a new risk. If the top three shareholders excluding Toyota group companies sell all their shares, the divestment would amount to 673,172 thousand shares (4,594,399 million yen; the closing share price as of March 31, 2018 was 6,825 yen). -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses legal risk at a company-wide level. The SM assesses the short-to-long term legal climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including legal risks flows from persons in charge of risk management at Divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee, and that related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held Sustainable Meeting. To be specific, the Regulation & Certification Division obtains regulatory information related to fuel economy in countries, and reports all the information to Company Presidents/Group Chief Officers. |
| Market | Relevant, always included | -An example of the risk type: In the reporting year, Toyota announced its corporate strategy that aims for sales of more than 5.5 million electrified vehicles by 2030 (1.52 million units in reporting year), recognizing rising demand for electrified vehicles in response to climate change. However, in case the demand is lower than Toyota’s estimate, the planned sales volume would face a downturn. In Europe where sales of HV such as Prius are strong, net revenue was 3,185,224 million yen in the reporting year. Suppose 1% of this is affected by the downturn. The decrease would be calculated at 31,852 million yen. Toyota assesses that even a 1% downturn is not small. -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses market risks and countermeasures against them on a company-wide level. The SM assesses the short-to-long term market climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including market risks flows from persons in charge of risk management at Divisions to Company Presidents/Group Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee. The Committee makes a company-wide risk assessment and the results are reported to the biannually held SM. |
| Reputation | Relevant, always included | -An example of the risk type: In recent years, consumers have become more knowledgeable about climate change and more interested in companies’ climate action. Also, research institutions and NGOs have been more vocal about companies’ climate action. In these circumstances, Toyota announced its long-term strategy, Toyota Environmental Challenge 2050, its mid-term strategy 2030 Milestone, and its short-term goal the 6th Toyota Environmental Action Plan, and discloses their progress status. However, if it falls behind, Toyota would be exposed to criticism from customers and NGOs for insufficient climate action. Such criticism would damage Toyota’s corporate reputation, which would affect its sales. Toyota’s net revenue in Japan was 16,024,844 million yen in the reporting year. Suppose 1% of this is affected. The decrease would be calculated at 160, 248 million yen. -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses reputation risks and countermeasures against them on a company-wide level. The SM assesses the short-to-long term reputation climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including reputation risks flows from persons in charge of risk management at Divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee, and that related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to and discussed at the biannually-held SM, and then reported to the Board of Directors. |
| Acute physical | Relevant, always included | -An example of the risk type: Increasing heavy typhoons and floods caused by climate change put 50 major Toyota plants worldwide at risk. In particular, Toyota Motor Thailand Co., Ltd. (TMT), which produces Corolla and Camry, Toyota’s representative models with an annual production volume of 590,000 is exposed to the physical risk of being devastated by typhoons and floods. TMT has the largest production scale in the Asia-Pacific region. Suppose TMT is forced to suspend its operations for several days and 1% of Toyota’s net revenue (29,379,510 million yen) is affected. The decrease would be calculated at 293,795 million yen. Also, if TMT suffers devastating damage, Toyota’s book value would post a loss of 141,774 million yen (book value is 35,500 million yen for the buildings and 106,274 million yen for the facilities in Samutprakarn Province, Thailand). (This book value is the total depreciation cost of the past fiscal year deducted from the acquisition price.) -An explanation of how it is included in climate-related risk assessment : The biannually-held Sustainable Meeting (SM) discusses acute physical risk and measures against it at a company-wide levels. The SM assesses the short-to-long term acute physical climate risk, based on information compiled by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including acute physical risks flows from persons in charge of risk management at Divisions to Company Presidents/Group Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee, and that related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held SM. |
| Chronic physical | Relevant, always included | -An example of the risk type: Toyota has plants throughout the world. These include Toyota Motor Thailand Co., Ltd. located in Thailand, which produces Corolla and Camry, Toyota’s representative models (annual production volume of 590 thousand units), and the Limited Liability Company “TOYOTA MOTOR” in Saint-Petersburg, Russia, which produces Camry and RAV4 (annual production volume of 80 thousand units). According to the government, the death toll from heatwaves in Japan has been increasing over the past 20 years. Plants invest in air-conditioning to suit the climate in their regions, in order to t he good health of the plant employees. If there is a long-term change in the temperature due to climate change, a concern would be rising energy costs due to the stronger air-conditioning required. For example, in the reporting year, Toyota reduced its energy costs by 600 million yen through energy saving and other activities. However, if Japan faces more serious heatwaves than ever, it is possible that this saving will fall below 600 million yen. On a global basis, Toyota’s energy costs could increase by anything from several million yen to several hundred million yen. -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses the risk of chronic physical risk and measures against it at a company-wide level. The SM assesses the short-to-long term chronic physical climate risk based on information compiled by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. However, air-conditioning operation isn’t reported up to the company-wide meeting body. In most cases, air-conditioning operation risk assessment is completed at the asset level. At the asset level, risk information including chronic physical risks flows from persons in charge of risk management at divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held SM. |
| Upstream | Relevant, always included | -An example of the risk type: Toyota has many plants in Asia where typhoons and floods are highly likely. Among them are Toyota Motor Thailand Co., Ltd., which produces Corolla and Camry (annual production volume: 590 thousand units); Toyota Kirloskar Motor Private Ltd. (India), which produces Corolla, Innova, and Fortuner (annual production volume: 1.61 million production units); and PT. Toyota Motor Manufacturing Indonesia, which produces Innova, Vios, and Sienta (annual production volume: 1.86 million production units). Suppliers for these plants in Asia are also located in Asia, in most cases. Natural disasters such as large typhoons and floods caused by climate change might damage the suppliers or disrupt transportation. Interrupted/suspended supply would lead to the suspension of production at the above-mentioned Toyota plants which would have a significant impact on Toyota’s sales in Asia. Toyota’s net revenue in Asia in the reporting year were5,148,139million yen. Suppose 1% of this is affected. The decrease would be calculated at 51,481 million yen. -An explanation of how it is included in climate-related risk assessment: The biannually-held Sustainable Meeting (SM) discusses upstream risks and countermeasures against them on a company-wide level. The SM assesses the short-to-long term upstream climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including upstream risks flows from persons in charge of risk management at Divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to products is reported to the quarterly-held Environmental Product Design Assessment Committee, and that related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held SM. |
| Downstream | Relevant, always included | -An example of the risk type: Supply from plants might be suspended or delayed by heavy typhoons and floods caused by climate change. For example, if the major plants such as the Motomachi plant or Tahara plant in the Chubu region are damaged, or if arterial roadways and ports are damaged, this would have an extensive impact on the transportation of vehicles to domestic dealers from the Motomachi plant, or exports from the berth located adjacent to the Tahara plant. Delayed/interrupted supply from a Toyota plant to the dealers makes sales operations at the dealers more difficult, which would affect Toyota’s sales. The net revenue of Toyota in Japan was 16,024,844 million yen in reporting year. Suppose that 1% of this is affected. The decrease would be calculated at 168,248 million yen. To avoid such detriment, Toyota takes measures at its plants on a routine basis in preparation for a natural disaster. -An explanation of how it is included in climate-related risk assessment: The biannually held Sustainable Meeting (SM) discusses the downstream risks and countermeasures against them on a company-wide level. The SM assesses the short-to-long term downstream climate risks based on information collected by Groups/Companies. As stated in 2.2b, the Toyota Global Risk management Standard (TGRS) is the standard for the risk assessment process at the SM. At the asset level, risk information including downstream risks flows from persons in charge of risk management at Divisions to Company Presidents/Chief Officers. Similar to the company-wide level, asset level risk assessment related to operations is conducted with reference to TGRS. If there is serious risk information, such information related to production/operation is reported to the quarterly-held Production Environment Committee. The Committees make a company-wide risk assessment, and the results are reported to the biannually-held SM. |

## **C2.2d**

### **(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

<Description of a process for managing climate-related risks and opportunities >

At the Company level, the Sustainable Meeting (SM) directly under the Board of Directors manages climate risks and opportunities and sets their direction together with the company-wide business strategy. The SM is held twice a year.

The 3 subcommittees (Environmental Product Design Assessment Committee, Production Environment Committee and Resource Recycling Committee), which all lie under the SM, are held every quarter. The subcommittees follow a managing process of identifying and assessing the short-to-long term company-wide climate risks and opportunities in more detail, and then set the direction in response. For these identified and assessed risks and opportunities, Environmental Product Design Assessment Committee and Production Environment Committee consider the appropriate response and set goals, which are incorporated into Toyota’s short-, mid- and long-term strategies. When it comes to implementation status, the risks and the opportunities related to products are monitored by the Environmental Product Design Assessment Committee and risks and opportunities related to production are monitored by the Production Environment Committee. The Committees will examine additional actions if needed.

At the asset level, the Groups/Companies compile/analyze important risks and opportunities, and report them to the SM once a year. Group Chief Officers/Company Presidents manage activities at Companies, while General Managers manage activities at Divisions.

<Case study/example>

[Physical risks]

(1) Potential risks

Toyota has many plants in Japan and Southeast Asia, where extreme weather (floods, typhoons etc.) are likely to happen. This creates the risk of damage to plants and suspension of supply and production due to floods, typhoons and other extreme weather events.

(2) Examples/Cases of management process

Suspension of production due to disaster damage has been identified and assessed as a serious business risk under the Toyota Global Risk management Standard (TGRS). Moreover, the biannually-held SM identifies what action should be taken. Toyota has developed Business Continuity Management (BCM) and revises it regularly to avoid or minimize suspension of production due to a disaster.

BCM stipulates that a “Company-Wide Emergency Operations Headquarters” should be established right after any disaster damage occurs and then immediately make the transition to a “Company-wide Countermeasures Headquarters.” It also stipulates that emergency supplies should be stored during normal times.

Responses to damage to individual plants attributed to extreme weather (floods, typhoon etc.) take place at “Block Emergency Operations Offices”, led by the Division/Company. “Block Emergency Operations Offices” identify and assess the risks in detail, examine measures against them, and report them to the SM, as needed. Each “Block Emergency Operations Office” undertake disaster damage prevention based on BCM on regular basis. In the reporting year, all Toyota plants including the Motomachi plant and Tahara plant implemented drills against damage from natural disaster.

[Transitional opportunities]

(1)Potential opportunity

Toyota has the world’s most competitive technology for electrified vehicles and a wide range of product lineup, represented by Prius, PriusPHV and Mirai. Frequent extreme weather events will raise climate awareness among customers, which would create business opportunities of rising demand for electrified vehicles such as HVs, PHVs, EVs and FCVs where Toyota holds an advantage.

(2)Examples/Cases of management process

The SM identifies and assesses opportunities related to Toyota’s mid-term business/production planning, manages them with Toyota’s company-wide business strategy and determines what action is to be taken. The quarterly-held Environmental Product Design Assessment Committee, set under the SM, makes a detailed assessment of the growing opportunities caused by the rising demand for electric vehicles and examines how to respond to them.

Groups/Companies organized by product group manage promotions on more detailed opportunities by vehicle model. They propose, implement, monitor and assess plans/strategies to popularize electrified vehicles. Group Chief Officers/Company Presidents report their assessments of risks and opportunities to the biannually-held SM or the Environmental Product Design Assessment Committee to share their information.

Through this process, in the reporting year, Toyota announced its corporate strategy that aims for sales of more than 5.5 million electric vehicles globally by 2030, identifying a significant opportunity of rising demand for low emission vehicles. In the reporting year, Toyota also launched the zero emission fuel cell bus “SORA,” carried out full model changes on fuel-efficient HVs (Lexus LC HV, Lexus LS HV, and Camry HV) and launched the LPG HV (JPN TAXI).

## **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?**

Investment chain

### **Risk type**

Transition risk

### **Primary climate-related risk driver**

Policy and legal: Mandates on and regulation of existing products and services

### **Type of financial impact**

Other, please specify (Divestment which is due to Toyota’s failure to meet fuel economy /emission regulations)

### **Company- specific description**

Toyota sells its products worldwide. In the reporting year, Toyota recorded sales volume of 2.26 million units in Japan, 2.80 million units in North America, and 970 thousand units in Europe. Meanwhile, more countries/regions have been tightening or introducing auto fuel economy/emission regulations such as CAFÈ standards and ZEV programs in the US, and emission standards in the EU for their climate change policies. Toyota has won credibility in regards to environmental technology in countries/regions in the world since the world’s first HV Prius was launched on the market in 1997. Also, in the reporting year, Toyota announced its corporate strategy that aims for sales of more than 5.5 million electrified vehicles by 2030, taking into account tightening fuel economy regulations and rising market demand for low-emission vehicles. However, if it fails to fulfil the minimum regulatory requirements, Toyota’s long-held environmental technology credibility would be shaken from its very foundation. If it fails to meet those regulations, Toyota would face penalties or be required to purchase credits. ESG investors would divest due to regulatory violation regarding products particularly in recent years; Toyota believes it is necessary to consider it as a new risk.

### **Time horizon**

Medium-term

### **Likelihood**

Unlikely

### **Magnitude of impact**

Medium-low

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

Yes, a single figure estimate

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

4594399000000

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

<Not Applicable>

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

<Not Applicable>

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

-Description of the potential impact: Some regions already have extremely stringent regulations on vehicle emissions, so Toyota has to comply with those regulation in the regions. If Toyota fails to comply with the fuel economy/emission regulations in those states, ESG investors would pull out their capital, recognizing it as a serious regulatory infringement. -How the financial impact was calculated: If the top three shareholders excluding Toyota group companies sell all their shares, the divestment would amount to 673,172 thousand shares (4,594,399 million yen; the closing share price as of March 31, 2018 was 6,825 yen).

### **Management method**

-Action that is being implemented: Toyota takes the following action to lower regulatory risks. (1) R&D: research & development technology under a global framework (2) Environmental policy trends research : assign persons in charge of research policy in regions (3) Policy recommendations: make policy recommendations in collaboration with business associations in each region -Example: In the reporting year, Toyota launched new electrified vehicles and carried out model changes as below, using the results of monitoring/assessment on the past actions for its R&D. Particularly, FCVs, zero CO2 emission vehicles, can contribute to creating a decarbonized society. ・Launch of new fuel cell vehicles: fuel cell bus “SORA,” which is equipped with the Toyota Fuel Cell System ・Full model changes for HVs: Lexus LC HV, Lexus LS HV, and Camry HV ・Launch of LPG HV: JPN TAXI -How the figures in “Cost of Management” were calculated: Toyota conducts R&D mainly in Japan. The figures were calculated by selecting the cost for development of electrified vehicles and low emission engines in Japan, from Toyota’s global R&D cost, 1,064,269 million yen in the reporting year. (30,850 million yen/month x 12 = 370,200 million yen.)

### **Cost of management**

370200000000

### **Comment**

### **Identifier**

Risk 2

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

Supply chain

### **Risk type**

Physical risk

### **Primary climate-related risk driver**

Acute: Increased severity of extreme weather events such as cyclones and floods

### **Type of financial impact**

Reduced revenue from decreased production capacity (e.g., transport difficulties, supply chain interruptions)

### **Company- specific description**

Toyota has many plants in Asia where typhoons and floods are likely. Among them are Toyota Motor Thailand Co., Ltd., which produces Corolla and Camry (annual production volume: 590 thousand units), Toyota Kirloskar Motor Private Ltd. (India), which produces Corolla, Innova, and Fortuner (annual production volume: 1.61 million production units), and PT. Toyota Motor Manufacturing Indonesia, which produces Innova, Vios, and Sienta (annual production volume: 1.86 million production units). Suppliers for these plants are also located in Asia, in most cases. Natural disasters such as typhoons and floods might damage the suppliers or disrupt transportation. Interrupted/suspended supply would lead to the suspension of production at Toyota plants, which would have a significant impact on Toyota’s sales in Asia. Toyota’s net revenue in Asia in the reporting year were 5,148,139 million yen. Suppose 1% of this is affected, the decrease would be calculated at 51,482 million yen.

### **Time horizon**

Medium-term

### **Likelihood**

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)**

51481000000

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

<Not Applicable>

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

<Not Applicable>

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

-Description of the potential impact: Typhoons or floods caused by climate change might damage the suppliers or disrupt transportation. Interrupted/suspended supply would lead to the suspension of production at Toyota plants, which would have a significant impact on Toyota’s sales in Asia. -How the financial impact was calculated: Toyota’s net revenue in Asia in the reporting year were 5,148,139 million yen. Suppose 1% of this is affected, the decrease would be calculated at 51,482 million yen. Toyota assumes a financial impact with more than 1% of net revenue in a region would affect the business of the group company in the region. As one of Toyota’s evaluation criterion for risk and opportunity management is whether Toyota should implement comprehensive measures in regional level, we used 1% as a threshold in this estimation.

### **Management method**

-Action: Action to mitigate risks is defined in the company-wide “Business Continuity Management”. Toyota introduced an IT system to identify how seriously the suppliers are damaged. It performs analysis and considers/implements countermeasures to avoid risk even during normal times. In the event of a disaster, Toyota promptly identifies the situation at its suppliers and tries to minimize the business damage, considering whether to send Toyota’s support staff to the suppliers and/or to procure from other companies. -Example: Toyota implements risk prevention measures as mentioned above. For example, the Purchasing Group exchanges information with suppliers. Toyota uses this information to identify climate change-caused disaster risks and to examine measures against them, taking into account the climate and the geographical characteristics of the regions. Inthe reporting year, the Kyushu region in Japan suffered from deadly heavy rain. There are many suppliers in the region. The rain caused severe damage to the infrastructure, for weeks. Toyota used the above-mentioned system, and held interviews with suppliers to fully understand the overall picture of the damage in real time. Fortunately, Toyota didn’t suffer any suspension of production by the interrupted supply due to the heavy rain. -Calculation: This is the actual cost per year that Toyota in Japan spends as maintenance costs for the system. (250 million yen/month × 12 months = 30 million yen)

### **Cost of management**

30000000

### **Comment**

### **Identifier**

Risk 3

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

Direct operations

### **Risk type**

Physical risk

### **Primary climate-related risk driver**

Chronic: Rising mean temperatures

### **Type of financial impact**

Other, please specify (Increased operating costs (higher energy costs for maintaining a comfortable workplace environment))

### **Company- specific description**

Toyota has 50 plants all over the world, including Toyota Motor Thailand Co., Ltd. located in Thailand, a hot region, which produces Corolla and Camry, Toyota’s representative models (annual production volume of 590 thousand units), and the Limited Liability Company "TOYOTA MOTOR" in Saint-Petersburg, Russia, a cold region, which produces Camry and RAV4 (annual production volume of 80 thousand units). Japan, where many Toyota plants are located, has been experiencing more heatwaves which exceed 35°C in more locations. According to the Japanese government, the death toll from heatwaves has been increasing over the past 20 years. If climate change results in temperature changes on a long-term basis, a risk of energy cost increase is rising because stronger air-conditioning is required to maintain a comfortable workplace environment and the good health of plant employees.

### **Time horizon**

Medium-term

### **Likelihood**

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)**

226004000000

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

<Not Applicable>

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

<Not Applicable>

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

-Description of the potential impact: If climate change results in temperature changes on a long-term basis, a risk of energy cost increase is rising because stronger air-conditioning is required to maintain a comfortable workplace environment and the good health of plant employees. -How the financial impact was calculated: Toyota’s cost of products sold including energy costs was 22,600,474 million yen. Suppose that the rising energy cost due to changed air-conditioning operation has a 1% impact the cost of products sold, this cost increase would be calculated at 226,004 million yen. Toyota assumes a financial impact with more than 1% of cost of products sold would affect the business body’s net income and several divisions. As one of Toyota’s evaluation criterion for risk and opportunity management is whether Toyota should implement comprehensive measures in several divisions, we used 1% as a threshold in this estimation.

### **Management method**

-Action that is being implemented: Toyota manages air-conditioning (AC) operations at all its plants around the world to prevent the increased AC load causing rising energy costs. The Divisions in charge of facilities which include AC, regularly exchange information with each other to make improvements on a daily basis to maintain a comfortable workplace environment for employee health as well as to reduce the energy cost. Moreover, they share information with other plants through “Internal ESCO Activities”. -Example or case study: In the reporting year, at the domestic plants (Honsha, Motomachi, Kamigo, Takaoka etc.), the Manufacturing, Production Engineering, and Facility groups shared information on an energy diagnosis, including air conditioning operation, improvement proposals, and best practices. As a result, they succeeded in reducing CO2 emissions by 1.4 % and energy costs by 600 million yen compared to the previous FY. - How the figures in “Cost of Management” were calculated: Cost of management was calculated by summing up the total global environmental conservation cost including the above-mentioned activities at Toyota plants/offices in Japan in the reporting year. (58.33 million yen/month × 12 months = 700 million yen)

### **Cost of management**

700000000

### **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 and/or expansion of low emission goods and services

### **Type of financial impact**

Increased revenue through demand for lower emissions products and services

### **Company-specific description**

Toyota sells its products worldwide. In the reporting year, Toyota recorded sales volume of 2.26 million units in Japan, 2.80 million units in North America, and 970 thousand units in Europe. Meanwhile, more countries/regions have been tightening or introducing auto fuel economy/emission regulations such as CAFÈ standards and ZEV programs in the US, and emission standards in the EU for their climate change policies. Toyota has won credibility in regards to environmental technology in countries/regions in the world since the world’s first HV Prius was launched on the market in 1997. Also, in the reporting year, Toyota announced its corporate strategy that aims for sales of more than 5.5 million electrified vehicles by 2030, taking into account tightening fuel economy regulations and rising market demand for low-emission vehicles. Not just complying with those regulations, this is a great business opportunity for Toyota to meet market demand of low-carbon vehicle . Toyota has a wider variety of low-carbon vehicle model lineups – Prius (PHV), Mirai (FCV) and AQUA (HV) – than its competitors. This is Toyota’s great advantage being able to draw more sales volume in the midst of rising market demand for low-emission vehicles which leads to increase in the profit.

### **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)**

293795000000

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

<Not Applicable>

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

<Not Applicable>

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

Toyota’s net revenue in the reporting year was 29,379,510 million yen. Suppose that 1% of this is affected. The increase would be calculated at 293,795 million yen. Toyota assumes a financial impact with more than 1% of net revenue would affect the business of group companies in several regions. As one of Toyota’s evaluation criterion for risk and opportunity management is whether Toyota should implement global-level comprehensive measures, we used 1% as a threshold in this estimation.

### **Strategy to realize opportunity**

-Action: Tightening fuel economy regulations in countries would increase demand for low emission vehicles even further (fuel efficient vehicles, EVs, HVs, PHVs and FCVs), which would contribute to increasing Toyota’s sales of these vehicles. To realize this, Toyota developed and announced its mid-to-long term business strategy. The implementation status of the strategy is monitored and reviewed at the quarterly-held Environmental Product Design Assessment Committee, and used to review the planning. -Example: In the reporting year, Toyota announced its aim for sales of more than 5.5 million electrified vehicles by 2030. These strategies are monitored and reviewed in Environmental Product Design Assessment Committee as mentioned above. Toyota develops low emission vehicles, while analyzing tightening fuel economy regulations and market demand in each countries. In the reporting year, Toyota launched new electrified vehicles as below, which increased its sales volume of electrified vehicles by 8% on a year-on-year basis. ・Launch of new FCV: Production model fuel cell bus “SORA” ・Full model changes of HVs: Lexus LC HV, Lexus LS HV, and Camry HV ・Launch of LPG HV: JPN TAXI -Calculation: Toyota conducts R&D mainly in Japan. The figures were calculated by selecting the cost for development of electrified vehicles and low emission engines in Japan, from Toyota’s global R&D costs, 1,064,269 million yen in the reporting year. (30,850 million yen/month x 12 = 370,200 million yen)

### **Cost to realize opportunity**

370200000000

### **Comment**

### **Identifier**

Opp2

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

Customer

### **Opportunity type**

Products and services

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

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

### **Type of financial impact**

Increased revenue through demand for lower emissions products and services

### **Company-specific description**

Since the launch of its world’s first HV Prius in 1997, Toyota has developed electrified vehicle technology and accumulated its working knowledge in areas such as batteries and motors ahead of its competitors. Toyota has produced more than 13 million batteries (nickel and lithium) on a cumulative basis. Toyota has introduced power feeding systems into many models (Prius, Crown, Sienta etc.), which gives Toyota more of an advantage than its competitors regarding distribution capability for the needs. Also, Toyota is not only quality- and cost-competitive when it comes to electrified vehicle technology, such as batteries, motors, inverters, regenerative braking systems, and computerized software, but is also pursuing the development of next-generation technology including all-solid-state batteries. In recent years, typhoons/floods from climate change have caused widespread blackouts, which has increased expectations of on-board batteries (EVs, HVs, PHVs and FCVs) that are able to serve as a power source. Even in Japan, where Toyota’s HQ is located, massive floods occur often. In the reporting year, massive flooding from territorial rains in the Kyushu region of Japan caused widespread power outages. The need to secure emergency power systems has been increasing amid more frequent natural disasters, which expands the business opportunity for Toyota to sell electrified vehicles with power feeding systems on board.

### **Time horizon**

Medium-term

### **Likelihood**

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)**

160248000000

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

<Not Applicable>

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

<Not Applicable>

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

-How the financial impact was calculated: Suppose Toyota increases sales volume of electrified vehicles with power feeding systems on board (EVs, HVs, PHVs, and FCVs) in Japan, stressing the usability of the systems as emergency power. Toyota’s net revenue in Japan in the reporting year is 16,024,844 million yen. Suppose 1% of this is affected. The increase would be calculated at 160,248 million yen. Toyota assumes a financial impact with more than 1% of net revenue would affect the business of the regional group companies. As one of Toyota’s evaluation criterion for risk and opportunity management is whether Toyota should implement regional-level comprehensive measures, we used 1% as a threshold in this estimation.

### **Strategy to realize opportunity**

-Action that is being implemented: Demand for electrified vehicles with emergency power systems on board (EVs, HVs, PHVs and FCVs) has been increasing amid more frequent natural disasters. Toyota has announced its electrification strategy to secure this demand. Toyota will continue R&D on electrified vehicles and monitoring to reflect it in next-generation electrified vehicle models. Toyota aims to expand its lineup of models that are capable of power feeding to increase its sales volume. -Example or case study: In the reporting year, Toyota announced its mid-term corporate strategy that aims for sales of more than 5.5 million electrified vehicles by 2030. Toyota also launched Lexus LC HV, Lexus LS HV, and Camry HV with external power supply systems on the market. Toyota has continuingly researched and developed a more useful power feeding mode. These efforts gave birth to new Prius PHV equipped with a large-capacity lithium-ion battery. The Prius PHV has a maximum output capacity of 1,500W so that it can operate multiple electrical appliances simultaneously, such as electric cookers and personal computers. -How the figures in “Cost to realize opportunity” were calculated: Toyota conducts R&D mainly in Japan. The figures were calculated by selecting the cost for development of electrified vehicles and low emission engines in Japan, from Toyota’s global R&D cost, 1,064,269 million yen in the reporting year. (30,850 million yen/month x 12 months = 370,200 million yen)

### **Cost to realize opportunity**

370200000000

### **Comment**

### **Identifier**

Opp3

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

Direct operations

### **Opportunity type**

Resource efficiency

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

Use of more efficient production and distribution processes

### **Type of financial impact**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

### **Company-specific description**

Toyota has 50 plants all over the world, including Toyota Motor Thailand Co., Ltd. located in Thailand, a hot region, which produces Corolla and Camry, Toyota’s representative models (annual production volume of 590 thousand units), and the Limited Liability Company "TOYOTA MOTOR" in Saint-Petersburg, Russia, a cold region, which produces Camry and RAV4 (annual production volume of 80 thousand units). All of Toyota plants implement energy-saving and energy-generating activities aiming to make zero greenhouse gas emission from the plants to achieve the goal of Challenge 3 (Plant Zero CO2 Emissions) under the Toyota Environmental Challenge 2050. Such activities are expected to be able to create an opportunity to significantly reduce energy purchase cost at the plants.

### **Time horizon**

Medium-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)**

226005000000

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

<Not Applicable>

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

<Not Applicable>

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

-How the financial impact was calculated: Toyota’s cost of products sold including energy costs was 22,600,474 million yen in the reporting year. Suppose that declining energy cost due to changed air-conditioning operation has a 1% impact. The decrease would be calculated at 226,005 million yen. Toyota assumes a financial impact with more than 1% of cost of products sold would affect the business body’s net income and several divisions. As one of Toyota’s evaluation criterion for risk and opportunity management is whether Toyota should implement comprehensive measures in several divisions, we used 1% as a threshold in this estimation.

### **Strategy to realize opportunity**

-Action: All Toyota plants are proactive in reducing energy saving cost as below: ・Energy saving: Toyota implements so-called “Internal ESCO Activities,” in which some groups come together to make energy diagnoses and improvement proposals, and exchange knowledge and best practices. For example, at the major plants in Japan (Honsha, Motomachi, etc.) Toyota replaced existing lighting with LED lighting and renewed the aging heating boilers. In addition, the experience is shared with other groups including overseas affiliates. ・Energy generating: Toyota invests in self-power generation such as installation of PV in its factory sites. ・Human resources development: “Plant & Environmental Engineering Division Facilities Management Developing Human Resource Center” in Japan offers energy management education. -Example: At the Honsha Plant in Japan, steam was supplied from a central boiler to three locations. This reporting year, Toyota changed this practice and each facility now covers its own needs to promote downsized, decentralized and less steam facilities. This enables reduced fuel costs and Toyota was able to reduce CO2 emissions significantly from 18,000 tCO2e to 8,000 tCO2e. -Calculation: Toyota conducts the activities as mentioned. The figures were calculated by summing up the total environmental conservation related cost including the activities in tis plants and offices in Japan in the reporting year. (58.33 million yen/month × 12 months = approx. 700 million yen)

### **Cost to realize opportunity**

700000000

### **Comment**

## **C2.5**

### **(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

|  |  |  |
| --- | --- | --- |
|  | **Impact** | **Description** |
| Products and services | Impacted | -Impact on this area of our business: As evidenced by growing sales volume of Toyota’s electrified vehicles represented by Prius, tightening regulation and shifting customer behavior, increased demand for fuel efficient vehicles and electrified vehicles. This affects Toyota’s products and services. In the reporting year, globally cumulated sales volume of electrified vehicles represented by Prius exceeded 11.46 million units. Toyota also launched new electrified vehicles and carried out model changes as below in consideration of regulations and customer demand. ・Launch of new fuel cell vehicles: mass-market fuel cell bus “SORA,” which is equipped with the Toyota Fuel Cell System (TFCS) ・Full model changes of HVs: Lexus LC HV, Lexus LS HV, and Camry HV ・Launch of LPG HV: JPN TAXI Through these efforts, Toyota’s sales in Europe marked 970 thousand units in the reporting year, up 4.7% from the previous year. This increased Toyota’s net revenue to 3,185,224 million yen, marking a rise of 504,100 million yen (up 18.8%) from 2,681,039 million yen of the previous year. -Magnitude of this impact: Demand for fuel efficient vehicles caused by climate change related regulation and customer behavior has been increasing. As per the financial impact stated above, the magnitude of this impact on Toyota’s products and services is very high. |
| Supply chain and/or value chain | Impacted | -Impact on this area of our business: Climate-change caused typhoons and floods are predicted to increase. This sense of urgency affects Toyota’s business continuity management including supply chain and/or value chain. Toyota has many plants in Asia where climate change-caused typhoons and flood are likely. Among them are Toyota Motor Thailand Co., Ltd., which produce Corolla and Camry (annual production volume: 590 thousand units), Toyota Kirloskar Motor Private Ltd. (India), which produces Corolla, Innova and Fortuner (annual production volume: 1.61 million units), and PT. Toyota Motor Manufacturing Indonesia, which produces Innova, Vios and Sienta (annual production volume: 1.86 million units). Suppliers for these plants are also located in Asia, in most cases. Natural disasters might damage these suppliers or disrupt transportation. Interrupted/suspended supply would lead to the suspension of production at Toyota plants, which would have a significant impact on Toyota’s sales in Asia. Toyota’s net revenue in Asia in the reporting year were 5,148,139 million yen. Suppose delayed supply of some auto-parts caused by floods affect 1% of this, the decrease would be calculated at 51,481 million yen. Toyota makes various efforts to avoid/minimize such risk from the viewpoint of business continuity management. For example, the Purchasing Group regularly exchanges information with suppliers. Toyota uses this information to identify climate change-caused disaster risks factor and to examine measures against them, taking into account the climate and the geographical characteristics of the countries/regions. Also, the plants are prepared to send their engineers to the suppliers to support their operation, in case they are at risk of suspending procurement due to a disaster. (Fortunately, in the reporting year, there was no suspension of production due to a disaster.) -Magnitude of this impact: Toyota has been standardizing its auto-parts globally. This creates the risk that if a major supplier is damaged by an extreme weather disaster, Toyota would not be able to get the necessary auto-parts, which would result in the suspension of production at plants around the world. T he magnitude of the impact at this point is high, considering the likelihood and frequency |
| Adaptation and mitigation activities | Impacted | -Impact on this area of our business: Toyota’s adaptation and mitigation activities are impacted by the increased number of potential climate change-caused disasters, and the resulting tightening of regulations and transformation of social needs as below. 1) Adaptation Large typhoons and floods caused by climate change might damage the suppliers or disrupt transportation. Interrupted/suspended supply would lead to the suspension of production at Toyota plants, which would have a significant impact on Toyota’s sales in Asia. Toyota has many plants and suppliers in Asia where typhoons and floods are likely. One example is Toyota Motor Thailand Co., Ltd., which produces Corolla and Camry and other (annual production volume: 590 thousand units). Also, Toyota has also taken measures to stabilize the supply even at its largest production hub of Japan, where wind and flood damage have occurred often over the past few years. To be more specific, in the event of a disaster in and outside of Japan, Toyota promptly identifies the situation at its suppliers, ensures an alternative supply, and sends support staff to help the suppliers recover. Toyota needs expenditure to cope with such situations. For example, in Japan, Toyota has introduced a system to visualize the supply chain information even in ordinary times and spends 30 million yen annually to maintain the system. 2) Mitigation Toyota’s mid-to-long term business strategy is affected by the tightening of regulations and the transformation of social needs due to climate change. Specifically, Toyota announced the “Toyota Environmental Challenge 2050” in 2015 which includes greenhouse gas reduction strategy. Also, in the reporting year, it announced its corporate strategy that “aims for sales of more than 5.5 million electrified vehicles in 2030”. To achieve “Toyota Environmental Challenge 2050”, Toyota is making vigorous costs of R&D. R&D costs in the reporting year was 1,064,269 million yen, up by 1,037,528 million yen from the previous year. -Magnitude of this impact: Climate change increases the potential disaster risk, tightens regulations and transforms social needs .Financial impact as mentioned, the magnitude of this impact on Toyota’s adaptation and mitigation is very high, when procurement risk, rising R&D costs and other factors are considered comprehensively. |
| Investment in R&D | Impacted | -Impact on this area of our business: Toyota has to accelerate R&D to meet new standards in response to tightening climate policy and shifting customer demand caused by climate change. This results in rising investment in R&D. For example, more countries/regions have been tightening or introducing auto fuel economy/emission regulations, such as CAFE standards and ZEV programs in the US, and emission standards in the EU. Toyota sells its products worldwide, recording sales volume of 2.26 million units in Japan, 2.80 million units in North America, and 970 thousand units in Europe in the reporting year. These are key markets and where the most stringent emission regulations are in place. Toyota has to continue to accelerate R&D to meet those regulations. Toyota has developed various low emission technologies through analyzing tightening fuel economy regulations and market demand, which enabled Toyota to launch Prius (PHV), Mirai (FCV) and AQUA (HV) on the market. In the reporting year, Toyota launched new electrified vehicles and carried out model changes as below. ・Launch of new fuel cell vehicles: mass-market fuel cell “SORA,” which is equipped with the Toyota Fuel Cell System (TFCS) ・Full model changes of HVs: Lexus LC HV, Lexus LS HV, and Camry HV ・Launch of LPG HV: JPN TAXI Toyota’s R&D of investment including development of low emission vehicles in the reporting year was 1,064,269 million yen, marking an increase of 26,741 million yen (up 2.6%) from the previous year. -Magnitude of this impact /Example in reported year: Climate policy has been tightening more and more due to climate change. Toyota has to accelerate R&D even further. As per the financial impact stated above, the magnitude of the impact on R&D investment is high. |
| Operations | Impacted | -Impact on this area of our business: Greenhouse gas (GHG) emissions regulations for plants and offices due to climate change have an impact on Toyota’s operations. Since its establishment, Toyota has promoted “complete elimination of inefficiency” and has pursued cost improvements including operation costs, particularly when legally liable for reduced energy consumption from a climate change perspective. In response to such tightening regulations for plants, Toyota is proactive in reducing its energy costs as below. Toyota plants/offices promote operational energy efficiency by aggregating/analyzing monthly energy data. Toyota also implements “Internal ESCO Activities,” in which the Manufacturing, Production Engineering, and Facility groups make energy diagnoses and improvement proposals, and exchange knowledge and best practices. In addition, the experience acquired through these activities is proactively shared with other groups including overseas affiliates (“Yokoten”). Moreover, to enhance operational technology at a faster pace, Toyota tries to develop human resources capable of leading environmental activities globally. For example, the “Plant & Environmental Engineering Division Facilities Management Developing Human Resource Center” in Japan offers energy management education throughout the year. In the reporting year, the major plants in Japan (Honsha, Motomachi, Kamigo, Takaoka, Miyoshi, Tsutsumi, Myochi, Shimoyama, Kinuura and Tahara) successfully reduced their energy cost by 600 million yen through the above-mentioned activities to enhance operational energy efficiency. -Magnitude of this impact: Toyota has continued energy saving activities since its establishment. As per the financial impact stated above, the magnitude of the additional impact on operations imposed by climate change issues is medium. |
| Other, please specify | Please select |  |

## **C2.6**

### **(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.**

|  |  |  |
| --- | --- | --- |
|  | **Relevance** | **Description** |
| Revenues | Impacted | -Impact on this area of financial planning process: Toyota’s revenues are affected by the rising demand for low emission vehicles due to tightening regulations on fuel economy which is imposed by climate change. Therefore, the climate-related issues have been factored into our financial planning process . Toyota sells its vehicles worldwide. In the reporting year, Toyota recorded sales volume of 2.26 million units in Japan, 2.80 million units in North America, and 970 thousand units in Europe. Meanwhile, more countries/regions have been tightening or introducing auto fuel economy/emission regulations, such as CAFE standards and ZEV programs in the US, and emission standards in the EU. Under such circumstances, demand for low emission vehicles has been rising to cope with climate change. Because of these regulations, there is increasing demand for low emission cars. This has increased Toyota’s sales volume and sales amount of low emission vehicles. For example, the strong sales of HVs in Europe increased Toyota’s sales volume by 43 thousand units on a consolidated basis. As a result, Toyota’s sales amount from products was 3,074,396 million yen as of March 2018, 18.7% up from 485,428 million yen in the previous year in Europe. Toyota also launched new low emission vehicles and carried out the model changes below, analyzing the growing business opportunity from the rising demand for low emission vehicles attributed to tightening regulations. Launch of new electrified and model changes implemented in the reporting year are shown below. ・Launch of new fuel cell vehicles: mass-market fuel cell bus “SORA,” which is equipped with the Toyota Fuel Cell System (TFCS) ・Full model changes of HVs: Lexus LC HV, Lexus LS HV, and Camry HV ・Launch of LPG HV: JPN TAXI -Magnitude of this impact: As stated earlier, rising demand for low emission vehicles from tightening fuel economy regulations contributed to the increases in Toyota’s sales volume of low emission vehicles and sales amount. As per the financial impact stated above, the magnitude of the impact on Toyota’s revenues in the financial planning process is very high. |
| Operating costs | Impacted | -Impact on this area of financial planning process: Toyota is taking action for greenhouse gas (GHG) emission regulations from the perspective of climate change at its plants worldwide. These actions have had an impact on Toyota’s operating costs. Within the operating costs, the cost to reduce energy consumption has been particularly impacted. Therefore, the climate-related issues have been factored into our financial planning process . Toyota has 50 plants around the world. Among them are Toyota Motor Manufacturing (UK) Ltd., which produces AVENSIS, Auris and Auris HV; and Toyota Motor Thailand Co., Ltd., which produces Corolla and Camry. Some countries have been tightening their GHG regulations for plants, which would increase Toyota’s operating costs even further. Moreover, tightening of regulations and transformation of social needs due to climate change have particularly accelerated Toyota’s efforts to reduce energy consumption in recent years. For example, at each plant in the world, Manufacturing, Production Engineering, and Facility groups share their energy diagnoses, operational energy improvement proposals, best practices and knowledge within Toyota groups to improve energy efficiency of operation. This is called “Internal ESCO Activities”. Toyota also tries to develop human resource in order to proceed the activities more. Toyota’s “Plant & Environmental Engineering Division Facilities Management Developing Human Resource Center” in Japan offers energy management education. The cost for such activities is budgeted as operating costs. Toyota has 10 major plants in Japan: Honsha, Motomachi, Kamigo, etc. They reduced their energy costs by 600 million yen in the reporting year, which is an example of operation improvement activities. This is a successful example. Yet, it is possible that the cost exceeds the effect in these reduction efforts, which would increase Toyota’s operating costs. -Magnitude of this impact: GHG regulations have been tightening year by year. This affects Toyota’s costs in reducing energy consumption and also the operating cost of the financial planning process. However, Toyota’s cost-effectiveness study limits any increase in its operating costs to a minimum. As per the financial impact mentioned above, the magnitude of the additional impact on Toyota’s comprehensive operating cost is medium. |
| Capital expenditures / capital allocation | Impacted | -Impact on this area of financial planning process: Toyota’s capital expenditures/capital allocation is affected by the tightening of greenhouse gas (GHG) emission regulations for plants caused by climate change. Toyota has more than 50 plants around the world. Among them are Toyota Motor Manufacturing France S.A.S., which produces Yaris, Toyota’s representative model in Europe; Toyota Motor Manufacturing (UK) Ltd., which produces Avensis, Auris and Auris HV; and Toyota Motor Thailand Co., Ltd., which produces Corolla and Camry. Some countries have been tightening their GHG emission regulations for plants. Toyota needs to update its facilities to meet these regulations. For example, Toyota has ten major plants in Japan: Honsha, Motomachi, Kamigo, Takaoka, Miyoshi, Tsutsumi, Myochi, Shimoyama, Kinuura and Tahara. These plants are updating their facilities under Japan’s Energy Conservation Law every year, which requires plants to improve their energy consumption intensity by 1% or more per year on average. Toyota’s domestic investment to conserve the environment including facility updates for GHG reductions will reach 63 billion yen in this financial year. As stated above, climate risks and opportunities affect Toyota’s capital expenditures/capital allocation, and this area of our financial planning process . -Magnitude of this impact: Toyota needs to make facility investments around the world to meet the tightening GHG regulations for plants caused by climate change. As per the financial impact stated above, the magnitude of the impact on Toyota’s capital expenditures/capital allocation is high. |
| Acquisitions and divestments | Impacted | -Impact on this area of financial planning process: Tightening climate policy and shifting customer behavior has been increasing the demand for low emission vehicles and electrified vehicles, which urges Toyota to enhance its technology for low emission vehicles. Under the circumstance, Toyota’s acquisitions and divestments is impacted and has been involved in some acquisitions. For instance, Toyota is striving to develop electrified vehicles and lighter vehicles as part of its R&D strategy, and to streamline its operations to respond to the global momentum toward achieving a low carbon society after the conclusion of the Paris Agreement. In the previous reporting year, Toyota acquired 100% ownership of Daihatsu Motor Co., Ltd. through a stock swap to consolidate their R&D for small-sized vehicles. Toyota issued 52,856,096 shares of treasury stock in the stock swap. In the reporting year, Mazda, Denso and Toyota made a joint capital investment to establish a new company (investment ratio: Toyota 90%, Mazda 5% and Denso 5%). The company is aimed at joint R&D for electrified vehicles to prepare for potential regulations, such as tightening standards and sales mandates for electrified vehicles). As stated above, the climate risks and opportunities affect Toyota’s acquisitions and divestments, and this area of our financial planning process . -Magnitude of this impact: As evidenced by the above-mentioned Daihatsu case, acquisitions to strengthen low emission vehicle technology sometimes require a massive investment. In other words, the magnitude of the impact of acquisitions and divestment is very high. |
| Access to capital | Impacted | -Impact on this area of financial planning process: In recent years, ESG indexes have been developed for institutional investors from the perspective of ESG investment. Toyota has been listed in some ESG indexes (FTSE4Good Index Series, FTSE Blossom Japan Index, MSCI Japan ESG Select Leaders Index, and a Gold rating for sustainability from EcoVadis) for its excellent ESG achievements including climate-related activities, such as development of low carbon vehicles including electrified vehicles. GPIF and other major institutional investors use those indexes as a benchmark for investment. The high evaluation of Toyota will have a positive impact on Toyota’s access to capital . As stated above, the climate risks and opportunities affect Toyota’s capital and this area of our financial planning process. -Magnitude of this impact: Institutional investors have begun to use climate indexes to assess companies. This has begun to have an impact on Toyota’s access to capital. Toyota recognizes the possibility of a growing impact in the future, but the magnitude of the impact at this point is medium. |
| Assets | Impacted | -Impact on this area of financial planning process: The impact from climate change has tightened greenhouse gas (GHG) emission reduction regulations and raised demand for low emission vehicles. Under such conditions, Toyota has had to build new facilities or update its existing facilities, which affects Toyota’s assets. In the reporting year, Toyota Motor North America (TMNA) installed more than 200,000 solar panels into its newly-built office buildings to respond to society’s growing calls to reduce GHG emissions. Also, tightening US CAFE standards and ZEV regulations and other stepped-up climate policies have increased the demand for low emission vehicles. Taking this into account, Toyota has continued to develop electrified vehicles, setting out its corporate strategy that aims for sales of more than 5.5 million electrified vehicles (including 1 million ZEVs) by 2030, and reducing gasoline/diesel-only-powered vehicles to zero by around 2025. To achieve these goals, Toyota is considering the review/replacement of its strategic assets, mainly production facilities. Looking ahead, Toyota aims to sell more than 30,000 FCVs per year globally from around 2020 to popularize FCVs even more. This means Toyota needs to have a 10-times higher production capacity than the current annual level of 3,000 units. Therefore, Toyota plans to expand production facilities for FC stacks, the core unit for FCVs, and high-pressure hydrogen storage tanks. In this way, climate risks and opportunities affect Toyota’s assets, and this area of our financial planning process . -Magnitude of this impact: Toyota is strategically examining the review or replacement of assets with a focus on production facilities to meet tightening GHG regulations for plants/offices and rising demand for low emission vehicles attributed to climate change. As stated above, the magnitude of the impact on Toyota’s assets is very high. |
| Liabilities | Impacted | -Impact on this area of financial planning process: Toyota’s liabilities are affected because we have financial business for car loan/car leasing service and we have issued climate-related green bonds. For instance, Toyota Motor Credit Corporation (TMCC) introduced the auto industry’s first-ever asset-backed Green Bond in 2014. TMCC’s Green Bond issuance supports the sales of environmentally friendly vehicles and serves to advance Toyota’s extensive environmental commitment. TMCC has issued four Green Bonds totalling $5.3 billion (563,072 million yen) as of December 31, 2017. In the reporting year, in the US market, Green Bonds apply to such low emission vehicles as the Avalon Hybrid, Camry Hybrid, Lexus CT 200h, Prius, and Mirai. In this way, climate risks and opportunities affect Toyota’s liabilities, and this area of our financial planning process . -Magnitude of this impact: The number of Green Bonds has been increasing gradually in terms of issuance, regions, and types of currency. Toyota’s total liabilities are 30,386,173 million yen\*, relative to the amount of Green Bonds issued of 563,072 million yen. The magnitude of the impact on Toyota’s liabilities is low. \*Conversion: $1＝106.24 yen, from the SEC report |
| Other | Please select |  |

## **C3. Business Strategy**

## **C3.1**

### **(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

## **C3.1a**

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

Yes, qualitative and quantitative

## **C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b**

### **(C-AC3.1b/C-CE3.1b/C-CH3.1b/C-CO3.1b/C-EU3.1b/C-FB3.1b/C-MM3.1b/C-OG3.1b/C-PF3.1b/C-ST3.1b/C-TO3.1b/C-TS3.1b) Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.**

Yes

## **C3.1c**

### **(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.**

ⅰ）How business objectives and strategy have been influenced by climate-related issues

Toyota has defined climate change and environment issues as important business risks and opportunities. In particular, the momentum to push forward decarbonization in the international community has been accelerating since around 2015, when the Paris Agreement was concluded. Toyota recognizes not only a growing interest among national governments but also among the public and general consumers, as well as intensifying advocacy among NGOs.

Such social movement for decarbonization, translated into fuel economy standards and emission cut regulations on plants/offices in countries, has had a great impact on Toyota’s production and sales plans.

The greatest example of this is the Toyota Environmental Challenge 2050 which includes the CO2 reduction plan. Toyota has presented its long-term greenhouse gas emission reduction strategy as below, under the umbrella of the Challenge.

Challenge 1) Reduce the global average CO2 emissions from new vehicles during operation by 90% from Toyota’s 2010 global level

Challenge 2) Completely eliminate all CO2 emissions from the entire vehicle life cycle

Challenge 3) Achieve zero CO2 emissions at all plants by 2050

ⅱ）Business strategy is linked to an emissions reductions target

In the reporting year, Toyota announced its plan that aims for sales of more than 5.5 million electrified vehicles by 2030 as one of its business strategies.

This is linked with the 2030 Milestone, the interim target of Challenge 1: reducing global average CO2 emissions from new vehicles during operation by more than 35% below 2010 levels by 2030.

Also, a solution to Challenge 3 is to achieve zero CO2 emissions at all plants by 2050. An instrument to achieve this goal is to make efforts to introduce renewable energy on a global basis. Toyota is moving into action by taking various approaches, such as solar rooftop panels installed in plants/offices and the purchase of renewable energy. Self-generated electricity through solar panels and other facilities amounted to 175.78 million MWh in the reporting year. Toyota is planning to expand these efforts to introduce renewables even further.

ⅲ）Example of the most substantial business decision made as a result of the integration of climate-related issues

[Emissions reduction strategy]

Demand for low emission vehicles has been rising in response to tightening vehicle/fuel economy regulations, such as the ZEV program and the CAFE standards in the US as well as announcement of restriction policies of sales of gasoline/diesel vehicles in some European and other countries. Considering this move and the aspect of climate change, Toyota has made a business decision to aim for sales of more than 5.5 million electrified vehicles in 2030.

[Announcement of 2030 Milestone]

Since the Paris Agreement was concluded, there has been proactive, voluntary climate action from non-governmental actors who are seeking to transform society in order to combat climate change. This has pressed companies even further to disclose their mid-term strategies/goals. Toyota has declared its long-term strategy, the Toyota Environmental Challenge 2050 and its short-term goal, the 6th Environmental Action Plan, but not its mid-term strategy. Toyota has made a business decision to announce its mid-term strategy, recognizing its importance.Toyota has announced 2030 Milestone in the reporting year as below.

Challenge 1) Sell more than 5.5 million electrified vehicles by 2030

Reducing global average CO2 emissions from new vehicles during operation by more than 35% below 2010 levels by 2030

Challenge 2) Reduce lifecycle CO2 emissions by more than 25% below 2013 level by 2030

Challenge 3) Reduce CO2 emissions from plants around the world by 35% below 2013 levels by 2030

## **C3.1d**

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

|  |  |
| --- | --- |
| **Climate-related scenarios** | **Details** |
| 2DS  IEA B2DS  IEA NPS  Other, please specify (MoMo) | Potential trends in the auto market driven by climate change risk is crucial for Toyota, whose main business is to produce/sell passenger vehicles. Therefore, Toyota has identified NPS, 2DS and B2DS set out by the IEA as trend scenarios that can be used to analyze the size of the powertrain market in 2030, the target year of the 2030 Milestone. This analysis covers the production of passenger vehicles, the core auto business of Toyota on a consolidated basis. 【Methodology/Hypothesis of scenario analysis】 Toyota looked at its worldwide powertrain sales volume and sales ratio by NPS, 2DS and B2DS respectively, based on the IEA Mobility Model (MoMo), and compared them with the 2030 Milestone targets. Toyota hypothesized that as the used scenario shifts from NPS, to 2DS and B2DS (potentiality to limit temperature rise: NPS (low), 2Ds (medium), B2Ds (high)), tightening of regulations, technology evolution and trends in the mobility business such as ride-sharing will be accelerated. 【Brief discussion of analysis, potential impact, and case studies/examples】 In all the scenarios, the market for new passenger vehicles has an expanding trend. The intensity of the expansion is stronger with NPS than with 2DS and B2DS. Meanwhile, the market for electrified vehicles/ZEVs is more expansive with 2DS and B2DS than with NPS, which suggests that Toyota is able to achieve sustainable growth by enriching the powertrain lineups of electrified vehicles/ZEVs in an optimized manner, even if measures against climate change evolve throughout society. The analysis results were used to review and check the validity of the already established business goals and strategy based on the climate agenda and its future forecast. As a result, Toyota confirmed that the business goals and strategy are appropriate, so there is no need to revise them. Below is an outline of the business goals and strategy, with case studies/examples. Toyota has declared goals of “slashing the average CO2 emissions per vehicle by 90% in comparison with 2010 levels by 2050” under the Toyota Environmental Challenge 2050, and of “selling more than 5.5 million electrified vehicles (including 1 million ZEVs) by 2030” under the 2030 Milestone, in order to respond to tightening regulations and evolving battery technology. At this point, the ZEV ratio target Toyota strategically set under the 2030 Milestone exceeds the ratio needed to achieve 2DS, yet falls below the ratio needed to achieve B2DS. Nevertheless, Toyota is on track to establish its business base of mass production for electrified vehicles, acquiring the essential elements through HV development. The technology is also applicable to ZEV development. This means that Toyota is able to adjust the powertrain lineups to match any shifts in demand flexibly and strategically, and to keep up with any shift in demand throughout society by using its leading HV technology. Toyota’s production/sales volume of electrified vehicles/ZEVs are planned by the Environmental Product Design Assessment Committee and in other meetings with the viewpoints of the company management taken into consideration. The production/sales volume of electrified vehicles/ZEVs are also used to confirm the progress status of the Challenge and the Milestone, to discuss whether to review Toyota’s course, and affect the development/production planning of electrified vehicles/ZEVs. For example, in June 2019, Toyota announced it will move up the electrification goal under the 2030 Milestone by 5 years, and was in the process of reviewing its targets to keep up with the shift in social demand. Toyota also strives to build a new mobility society through investing with partners in the Uber self-driving and ride-sharing business to take advantage of the evolving mobility business. |

## **C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e**

### **(C-AC3.1e/C-CE3.1e/C-CH3.1e/C-CO3.1e/C-EU3.1e/C-FB3.1e/C-MM3.1e/C-OG3.1e/C-PF3.1e/C-ST3.1e/C-TO3.1e/C-TS3.1e) Disclose details of your organization’s low-carbon transition plan.**

<Long-term strategy>

Toyota Environmental Challenge 2050

Toyota declared the Toyota Environmental Challenge 2050 in 2015 in response to the global movement to push forward decarbonization around the conclusion of the Paris Agreement. It articulates Toyota’s environmental promise by 2050 on a global scale. Three challenges related to climate change are blow.

1) Reduce global average CO2 emissions from new vehicles during operation by 90% from Toyota’s 2010 global level

2) Completely eliminate all CO2 emissions from the entire vehicle life cycle

3) Achieve zero CO2 emissions at all plants by 2050

<Mid-term strategy>

2030 Milestone of the Toyota Environmental Challenge 2050

Toyota developed the 2030 Milestone, an interim target of the Toyota Environmental Challenge 2050. Toyota promises:

- Sell more than 5.5 million electrified vehicles (including more than 1 million ZEVs)

- Reduce lifecycle CO2 emissions from products by 25% below 2013 levels

- Reduce CO2 emissions from plants by 35% below 2011 levels

2020-2030 Goal of Making More Electrified Vehicles Available to the Public

In the reporting year, Toyota announced its corporate strategy that aims for sales of more than 5.5 million electrified vehicles (including more than 1 million EVs/FCVs) by 2030.

Toyota is planning to launch in-house developed mass-produced EVs in 2020, starting with the Chinese market, and then expanding to the Toyota/Lexus product lineups globally. In the early 2020s, Toyota will have more than ten models of electrified vehicles. By around 2025, Toyota will expand the electric vehicle lineups and electrified option levels, reducing gasoline/diesel-only-powered vehicles to zero.

Batteries are a key factor in achieving the goal. There are many challenges remaining: power supply capacity, energy density (driving range and charging time), and development cost that has a major impact on vehicle price . Toyota is making 1.5 trillion yen worth of investment in battery development, facilities and other related areas toward 2030. In fact, Toyota has begun joint development with a wide range of suppliers to realize the stable supply of in-vehicle square batteries.

While vehicle electrification reduces the CO2 emissions from driving to zero, greater use of particular auto parts would increase CO2 emissions from the manufacturing of auto parts/vehicles. This is another emerging challenge. Toyota will promote/improve environmentally-friendly design even further, carefully selecting materials. Toyota will also strengthen partnerships with suppliers and eliminate waste to its limit.

<Short-term strategy>

Action Plan

Toyota develops its short-term planning, the Toyota Environmental Action Plan, every 5 years. The current version is the 6th Toyota Environmental Action Plan (2016-2020).

The action plan sets more specific and detailed targets than the mid-term Milestone in order to achieve the goals under the Toyota Environmental Challenge 2050

## **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

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

100

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

100

### **Base year**

2013

### **Start year**

2015

### **Base year emissions covered by target (metric tons CO2e)**

8890000

### **Target year**

2050

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

No, but we anticipate setting one in the next 2 years

### **% of target achieved**

12.4

### **Target status**

Underway

### **Please explain**

・Global emissions target in production at major production facilities (Toyota Environmental Challenge) ・Target GHG: CO2 emissions from energy use

### **Target reference number**

Abs 2

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

15.3

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

28

### **Base year**

1990

### **Start year**

2016

### **Base year emissions covered by target (metric tons CO2e)**

2110000

### **Target year**

2020

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

No, but we anticipate setting one in the next 2 years

### **% of target achieved**

100

### **Target status**

Achieved

### **Please explain**

・Global emissions target in production at major production facilities (Toyota Environmental 6th plan) ・Target GHG: CO2 emissions from energy use ・Already achieved (155.7% achieved (emissions)), but go even further.

### **Target reference number**

Abs 3

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

100

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

35

### **Base year**

2013

### **Start year**

2015

### **Base year emissions covered by target (metric tons CO2e)**

8890000

### **Target year**

2030

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

No, but we anticipate setting one in the next 2 years

### **% of target achieved**

35.4

### **Target status**

Underway

### **Please explain**

・Midterm milestone for the global target in production at major facilities (Toyota Environmental Challenge 2050) ・Target GHG: CO2 emissions from energy use

## **C4.1b**

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

### **Target reference number**

Int 1

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

100

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

100

### **Metric**

Metric tons CO2e per unit of production

### **Base year**

2001

### **Start year**

2015

### **Normalized base year emissions covered by target (metric tons CO2e)**

1.18

### **Target year**

2050

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

No, but we anticipate setting one in the next 2 years

### **% of target achieved**

37

### **Target status**

Underway

### **Please explain**

・Global emissions target in production at major production facilities (in the period of Environmental Challenge) ・Target GHG: CO2 emissions from energy use ・Units: per production volume

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

-100

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

0

### **Target reference number**

Int 2

### **Scope**

Scope 1+2 (location-based)

### **% emissions in Scope**

100

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

61

### **Metric**

Metric tons CO2e per unit of production

### **Base year**

2001

### **Start year**

2016

### **Normalized base year emissions covered by target (metric tons CO2e)**

1.18

### **Target year**

2020

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

No, but we anticipate setting one in the next 2 years

### **% of target achieved**

60.6

### **Target status**

Underway

### **Please explain**

・Global emssion target in production at major production facilities ・Target GHG: CO2 emission from energy use ・Unit: per production volume

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

-15.1

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

0

## **C4.2**

### **(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.**

## **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 | 3895.72 |
| Implementation commenced\* | 4 | 5126 |
| Implemented\* | 193 | 61606.67 |
| 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 type**

Energy efficiency: Processes

### **Description of initiative**

Machine replacement

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

14420

### **Scope**

Scope 1

### **Voluntary/Mandatory**

Voluntary

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

328200000

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

63000000000

### **Payback period**

1-3 years

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

1-2 years

### **Comment**

Representative CO2 reduction activities implemented include highly efficient air-conditioners and freezing machines, and consolidation of process and equipment. Activity period is for 1 year. The cost saving amount in the reporting year (FY2018) is based on the investment until the preceding year. Investment effect normally emerges after the following year of the reporting year (FY2018). Therefore, cost reduction and investment recovery estimated from investment are not consistent with the payback period in the table. The recovery year is an indicator for an investment decision.

### **Initiative type**

Energy efficiency: Processes

### **Description of initiative**

Machine replacement

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

47186.99

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

271800000

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

700000000

### **Payback period**

1-3 years

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

1-2 years

### **Comment**

Representative CO2 reduction activities implemented include highly efficient air-conditioners and greezing machines, and consolidation of process and equipment. Activity period is for 1 year.

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Dedicated budget for energy efficiency | Toyota makes investments to reduce greenhouse gas (GHG) emissions every year. Toyota sees the reduction of energy consumption as important to reduce GHG emissions. Painting is the largest energy user in the process of vehicle production. Toyota makes investments and defines painting as the highest priority. For instance, Toyota proactively invests in high-coating-painting systems and airless painting, which are effective in reducing GHGs. In the reporting year, Toyota invested 456.2 billion yen in introducing technology to reduce GHG emissions. |

## **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**

Company-wide

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

Toyota launched the world first mass-produced HV Prius in 1997 under its philosophy that "environmental contributions will only happen with higher product availability." Since then, Toyota has expanded its HV lineups. Toyota sold 39 models in the reporting year. Toyota sold 1.51 million units in the reporting year alone, and 12 million units on a global cumulative basis. Toyota's HVs feature electrically-powered driving, energy regeneration at the time of idle stop deceleration, highly efficient gasoline engine recycling synergized by electrification, control systems that realize the highest efficiency in response to drivers' different ways of driving, and more. Also, Toyota's HVs also have various environmental technologies such as To decreasinge car body’s air resistance and /tire’s rolling resistance, Toyota's HVs enhanced air conditioning efficiency, which (which is not claimed in the product catalogs), reducingsave lighting electricity consumption, and are equipped with monitors, which allow customers to enjoy eco-driving. Prius PHV launched in 2012 has a large-capacity battery and an external charging system developed based on the Toyota HV system, which enables customers to enjoy long-distance EV driving without concerns about the batteries running down. This feature also promises deeper market penetration and lower emissions toward a renewable energy-dominant future. Toyota also launched MIRAI, the world first mass-produced FCV, in 2014, and achieved 2,700 sales units by the reporting year. Toyota intends to make it more available to customers. FCVs, which realize zero emissions while on the road, have the potential to lead to a future low carbon society because hydrogen can replace unstable renewables and can also be stored/transported easily.

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

Avoided emissions

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

Other, please specify (Toyota defines electrified vehicles as low-carbon products. In other words, sales of HVs, PHVs, EVs and FCVs serve as the indicator of low-carbon products.)

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

14

### **Comment**

Toyota calculates the effect of CO2 emission reductions by comparing real-world CO2 emissions from HVs to those from comparable gasoline-powered vehicles. Global cumulative HV sales reached 12 million units in this reporting year (2018), which reduced CO2 emissions by 90 million tons, in other words, gasoline consumption by 34 million kl.

## **C5. Emissions methodology**

## **C5.1**

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

### **Scope 1**

### **Base year start**

avril 1 2001

### **Base year end**

mars 31 2002

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

3010000

### **Comment**

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

### **Base year start**

avril 1 2001

### **Base year end**

mars 31 2002

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

3990000

### **Comment**

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

### **Base year start**

### **Base year end**

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

### **Comment**

## **C5.2**

### **(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

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

## **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)**

2554576.66

### **Start date**

avril 1 2017

### **End date**

mars 31 2018

### **Comment**

The data featured in this report covers the fiscal year 2018, from April 2017 to March 2018.

### **Past year 1**

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

### **Start date**

### **End date**

### **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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report 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**

5238108.05

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

<Not Applicable>

### **Start date**

avril 1 2017

### **End date**

mars 31 2018

### **Comment**

The data featured in this report covers the fiscal year 2018, from April 2017 to March 2018.

### **Past year 1**

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

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

<Not Applicable>

### **Start date**

### **End date**

### **Comment**

## **C6.4**

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

No

## **C6.5**

### **(C6.5) Account for your organization’s Scope 3 emissions, disclosing and explaining any exclusions.**

### **Purchased goods and services**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

61188300

### **Emissions calculation methodology**

1) CO2 emissions from production of purchased products is calculated by multiplying the number of units sold by CO2 emissions from the stage of materials and parts production per unit, which is calculated through a Life Cycle Assessment for each car model. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.) 2)CO2 emissions from production of secondary materials used in a manufacturing process is calculated by multiplying the monetary amount of purchased secondary materials by CO2 emissions per unit. The CO2 emissions per unit are defined by Japanese Ministry of Environment (MOE) “The Data Base of the Factors for Calculation of Organizations' GHG Emission from Supply Chain Ver.2.4”. 3)CO2 emissions from test car development is calculated by multiplying the number of test cars produced by CO2 emissions per unit. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.)

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

80

### **Explanation**

Ratio of total number of units produced of models assessed by LCA to total units produced of all models in the reporting year.

### **Capital goods**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

4180700

### **Emissions calculation methodology**

Calculated by multiplying the amount spent in capital investment by the CO2 emissions per unit. The emissions per unit are sourced from Japanese Ministry of Environment “The Data Base of the Factors for Calculation of Organizations' GHG Emission from Supply Chain Ver.2.4”.

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

100

### **Explanation**

Capital investment is disclosed in our Financial Report (auto business)

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

946100

### **Emissions calculation methodology**

Calculated by multiplying Scope 1 & 2 by CO2 emissions per unit. The CO2 emissions per unit are sourced from Japan Environmental Management Association for Industry and the Law on Promotion of Global Warming Countermeasures “GHG Emissions Accounting and Reporting Manual Ver.4.3”.

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

100

### **Explanation**

Annual energy consumption by energy source is available in the Environmental Report (covering Toyota Motor Corporation and its domestic/overseas consolidated affiliates).

### **Upstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

872400

### **Emissions calculation methodology**

Calculated by multiplying the number of sales units by CO2 emissions generated during upstream transportation per car. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.)

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

80

### **Explanation**

Ratio of total number of units produced of models assessed by LCA to total units produced of all models in the reporting year.

### **Waste generated in operations**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

124100

### **Emissions calculation methodology**

Calculated by multiplying a quantity of waste generated through production by CO2 emissions per unit. The CO2 emissions per unit are sourced from Japanese Ministry of Environment “The Data Base of the Factors for Calculation of Organizations' GHG Emission from Supply Chain Ver.2.4”

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

100

### **Explanation**

A quantity of waste is disclosed in the Environmental Report (covering Toyota Motor Corporation and its domestic/overseas consolidated affiliates).

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

151000

### **Emissions calculation methodology**

Calculated by multiplying total distance traveled, which is calculated based on the number of business travels and destination, by CO2 emissions per unit. The CO2 emission per unit are sourced from Japanese Ministry of Environment “The Data Base of the Factors for Calculation of Organizations' GHG Emission from Supply Chain Ver.2.4”

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

20

### **Explanation**

Calculated as all consolidated affiliates based on Toyota's primary data. The number of employees is disclosed in our Financial Report (auto business, common)

### **Employee commuting**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

661700

### **Emissions calculation methodology**

Calculated based on commute data (transit subsidy, etc.) and CO2 emissions per unit. The CO2 emissions per unit are sourced from Japan Environmental Management Association for Industry ”Carbon-footprint Communication Program Basic Data Base Ver.1.001” and Japanese Ministry of Environment “The Data Base of the Factors for Calculation of Organizations' GHG Emission from Supply Chain Ver.2.4”.

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

20

### **Explanation**

Calculated as all consolidated affiliates based on Toyota's primary data. The number of employees is disclosed in our Financial Report (auto business, common)

### **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>

### **Explanation**

Copier machines and PCs are included in upstream leased assets. They are used in Toyota’s offices, so CO2 emissions by using them are calculated as Scope 2.

### **Downstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

6300

### **Emissions calculation methodology**

Calculated based on the typical distance transported per completely built up car (CBU), the total amount of CBUs transported which is calculated by multiplying sales volume by vehicles, and CO2 emissions per unit. The emissions per unit are sourced from the Law on Promotion of Global Warming Countermeasures Japanese Ministry of Environment “GHG Emissions Accounting and Reporting Manual Ver.4.3”..

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

80

### **Explanation**

Ratio of total number of units produced of models assessed by LCA to total units produced of all models in the reporting year.

### **Processing of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

1405900

### **Emissions calculation methodology**

Covers part of production of buses and trucks that travel to companies other than Toyota’s consolidated companies. Calculated by multiplying CO2 emissions per truck/bus, which is calculated through a LCA for each representative model, by the number of truck/bus produced. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.)

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

100

### **Explanation**

There are many kinds of specifications. Representatives of all models are assessed by LCA.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

338513000

### **Emissions calculation methodology**

(1) CO2 emissions from use of products is calculated by 1) averaging CO2 emissions per car sold in Japan, US, EU and China, where regulators have developed databases on fuel economy and sales volume, 2) defining it as globally averaged CO2 emissions per car, and 3) multiply it by a global sales volume. The CO2 emissions per unit are sourced from Japan Environmental Management Association for Industry ”Carbon-footprint Communication Program Basic Data Base Ver.1.001” and Japan Environmental Management Association for Industry and the Law on Promotion of Global Warming Countermeasures Japanese Ministry of Environment “GHG Emissions Accounting and Reporting Manual Ver.4.3”. (2) CO2 emissions from maintenance service is calculated by multiplying CO2 emissions from maintenance service per car, which is calculated through a LCA, by the number of cars sold. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.)

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

70

### **Explanation**

Defined as ratio calculated by primary data of regulators: Japan, US, EU and China.

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

3790600

### **Emissions calculation methodology**

Calculated by multiplying CO2 emissions per unit from disposing used car, by the number of cars sold. (The CO2 emissions per unit are sourced from the Life Cycle Assessment Society of Japan (JLCA) and GaBi software.)

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

80

### **Explanation**

Ratio of total number of units produced of models assessed by LCA to total units produced of all models in the reporting year.

### **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>

### **Explanation**

Toyota has downstream leased assets, mainly car rental services. The number of units used to calculate emissions in “use of sold products” includes rent units, so emissions from “downstream leased assets” is also included in the emissions in use of sold products.

### **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>

### **Explanation**

Toyota has no franchises.

### **Investments**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

174500

### **Emissions calculation methodology**

Calculated by multiplying the scope 1 and 2 emissions of investee companies in which Toyota Motor Corporation hold stocks, by Toyota’s shareholding ratio. The scope1 and 2 emissions of investee are sourced from specified equity securities and deemed holdings of equity securities.

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

100

### **Explanation**

Names/the number of stocks held by Toyota is available in our Financial Report.

### **Other (upstream)**

### **Evaluation status**

Not evaluated

### **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>

### **Explanation**

### **Other (downstream)**

### **Evaluation status**

Not evaluated

### **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>

### **Explanation**

## **C6.7**

### **(C6.7) Are carbon dioxide emissions from biologically sequestered 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**

2.824e-7

### **Metric numerator (Gross global combined Scope 1 and 2 emissions)**

7870079.81

### **Metric denominator**

unit total revenue

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

27597193000000

### **Scope 2 figure used**

Location-based

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

1.91

### **Direction of change**

Increased

### **Reason for change**

Although Toyota’s net revenue decreased, Toyota made GHG reduction efforts to reduce electricity consumption which occupies mostly Scope 2 emissions by replacement with LED lighting, air-conditioning control, and upgrade facilities with highly efficient equipment. Consequently, its GHG emission intensity was resulted in a slight increase.

### **Intensity figure**

0.7402513754

### **Metric numerator (Gross global combined Scope 1 and 2 emissions)**

7870079.81

### **Metric denominator**

vehicle produced

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

10527079

### **Scope 2 figure used**

Location-based

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

0.91

### **Direction of change**

Decreased

### **Reason for change**

Although Toyota’s net revenue decreased, Toyota made GHG reduction efforts to reduce electricity consumption which occupies mostly Scope 2 emissions by replacement with LED lighting, air-conditioning control, and upgrade facilities with highly efficient equipment. Consequently, its GHG emission intensity was resulted in a slight increase.

## **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 | 1849812.44 |
| North America | 356052.83 |
| Europe | 105099.19 |
| China | 56426.42 |
| Other, please specify (Rest of the World) | 186431 |

## **C7.3**

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

By business division

## **C7.3a**

### **(C7.3a) Break down your total gross global Scope 1 emissions by business division.**

|  |  |
| --- | --- |
| **Business division** | **Scope 1 emissions (metric ton CO2e)** |
| Administrative division | 239664.58 |
| Production division | 2314157.28 |

## **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 generation 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 (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 2314157.28 | <Not Applicable> |  |
| 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 in market-based approach (MWh)** |
| Japan | 2955053.86 |  | 9503672.38 | 42256.97 |
| North America | 838798.81 |  | 1545590.64 | 4714 |
| Europe | 193405.37 |  | 445632.95 | 28255 |
| China | 669916.37 |  | 2422056.52 | 833 |
| Other, please specify (Rest of the world) | 580933.63 |  | 918430.12 | 95308 |

## **C7.6**

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

By business division

## **C7.6a**

### **(C7.6a) Break down your total gross global Scope 2 emissions by business division.**

|  |  |  |
| --- | --- | --- |
| **Business division** | **Scope 2, location-based emissions (metric tons CO2e)** | **Scope 2, market-based emissions (metric tons CO2e)** |
| Administrative division | 1438146.54 |  |
| Production division | 3800716.3 |  |

## **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 (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 3800716.3 |  |  |
| 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**

0.000102

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

266983044.35

### **Metric denominator**

p.km

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

2623244032000

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

105

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

10247047

### **Vehicle lifetime in years**

10

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

16000

### **Load factor**

1.6

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

Toyota stays unchanged from previous year. --Calculation: Denominator is (number of sold nits)×(vehicle lifetime)×(annual mileage)×(load factor). Number of sold units: it’s from in-house data Vehicle lifetime and lifetime mileage: commonly used number Annual mileage and load factor: calculated form IEA data

### **Activity**

Heavy Duty Vehicles (HDV)

### **Emissions intensity figure**

0.000071

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

67065237.69

### **Metric denominator**

t.km

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

946635822000

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

91

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

196479

### **Vehicle lifetime in years**

10

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

66000

### **Load factor**

7.3

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

Toyota stays unchanged from previous year. -Calculation: Denominator is (number of sold nits)×(vehicle lifetime)×(annual mileage)×(load factor). Number of sold units: it’s from in-house data Vehicle lifetime and lifetime mileage: commonly used number Annual mileage and load factor: calculated form IEA data

## **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 | 28.4 | Decreased | 0 | Change in renewable energy consumption attributed to the reason described in column 1: 28.40 t-CO2 Previous year Scope1+2 emissions: 7,870,080t-CO2 Emissions value (percentage)=( Change in renewable energy consumption attributed to the reason described in column1 ÷ Previous year Scope1+2 emissions) × 100 = (28.40/7,870,080) x100=0.00036% Toyota increased self-generation and purchase of renewable power. |
| Other emissions reduction activities | 77395 | Decreased | 0.99 | Change in Scope1+2 emissions attributed to the reason described in column 1: 77,395 t-CO2 Previous year Scope1+2 emissions: 7,870,080t-CO2 Emissions value (percentage)=(Change in Scope1+2 emissions attributed to the reason described in column1 ÷ Previous year Scope1+2 emissions) × 100 = (77,395/7,870,080) x100=0.99% Toyota upgraded facilities and improved efficiency of production lines. |
| Divestment |  | <Not Applicable> |  |  |
| Acquisitions |  | <Not Applicable> |  |  |
| Mergers |  | <Not Applicable> |  |  |
| Change in output | 52606 | Increased | 0.67 | Change in output attributed to the reason described in column 1: 52,606-CO2 Previous year Scope1+2 emissions: 7,870,080t-CO2 Emissions value (percentage)=(Change in output attributed to the reason described in column1 ÷ Previous year Scope1+2 emissions) × 100 = (52,606/7,870,080) x100=0.67% |
| 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?**

Location-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 undertakes this energy-related activity** |
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | Yes |
| Consumption of purchased or acquired steam | Yes |
| Consumption of purchased or acquired cooling | Yes |
| 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 MWh** |
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 0 | 14472510.77 | 14472510.77 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 107945.89 | 10705927.17 | 10813873.06 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 192749.48 | 192749.48 |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 332642.56 | 332642.56 |
| Consumption of purchased or acquired cooling | <Not Applicable> | 0 | 3145.53 | 3145.53 |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 26309.62 | <Not Applicable> | 26309.62 |
| Total energy consumption | <Not Applicable> | 134255.51 | 25706975.51 | 25841231.02 |

## **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 | Yes |
| Consumption of fuel for the generation of heat | Yes |
| Consumption of fuel for the generation of steam | Yes |
| Consumption of fuel for the generation of cooling | Yes |
| 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)**

Liquefied Petroleum Gas (LPG)

### **Heating value**

HHV (higher heating value)

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

7165.43

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

0

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

7165.43

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

0

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

0

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

0

### **Comment**

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

Natural Gas

### **Heating value**

HHV (higher heating value)

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

13602256.63

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

4851210.29

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

3892998.77

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

3522005.74

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

1336041.83

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

0

### **Comment**

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

Kerosene

### **Heating value**

HHV (higher heating value)

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

118887.9

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

191.04

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

0

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

135.4

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

118561.46

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

0

### **Comment**

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

Diesel

### **Heating value**

HHV (higher heating value)

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

8367.07

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

8367.07

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

0

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

0

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

0

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

0

### **Comment**

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

Other, please specify (Heavy Oil A)

### **Heating value**

HHV (higher heating value)

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

735833.75

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

33136.77

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

76.77

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

416554.31

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

286065.9

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

0

### **Comment**

## **C8.2d**

### **(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

### **Diesel**

### **Emission factor**

2.67

### **Unit**

kg CO2 per liter

### **Emission factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories

### **Comment**

### **Kerosene**

### **Emission factor**

2.51

### **Unit**

kg CO2 per m3

### **Emission factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories

### **Comment**

### **Liquefied Petroleum Gas (LPG)**

### **Emission factor**

2.82

### **Unit**

metric tons CO2 per metric ton

### **Emission factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories

### **Comment**

### **Natural Gas**

### **Emission factor**

1850

### **Unit**

metric tons CO2 per m3

### **Emission factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories

### **Comment**

### **Other**

### **Emission factor**

2.67

### **Unit**

kg CO2 per liter

### **Emission factor source**

2006 IPCC Guidelines for National Greenhouse Gas Inventories

### **Comment**

Heavy oil A

## **C8.2e**

### **(C8.2e) 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 | 34295.93 | 34295.93 | 21163.23 | 21163.23 |
| Heat | 79.45 | 79.45 | 0 | 0 |
| Steam | 431125.79 | 431125.79 | 0 | 0 |
| Cooling | 296072.77 | 296072.77 | 0 | 0 |

## **C8.2f**

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

### **Basis for applying a low-carbon emission factor**

Off-grid energy consumption from an on-site installation or through a direct line to an off-site generator owned by another company

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

Solar PV

### **Region of consumption of low-carbon electricity, heat, steam or cooling**

Other, please specify (Total of global Toyota)

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

17995.26

### **Emission factor (in units of metric tons CO2e per MWh)**

0

### **Comment**

### **Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

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

Biomass (including biogas)

### **Region of consumption of low-carbon electricity, heat, steam or cooling**

Other, please specify (Total of global Toyota)

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

64639.01

### **Emission factor (in units of metric tons CO2e per MWh)**

0

### **Comment**

### **Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

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

Wind

### **Region of consumption of low-carbon electricity, heat, steam or cooling**

Other, please specify (Total of global Toyota)

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

30658.07

### **Emission factor (in units of metric tons CO2e per MWh)**

0

### **Comment**

### **Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

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

Hydropower

### **Region of consumption of low-carbon electricity, heat, steam or cooling**

Other, please specify (Total of global Toyota)

### **MWh consumed associated with low-carbon electricity, heat, steam or cooling**

58111.91

### **Emission factor (in units of metric tons CO2e per MWh)**

0

### **Comment**

## **C-TO8.4**

### **(C-TO8.4) Provide any efficiency metrics that are appropriate for your organization’s transport products and/or services.**

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

26

### **Metric numerator**

tCO2e (t-CO2e per vehicle)

### **Metric denominator**

Production: Vehicle

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

266983044.35

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

10247047

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

-4

### **Please explain**

No significant change was seen compared to the previous year, remained roughly flat.

### **Activity**

Heavy Duty Vehicles (HDV)

### **Metric figure**

341

### **Metric numerator**

tCO2e

### **Metric denominator**

Production: Vehicle

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

67065237.69

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

196479

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

3

### **Please explain**

No significant change was seen compared to the previous year, remained roughly flat.

## **C9. Additional metrics**

## **C9.1**

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

## **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**

Conventional hybrid

### **Metric figure**

1510000

### **Metric unit**

Units

### **Explanation**

Global sales volume(including PHVs)

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Plug-in hybrid vehicle (PHEV)

### **Metric figure**

50000

### **Metric unit**

Units

### **Explanation**

Global sales volume

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Vehicle using LPG/CNG

### **Metric figure**

1000

### **Metric unit**

Units

### **Explanation**

Domestic sales volume (JPN taxis)

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Vehicle using bio-fuel

### **Metric figure**

60000

### **Metric unit**

Units

### **Explanation**

US sales volume (FFV)

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

### **(C-TO9.6/C-TS9.6) What is your investment in research and development (R&D), equipment, products and services and which part of it would you consider a direct investment in the low-carbon transition?**

### **Activity**

Light Duty Vehicles (LDV)

### **Investment start date**

avril 1 2017

### **Investment end date**

mars 31 2018

### **Investment area**

R&D

### **Technology area**

Other, please specify (Development of low-carbon technologies)

### **Investment maturity**

Applied research and development

### **Investment figure**

1026700000000

### **Low-carbon investment percentage**

81-100%

### **Please explain**

Consolidated investment value that meets the definition of low-carbon developed by Toyota in each R&D field. This value includes investments in technology to improve the current level of fuel economy, development of new vehicles with the improved fuel economy, core technology for electric motorization, and system developments to build an effective mobility society.

### **Activity**

Light Duty Vehicles (LDV)

### **Investment start date**

avril 1 2017

### **Investment end date**

mars 31 2018

### **Investment area**

Equipment

### **Technology area**

Other, please specify (Low-carbon production facilities)

### **Investment maturity**

Large scale commercial deployment

### **Investment figure**

982451000000

### **Low-carbon investment percentage**

61-80%

### **Please explain**

Consolidated investment value that meets the definition of low-carbon developed by Toyota in Toyota’s property, plant and equipment investment. This value includes investments in the upgrade of facilities to reduce CO2 emissions during the manufacturing process, new construction of facilities to manufacture highly efficient new products, facilities to produce parts/materials for electric motorization, and facilities that have equipment to reduce CO2 emissions.

## **C10. Verification**

## **C10.1**

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

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

## **C10.1a**

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

### **Scope**

Scope 1

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

Annual process

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

Complete

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

Limited assurance

### **Attach the statement**

[Environmental Report 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/smWPPpEUN0qKmGNDYXr4qQ/EnvironmentalReport2018.pdf)

[C10.1a 10.1b Verification 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/VpdTDvO2UE6ua8Q3iVmmBQ/C10.1a10.1bVerification2018.pdf)

### **Page/ section reference**

Environmental Report 2018 p29: Trends in Global CO2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO2 Emissions per Unit Produced p66: Independent Practitioner’s Assurance Report

### **Relevant standard**

ISAE 3410

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

100

### **Scope**

Scope 2 location-based

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

Annual process

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

Complete

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

Limited assurance

### **Attach the statement**

[Environmental Report 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/smWPPpEUN0qKmGNDYXr4qQ/EnvironmentalReport2018.pdf)

[C10.1a 10.1b Verification 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/VpdTDvO2UE6ua8Q3iVmmBQ/C10.1a10.1bVerification2018.pdf)

### **Page/ section reference**

Environmental Report 2018 p29: Trends in Global CO2 Emissions (from Energy Consumption at Stationary Emission Sources) and CO2 Emissions per Unit Produced p66: Independent Practitioner’s Assurance Report

### **Relevant standard**

ISAE 3410

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

100

## **C10.1b**

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

### **Scope**

Scope 3- all relevant categories

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

Annual process

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

Complete

### **Attach the statement**

[Environmental Report 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/smWPPpEUN0qKmGNDYXr4qQ/EnvironmentalReport2018.pdf)

[C10.1a 10.1b Verification 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/VpdTDvO2UE6ua8Q3iVmmBQ/C10.1a10.1bVerification2018.pdf)

### **Page/section reference**

Environmental Report 2018 P25: Response to Scope3 P66: Independent Practitioner's Assurance Report

### **Relevant standard**

ISAE 3410

## **C10.2**

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

Yes

## **C10.2a**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Disclosure module verification relates to** | **Data verified** | **Verification standard** | **Please explain** |
| C6. Emissions data | Year on year change in emissions (Scope 1 and 2) | ISAE3410 | Each year verification. |
| C6. Emissions data | Year on year emissions intensity figure | ISAE3410 | Each year verification. C6.1, C6.3 |
| C7. Emissions breakdown | Change in Scope 1 emissions against a base year (not target related) | ISAE3410 | Each year verification. C6.10 |
| C7. Emissions breakdown | Change in Scope 2 emissions against a base year (not target related) | ISAE3410 | Each year verification. C7.2 |
| C8. Energy | Renewable energy products | ISAE3410 | Each year verification. C8.2a |

## **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.**

EU ETS

## **C11.1b**

### **(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.**

### **EU ETS**

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

1.48

### **Period start date**

janvier 1 2017

### **Period end date**

décembre 31 2017

### **Allowances allocated**

38477

### **Allowances purchased**

0

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

20784

### **Details of ownership**

Facilities we own and operate

### **Comment**

## **C11.1d**

### **(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?**

<A description of your strategy for complying with the systems in which you participate>

Toyota participates in EU-ETS. Below is how Toyota complies with this system.

Energy saving is the first measure Toyota uses to achieve the EU-ETS cap. Additionally, Toyota considers the use of renewables and low-carbon hydrogen as the second measure to fulfill any shortfall.

To promote energy-saving activities, Toyota takes a two-pronged approach: introduction of innovative technology, and cutting greenhouse gas emissions by reviewing/improving routine work. Under “Toyota Regional No.1 Leadership,” a concept which aims to become “the best-in-town” plant, Toyota collaborates with plants in Europe to share their experience and to implement joint programs to build better capacity among employees.

Toyota is determined not to sell the credits earned through energy saving activities for the purpose of profit. This is because Toyota is concerned that such selling makes the cap-and-trade system prone to speculation.

<Example of how you have applied your strategy >

For example, Toyota Motor Manufacturing (UK) Ltd. (TMM-UK) is a participant in EU-ETS.

TMM-UK carries out thorough energy saving activities to stay within the cap. TMM-UK has introduced simple and slimline facilities at the time of upgrading their production lines and processes, and has conducted “Internal ESCO Activities,” in which employees make energy diagnoses and improvement proposals, specifically, replacements with LED lighting, discontinued use of inefficient vapor/compressed air systems (improved compressor efficiency), and constant air-conditioning control.

As a result, Toyota stays within the cap every year up until now and earns credits.

## **C11.2**

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

No

## **C11.3**

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

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

## **C12. Engagement**

## **C12.1**

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

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

## **C12.1a**

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

### **Type of engagement**

Information collection (understanding supplier behavior)

### **Details of engagement**

Collect climate change and carbon information at least annually from suppliers

### **% of suppliers by number**

100

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

100

### **% Scope 3 emissions as reported in C6.5**

100

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

Toyota has improved the quality of products by frequently communicating with suppliers and building good relationships with them. Therefore, all domestic and overseas suppliers are very important for Toyota to maintain and improve the quality of our products. Also, the suppliers are located widely all over the world. The rationale for engagement coverage is that working on climate change measures with suppliers will allow global issues related to climate change to be solved. These are the reasons why we distributed “Green Procurement Guidelines” to 100% suppliers in domestic and overseas, and we promote reducing their GHG emissions and decreasing CO2 emissions from logistics. In addition, Toyota asks suppliers to participate in the CDP Supply Chain Program to collect information about their climate change strategies, governance and CO2 emissions status.

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

The total procurement amount coverage (number of participatory companies /procurement amount) of suppliers participating in the CDP Supply Chain Program is one of the measures of success. Toyota determines success by coverage increasing from the previous year. Participated suppliers in the reporting year was covered 89% of the procurement amount on domestic purchases. We consider this was a success because the coverage was increased from the previous year, which was 75%. As mentioned before, Toyota distributed “Green Procurement Guidelines” to all suppliers at home and abroad to support them reducing greenhouse gas (GHG) emissions from their operation and logistics. This raised climate awareness among suppliers and led to the following actions in the reporting year. -Mutual Study in the Environment: Each year, we hold a forum for studying environmental issues with suppliers . In this reporting year, a management roundtable conference on the environment was held in June with the participation of management from many key suppliers. Toyota gave a briefing on the “Toyota Environmental Challenge 2050”, and renewed its request to suppliers for their cooperation and collaboration in carrying out the Challenge. There were also presentations by participating companies on examples of their own environmental initiatives, a Q&A session, and an exchange of opinions, deepening the understanding of common issues. -Recognition of Suppliers’ Environmental Initiatives Started: Toyota established the “Environmental Activity Award” in this reporting year, to commend those suppliers who make company-wide efforts and major contributions to environmental initiatives throughout the vehicle lifecycle and entire supply chain. The awards were presented at Global Suppliers Conference, which also serves as a forum for Toyota to explain its action policies.

### **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**

Share information about your products and relevant certification schemes (i.e. Energy STAR)

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

70

### **% Scope 3 emissions as reported in C6.5**

70

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

Toyota implements educational programs for customers in Japan, North America, Europe and some other regions to reduce greenhouse gas (GHG) emissions from driving. These markets represent 70% of all Toyota sales around the world, so it is important for Toyota to start cooperating with customers in these regions in order to contribute to reducing global greenhouse gas emissions. This is the rationale for selecting this group. Also, Toyota thinks it is effective to reduce GHG emissions in category 11 of its Scope 3.

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

To raise the public’s awareness of greenhouse gas emissions from driving, Toyota’s fuel economy (km/l or g-CO2/km) is available in product catalogs or on product websites. The fuel economy figures are calculated and certified by official rules in the markets where Toyota sells vehicles. Toyota’s vehicles sold for customers are equipped with an Eco Drive Indicator, with which drivers can check their average fuel mileage to make their driving more fuel efficient. Toyota thinks the above-mentioned activity encourages changes in customer behavior such as the purchase of low-emission vehicles and eco-driving. A year-on-year increase in the sales of electrified vehicles is the measure of success. These measures were successful; in the reporting year, the sales of electrified vehicles (HVs, PHVs, EVs and FCVs) including Prius and MIRAI saw a year-on-year increase of 8%. The strong sales of HVs increased the sales volume in Europe, bringing a positive financial impact.

## **C12.1c**

### **(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.**

1）Climate-related engagement strategy

Toyota is carrying out various climate activities, such as the development of low-emission/electrified vehicles and CO2 reductions at plants.

However, what Toyota alone can do is limited. Therefore, Toyota builds strategic partnerships with various stakeholders, including suppliers, customers, dealers, policymakers and other companies recognizing the importance of collaborative action which mobilizes the entire society.

Toyota attaches particular weight to joint action through its value chain other than suppliers and customers, with a focus on educational programs.

In particular, Toyota places importance on dealers: the first window for customers. Below is an example.

2) Example of engagement strategy with Toyota dealers

Toyota sells the vehicles it produces at its plants to customers via dealers. Toyota has 372 dealers throughout Japan, including 42 dealers which it owns.

As the first window for customers, dealers play an important role in raising customers’ awareness of eco-driving and other eco-friendly behavior.

These joint efforts aim to raise the level of climate awareness among dealers, encouraging them to pursue a certain level of action and through it, to enhance the credibility of Toyota among customers.

Toyota has dealers all over Japan. Using its widespread network contributes to help solving climate challenges that Toyota cannot deal with alone. This is why Toyota rolls out joint efforts with all of its dealers. To be more specific, the efforts include distribution of Toyota Dealer CSR Guidelines with corresponding supports for dealer activities, collection of CO2 emission data, and implementation support of the environmental management system.

At CSR workshops held by the Toyota National Dealers' Advisory Council (TNDAC), all Toyota dealers came together to promote voluntary activities based on the Toyota Dealer CSR Guidelines set forth in 2005. Toyota Dealer CSR Guidelines cover approaches to environmental challenges including climate change. To further promote these initiatives, they call for increased acquisition of third-party certifications for environmental management systems.

Toyota is encouraging Toyota dealers to voluntarily reduce CO2 emissions by monitoring the progress of establishing environmental management systems at Toyota dealers and helping them establish their own environmental management system.

The rate of collection of CO2 emission data is a measurement of the effectiveness of these joint efforts.

All Toyota dealers thankfully understood and cooperated with Toyota’s intention to collect CO2 emission data. In the reporting year, Toyota obtained almost 100% data.

## **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**

JAMA (Japan Automobile Manufacturers Association, Inc.)

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

Consistent

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

The Japanese automobile industry scientifically discusses climate change mitigation measures with the Japanese government, and tries to make them feasible in real terms. Japan Automobile Manufacturers Association, Inc. (JAMA) has proactively committed to climate change mitigation in cooperation with not only the Japanese government but also other national governments. JAMA shared Japanese industry's comprehensive climate measures and experiences with the Thai and Indonesian governments in the reporting year.

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

Toyota assumes the JAMA Chairman, the Chairman of its Environmental Committee, and other key positions and proactively commit to climate discussion and implementation. Toyota Environmental Challenge 2050 is consistent with JAMA's proactive policy which aims to improve fuel economy, and develop next generation vehicles, making them more widely available in the market.

### **Trade association**

Keidanren (Japan Business Federation)

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

Consistent

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

Keidanren tries to make climate mitigation measures feasible in real terms through scientific discussions with the Japanese government. Keidanren developed the "Commitment to a Low Carbon Society” which indicates companies’ 2030 targets to reduce CO2 emissions, and follows up on these companies’ progress every year. Also, “Society 5.0”, which Keidanren works on proactively, is for maximizing energy efficiency and expanding the use of renewable energy through ICT, recommending inclusive social reforms through the 4th industrial revolution toward a decarbonized society.

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

Toyota participates in the "Commitment to a Low Carbon Society,” the Keidanren-led CO2 reduction initiative targeting 2030 . Toyota Environmental Challenge 2050 is consistent with this initiative. Toyota assumes the Vice President of Keidanren, the Commissioner of the Environment Safety Committee, and other various positions, and participates in active discussions/implementations on climate change mitigation. As Chair of the Committee on New Industry and Technology, Mr. Uchiyamada, Toyota Chairman of the Board, has led “Development of Innovative Technologies,” one of the four major pillars of Keidanren’s “Commitment to a Low Carbon Society”. He also contributed to organizing "Society 5.0" which aims to maximize energy efficiency and expand the use of renewable energy through ICT.

## **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?**

<How it ensures all engagement is consistent>

Toyota makes policy recommendations via business associations (JAMA and Keidanren\*).

Recommendation drafts are distributed to member companies prior to the meetings, which is to discuss the draft at the trade associations. Prior to these meetings, Toyota looks into whether or not there is any inconsistency between the draft and Toyota’s climate policy. If there is a significant inconsistency, Toyota expresses its opinion at the meetings. This is how Toyota ensures consistency.

Toyota’s executives or employees participate in the decision-making bodies or their subordinate meetings at the business associations. They have prior discussions with other relevant divisions to ensure consistency with its corporate strategy. Toyota’s opinions expressed at these external meetings are based on the internal discussions.

At Toyota, executive level persons assume the Commissioner of the monthly JAMA’s Environment Committee and the Commissioner of the biannual Keidanren’s Environment Safety Committee, recognizing their importance as an opportunity to talk about climate-related issues.

Toyota’s executives or employees express opinions at these meetings to ensure consistency between advocacy of the associations and Toyota’s climate policy.

<Process implemented>

Below is the discussion process at JAMA’s Environment Committee. While Toyota’s Executive Vice President participates in the Committee as the Commissioner, those in charge at the Environmental Affairs Division at Toyota participate in the subordinate meeting body, the Climate Change Subcommittee.

1) Toyota’s persons in charge of the Climate Change Subcommittee discuss the agenda with the relevant divisions (Environmental Affairs Division, External Affairs Division, R&D, Engineering Management Division, etc.)

2) The persons in charge speak at the Subcommittee to ensure consistency between JAMA’s recommendations and Toyota’s strategy. If the Subcommittee finds there is further need for discussion, such agenda is reported to the Environment Committee.

3) Toyota’s Executive Vice President of the Environment Committee and those in charge discuss with each other to finalize Toyota’s view.

4) At this point, Toyota’s Executive Vice Presidentensures consistency with Toyota’s strategy, and speaks at the Environment Committee.

\*JAMA: Japan Automobile Manufacturers Association, Inc.

Keidanren: Japan Business Federation

## **C12.4**

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

### **Publication**

In mainstream reports

### **Status**

Complete

### **Attach the document**

[Security and Exchange Commission SEC　〔ＦＯＲＭ２０－Ｆ〕2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/VyZk49B-hUKL2elnX1GXoA/SecurityandExchangeCommissionSEC%EF%BC%A6%EF%BC%AF%EF%BC%B2%EF%BC%AD%EF%BC%92%EF%BC%90%EF%BC%A62018.pdf)

### **Page/Section reference**

Security and Exchange Commission SEC 〔ＦＯＲＭ２０－Ｆ〕2018 -Governance p131 -Strategy(Toyota Environmental Challenge 2050) p13 -Risks & opportunities p5,123

### **Content elements**

Governance

Strategy

Risks & opportunities

### **Comment**

### **Publication**

In voluntary communications

### **Status**

Complete

### **Attach the document**

[Environmental Report 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/smWPPpEUN0qKmGNDYXr4qQ/EnvironmentalReport2018.pdf)

### **Page/Section reference**

Environmental Report2018 -Governance : p53 -Strategy(Toyota Environmental Challenge 2050): p7,8 -Risks & opportunities (Collect and Analyze Information): p7 ( Materiality Step 1) -Emissions figures : p25( Scope 3) ,29( Scope 1,2) -Emission targets: p10(Medium term),11(Long term), 15,16 (Short term),

### **Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

### **Comment**

### **Publication**

In voluntary sustainability report

### **Status**

Complete

### **Attach the document**

[Sustainability Data Book 2018.pdf](https://www.cdp.net/fr/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/YwON92NZZ02ks52nEn-wpw/SustainabilityDataBook2018.pdf)

### **Page/Section reference**

Sustainability Data Book2018 -Governance p121,136-139 -Strategy(Toyota Environmental Challenge 2050) p76,77,79,80 -Risks & opportunities (Collect and Analyze Information) p76 ( Materiality Step 1) -Emissions figures p94,98 -Emission targets p79(Mediumu term), 80(Long term),84,85(Short term)

### **Content elements**

Governance

Strategy

Risks & opportunities

Emissions figures

Emission targets

### **Comment**

## **C14. 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.**

## **C14.1**

### **(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

|  |  |  |
| --- | --- | --- |
|  | **Job title** | **Corresponding job category** |
| Row 1 | Member of the Board of Directors / Executive Vice President | Board/Executive board |