# **Nissan Motor Co., Ltd. - Climate Change 2018**

## **C0. Introduction**

## **C0.1**

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

Established in Yokohama, Kanagawa in 1933, Nissan Motor Co., Ltd. currently manufactures vehicles in approximately 20 countries around the world. The company is headquartered in Yokohama, Japan, and is part of the Renault-Nissan-Mitsubishi Alliance. Operating with more than 158,000 employees globally, Nissan sold more than 5.7 million vehicles and generated revenue of 11.9 trillion JPY in fiscal 2017. Nissan delivers a comprehensive range of over 70 models under the Nissan, Infiniti and Datsun brands. In 2010, Nissan introduced the pure-electric vehicle Nissan LEAF, the first mass-market vehicle launched globally, which maintains its position as the best-selling EV in history and a leader in zero-emission mobility. The new Nissan LEAF was unveiled in October 2017.

## **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 | April 1 2017 | March 31 2018 | No | <Not Applicable> |
| Row 2 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Row 3 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Row 4 | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C0.3**

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

Australia

Brazil

Canada

China

Egypt

Finland

France

Germany

Hungary

India

Indonesia

Italy

Japan

Mexico

Netherlands

Russian Federation

South Africa

Spain

Switzerland

Thailand

United Kingdom of Great Britain and Northern Ireland

United States of America

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)

## **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) of the individual(s) on the board with responsibility for climate-related issues.**

|  |  |
| --- | --- |
| **Position of individual(s)** | **Please explain** |
| Director on board | The Director on Board who oversees Production activities is responsible for climate-related issues. Nissan considers that climate-related issues are more directly related to these activities. This fact justifies the participation of this Director in the Global Environmental Management Committee (G-EMC) meetings as a co-chair for ensuring authoritative decision-making. The Director on Board is also a member of Nissan’s Internal Control Committee, which, among other attributions, is responsible for investigating group-wide potential risks and business opportunities, and revising the company’s “risk and opportunity map” in line with impact, frequency and control level. Climate change has been explicitly included in the FY17 "risk and opportunity map" as a risk related to Nissan’s "business strategies and maintenance of competitive edge". |

## **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 – some meetings | Reviewing and guiding strategy  Reviewing and guiding major plans of action  Reviewing and guiding risk management policies  Reviewing and guiding annual budgets  Reviewing and guiding business plans  Setting performance objectives  Monitoring implementation and performance of objectives  Overseeing major capital expenditures, acquisitions and divestitures  Monitoring and overseeing progress against goals and targets for addressing climate-related issues | Nissan conducts risk management meetings in order to identify and update significant corporate risks. The Board Member in charge of Internal Control is responsible for reporting climate-related risks and opportunities to the Board of Directors biannually, among other matters. The Board of Directors then makes decisions at corporate level including overall environmental risks and policies, which are brought for detailed discussion in the Global Environmental Management Committee meetings. The outcomes of these meetings, in turn, inform the mapping and revision of climate-related risks and opportunities by the Internal Control Committee. The Board Member in charge of Internal Control is finally responsible for reporting revisions in the climate-related risk assessment to the Board of Directors. The risks and business opportunities are managed in line with the Board of Directors’ direction for the preparation of action plans, which are to be implemented by various departments. |

## **C1.2**

### **(C1.2) Below board-level, provide the highest-level management 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 Sustainability Officer (CSO) | Both assessing and managing climate-related risks and opportunities | Half-yearly |

## **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.**

Nissan formulates its environmental strategy based on materiality assessment of management risk factors, analyzing the company's crucial issues and opportunities for both Nissan and its stakeholders.

In order to promote environmental management on a global basis, the CSO, altogether with an appointed Director on Board as co-chair, presides over the Global Environmental Management Committee (G-EMC) twice a year to determine overall policies and content, including climate-change actions, and monitor outcomes of the implementation of environmental action plans. The CSO is considered by Nissan the most suitable person to bear this responsibility due to organizational knowledge to conduct effective environmental management regarding climate-related issues. Hierarchically, through G-EMC meetings, the CSO informs the Director on Board, who is also a member of the Internal Control Committee, for the revision of climate-related risks. These risks are then ultimately reported the Board of Directors for decision-making.

Based on the agreed overall policies, the CSO directs the head of the Environmental Strategy Group to develop plans, accompany specific actions and environmental programs that are to be implemented at regions or sites, with the main objective of ensuring the achievement of the Nissan Green Program's CO2 emission reduction targets. These are managed through KPIs that are associated with Corporate and Product CO2 emission reductions; all KPIs are monitored by the Environmental Strategy Group with specific areas, such as manufacturing sites CO2 reduction or logistics, being the direct responsibilities of other divisions within Nissan. Climate-related environmental performance in KPI terms is reported in the G-EMC meetings.

## **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.**

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

All employees

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Emissions reduction target

### **Comment**

Financial remuneration for individual performance in achieving emissions reduction targets. Employees in energy management-related service lines are expected to reduce GHG to achieve our emissions reduction target (to reduce global corporate CO2 emissions per vehicle), from both climate change mitigation and cost reduction perspectives. Suggestions or proposals are made through small working groups, then evaluated by the executives and awarded with monetary reward depending on their achievement levels.

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

All employees

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Emissions reduction target

### **Comment**

Financial remuneration for individual performance in achieving emissions reduction targets. In Japan, and at some of our overseas facilities, employee participation in and contribution to environmental initiatives are included as a part of the “commitment and target” of each employee’s annual performance objectives. The results of these activities are evaluated according to how well they have achieved their targets and reflected in the performance-based component of their compensation. Nearly 90% of Nissan’s Scope3 emissions is from “use of sold products.” In order to mitigate these emissions, promoting sales of vehicles with outstading fuel economy and zero-emission vehicles such as EV is essential. Employee’s “commitment and target,” system closely related to the sales expansion or promotion of EV, and their performance is reflected in the compensation.

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

All employees

### **Types of incentives**

Recognition (non-monetary)

### **Activity incentivized**

Behavior change related indicator

### **Comment**

Exceptional contributions to environmental activities will be awarded in various ways. Managers present their workers with personal thank-you cards, and employees are honored with the Nissan Prizes presented by the CEO and with awards given by factory chiefs. We seek to improve our systems for promoting environmental consciousness among employees.

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

Chief Executive Officer (CEO)

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Efficiency targets are set for the CEO, as related to the efficiency in terms of energy consumption and cost. Energy-related matters are a fundamental element in Total Delivered Cost (TdC) management, providing a basis for a compensation incentive. Any improvements in terms of energy efficiency will be translated into emissions reduction of the group as a whole.

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

Other, please specify (Chief Competitive Officer (CCO))

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Efficiency target

### **Comment**

Efficiency targets are set for the CCO, a position which encompasses oversight of global manufacturing, supply chain management and R&D. Energy-related matters are a fundamental element in TdC management, providing a basis for a compensation incentive in terms of energy efficiency and cost reduction. This is directly related to emissions reduction of the group as a whole.

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

Director on board

### **Types of incentives**

Monetary reward

### **Activity incentivized**

Emissions reduction project

### **Comment**

The Executive Vice-President/Director on Board who oversees Production has the mission to reduce energy costs and increase energy efficiency at Nissan's production facilities, as energy-related matters are a fundamental element in TDC management. This provides a basis for a compensation incentive in terms of energy efficiency and cost reduction, which is ultimately related to emissions reduction of the group as a whole.

## **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 | Risks monitored and considered include those driven by regulatory (e.g. CO2 regulation on automobiles), physical (e.g. change in precipitation extremes and droughts), and other factors (e.g. changing consumer behaviour). |

## **C2.2b**

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

[Scope]

For Nissan, risk refers to any factor that may prevent the group from achieving its business objectives, and opportunity refers to any potential business areas for securing long-term competitiveness. Risks with long time frames of more than 10 years are also considered. We have a department dedicated exclusively to risk and opportunity management, which gauges the risks and explores opportunities arising from products and manufacturing as related to climate change. The Global Environment Management Committee, co-headed by our Executive Vice-President/Director on board, who oversees production activities, works closely together with this department.

[Identification and assessment at company level]

Based on its Global Corporate Management Policy, the department carries out annual interviews with corporate officers for investigating group-wide potential risks/business opportunities, and revises the company’s “risk and opportunity map” in line with impact, frequency and control level. The Executive Committee makes decisions at corporate level biannually and gives direction for the management and development of action plans related to risks and business opportunities. Moreover, the Board Member in charge of Internal Control, who is a member of the Executive Committee, reports to the Board of Directors also biannually.

[Identification and assessment at asset level]

Each division is responsible for assessing risk impacts and creating a plan for long-term management. The divisions also prepare measures to be put in place when issues do materialize. We are strengthening information sharing through intranet portal throughout the group to subsidiaries and affiliated companies worldwide. Since 2008, Nissan started the Employee-Initiated Evaluation System to encourage employees to think proactively and propose ideas to improve the company’s environmental performance while achieving business goals.

As a general figure, when identifying and assessing risks, including climate related-risks, we regard over 0.1% of our annual sales as a substantive financial impact.

## **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 | CO2 emissions reduction is required by the Act on the Rational Use of Energy in Japan. Large shipment owners known as “specified consigners” need to reduce energy use and thus reduce CO2 in the logistics area. Nissan is obliged to submit mid- and long-term plans, and a periodic report on energy usage to the authorities. This risk is considered relevant for Nissan as 17% of our production takes place in the country. Nissan's logistics volume in fiscal year 2017 was 18,560 million ton-km in Japan, with corresponding CO2 emissions amounting to approximately 378,000 ton-CO2. While we are compliant with the Act and achieved more than the expectation of the Japanese government, any insufficient improvements may bring not only reputational risks via public announcements but also potential fines of up to 1 million JPY. This specific risk is included within the Environment/Climate Change risk, which is included in the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Emerging regulation | Relevant, always included | It is expected that the formulation of regulations on CO2 reduction will be accelerated in both timeframe and reduction intensity globally after Paris Agreement (COP21), especially on the deployment of CAFE reductions for decarbonisation of the automotive industry. Europe, where 14% of our revenue is generated (with a growing sales trend), will have more stringent CO2 regulations in place to achieve 95 gCO2 (M1 PC) and 147 gCO2 (N1 LCV) by 2021. We are currently working to further improve the fuel efficiency of internal combustion engines in the short term to achieve the 2021 targets, and in the longer term, we see the need to bring about more widespread use of electric and fuel cell-powered vehicles, making use of renewable energy sources to provide the power they need. If we can no longer meet market and client expectations, we may be exposed to reputational risks, which may consequently further reduce demand for goods/services, and regulatory penalties. This specific risk is included within the Environment/Climate Change risk, which is incorporated into the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Technology | Relevant, always included | With climate-related regulations growing more stringent in some regions, it is critical for our industry to keep up with regulatory requirements by developing innovative technologies and products. Nissan has been a frontrunner in the area of EVs (recognized as leader in terms of total EV sales), having sold 380,000 full-EVs globally up to 2017. This also means that keeping our competitiveness in the market of EVs may pose risks if technological innovation lags behind the industry peers, with a loss of our current competitive advantage. Climate change is a fundamental pillar in Nissan’s environment and risk strategy. The deployment of EVs is one of the conditions for Nissan to maintain its market competitiveness while tackling climate-related risk. Therefore, it is included within the Environment/Climate Change and Product Strategy risks, which are incorporated within the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Legal | Relevant, always included | Although regulatory environment has gradually developed in favor of EVs, and consumer acceptance of this product has grown, the EVs market is yet to mature. If Nissan or other players face major litigation related to EVs, the risk of loss of consumer confidence in EVs may also increase. Having the biggest market share in the EVs market (380,000 full-EVs sold globally up to 2017), litigations against EV and its effects on consumer behavior could potentially be more detrimental to Nissan than other players. Legal issues are included in the Environment/Climate Change and Product Strategy risks, which are incorporated into the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Market | Relevant, always included | Climate change has increased consumer demand for vehicles with improved GHG emissions performance. Especially given the continued increase of urbanization, consumers face congestion problems and spend more time idling in gridlock conditions, consequently reducing fuel efficiency and increasing GHG emissions. With increasing concerns regarding environmental issues and fuel inefficiency, it is expected that customers will no longer just demand for products with good fuel efficiency performance with a shift to smaller vehicles, but also products equipped with smart mobility technology which can help to provide a full-fledged solution to mobility. Nissan needs to respond to these changing customer preferences, which have already started being addressed with the release of a series of technological innovations, and accessory products including a navigation system supporting eco-driving. Our INFINITI brand which relatively carries larger segment and more luxurious cars, may be especially affected from this point of view. This particular issue is included within the Environment/Climate Change and Product Strategy risks, which are incorporated into the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Reputation | Relevant, always included | If Nissan or other players face a major litigation related to EVs, a loss of consumer confidence in EVs could affect Nissan’s sales and become a dragging factor for the EVs market growth. In this scenario, Nissan, having the biggest market share in the EVs market (380,000 full-EVs sold globally up to 2017), could potentially suffer the largest impacts compared to other OEMs, as a result of changes in consumer behavior. The deployment of EVs is one of the conditions for Nissan to maintain its market competitiveness while tackling climate-related risk. Therefore, this risk is included within the Environment/Climate Change, Product Strategy and Compliance/Reputation risks, which are incorporated into the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Acute physical | Relevant, always included | Climate change may increase the frequency of extreme weather events, such as typhoons, droughts, floods and heavy snowfall, causing catastrophic damage to company operations. Nissan currently operates in regions where extreme weather is frequently observed, such as Thailand and India, and where production or operation could be severely affected (e.g. instability in inbound logistics from suppliers, causing delays). For example in FY16, Nissan's plant in Chennai, India was severely affected by the Cyclone Vardah, and more than 1,100 vehicles were damaged at our plant and port causing significant financial loss. Acute physical events, including natural disasters which may have been influenced by climate change, are classified as risks within the “Risks related to Business Continuity” category in the company’s “risk and opportunity map” used for risk assessments. This specific risk is managed with an over-arching Disaster Recovery organization with an established decision-making scheme and reporting lines for each Nissan facility. |
| Chronic physical | Relevant, always included | Europe’s temperature variations can be notably large. Mediterranean countries such as Spain or Italy are particularly subject to very high temperatures sometimes exceeding 50°C. Further increases in the potential of extreme temperatures might affect the attractiveness of our electric vehicles because of the lower autonomy range resulting from the extensive use of the air conditioning. It would also increase CO2 and other emissions for maintaining a stably cool in-cabin environment and optimal function of the engine. As Nissan’s zero-emissions strategy is strongly based on the adoption of EVs with zero tailpipe emissions, our market penetration and sales volume in the aforementioned countries could be reduced. The deployment of EVs is one of the conditions for Nissan to maintain its market competitiveness while tackling climate-related risk. Therefore, this risk is included within the Environment/Climate Change and Product Strategy risks, which are incorporated into the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Upstream | Relevant, always included | With the temporary nuclear power plants shutdown since Fukushima nuclear disaster in 2011 in Japan, the GHG emission factors in the country have increased. The catastrophic event resulted in the transition from nuclear power to fossil fuels, with the general public pressuring utilities to introduce more renewables in their mix such as solar power. Consequently, utilities including TEPCO, the major electricity supplier for Nissan's operations in Japan, started to require a surcharge for the introduction of renewables. Although Nissan encourages the introduction of renewable energies through many internal programs in Japan and through electricity purchases, it is fundamental to understand the cost increases this may cause as well as the change in the GHG emissions balance per power output throughout the company. In FY17, for example, taking into consideration external factors, Nissan increased its share of renewables in Japan, which led to a total cost rise of approximately 1%. Thanks to our on-going energy saving programs and purchasing team efforts, we were able to abate this cost rise more than 1%. Similar events and/or growing public pressure for the transition to renewables may also cause further surcharges for large electricity consumers including Nissan in other areas. This specific risk is included within the Environment/Climate Change risk, which is included in the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |
| Downstream | Relevant, always included | Controlling downstream CO2 emissions through our products is an essential part of our strategy to decrease “Well to Wheel” CO2 emissions. Nissan aims to decrease the Well to Wheel CO2 emissions by 90% from 2000 to 2050. If substantial progress is not made against the targets, Nissan may not only face reputation risk but also increase the likelihood of suffering the consequences of climate risks with a potential threat to business continuity. This specific risk is included within the Environment/Climate Change risk, which is included in the “Risks Related to Business Strategies and Maintenance of Competitiveness” category in the company’s “risk and opportunity map” used for risk assessments. |

## **C2.2d**

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

[Scope]

For Nissan, risk refers to any factor that may prevent the group from achieving its business objectives, and opportunity refers to any potential business areas for securing long-term competitiveness. Risks with long time frames of more than 10 years are also considered. We have a department dedicated exclusively to risk and opportunity management, which gauges the risks and explores opportunities arising from products and manufacturing costs related to climate change. The Global Environment Management Committee, co-headed by our Executive Vice-President/Director on Board, who oversees production, works closely together with this department.

[Process for managing climate-related risks and opportunities]

The Executive Committee makes decisions at corporate level biannually and gives direction for the management and development of action plans related to risks and business opportunities. The Committee also designates “risk owners” to manage the risks. Under the leadership of these owners, appropriate countermeasures are designed. Opportunities identified in the risk and opportunity map are analyzed in depth by relevant divisions, and tangible business cases are integrated into our business strategy and are commercialized as appropriate. Moreover, the Board member in charge of Internal Control reports twice a year to the Board of Directors. With respect to individual risks and opportunities, each division is responsible for creating a plan for long term management. The divisions are responsible for taking the preventive measures necessary to minimize the frequency of risk issues and their impact when they do arise as part of its ordinary business activities. The divisions also prepare emergency measures to put in place when risk factors materialize. Nissan Group companies in Japan and elsewhere are strengthening communication to share basic processes and tools for risk management, as well as related information, throughout the Group.

Specific cases of environment/climate-related risks and opportunities are described next.

[Cases]

1) Management of physical risk and opportunity

Extreme weather events such as extreme precipitation have affected our operations in India in 2016 and may affect other locations in the future as well. After this incident, the Internal Control Committee decided to strengthen its countermeasure development policy, and directed the appropriate functions in the production division to identify where facilities are mostly exposed to physical risks and develop local management teams responsible for implementing countermeasures for natural disasters. This set of measures has the objective of ensuring business continuity from the point-of-view of safety, production, supply chain and financial risks. Climate change may cause more intense and frequent extreme weather events with greater temperature fluctuation and higher incidence of lightning; those severe weather conditions could result in increased electricity grid failures and create unexpected demands for electricity. Under the direction of the Executive Committee, and based on its risk and opportunities map, the Internal Control Committee identified opportunities to commercialize products that can contribute to faster response to disasters. Nissan's electric vehicles have on board battery capacity to light up one average house in Japan for 2 days with an advanced power supply system. In case of natural disasters or blackout periods, prompt disaster recovery is crucial. We see EV batteries along with vehicle to home/building energy supply system as playing a key role in the restoration of electrical power. We expect a growth in demand for disaster risk reduction systems, and this creates additional benefits to the ownership of EVs.

2) Management of transitional risk and opportunity

Emergence of more stringent regulations is seen as both a risk and opportunity for the company. Stringent regulations on CO2 and other air pollutant emissions pose a challenge to product development. The Executive Committee has historically directed the company to put extra efforts in developing vehicles that are attuned or that go beyond the standards to be established in emerging regulations. The Committee also designated an Executive Vice-President/Director on Board in charge of production as a “risk owner”; this Director takes the lead in the development of actions to curb climate change. As a result of these efforts, Nissan became a pioneer in the development of EVs, and the market introduction of the pure-electric vehicle Nissan LEAF, the first mass-market vehicle launched globally, maintains its position as the best-selling EV in history and a leader in zero-emission mobility. This fact puts Nissan in an advantageous position to further enhance its brand image and gain competitiveness in the EVs market worldwide.

## **C2.3**

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

Yes

## **C2.3a**

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

### **Identifier**

Risk 1

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

Direct operations

### **Risk type**

Transition risk

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

Policy and legal: Exposure to litigation

### **Type of financial impact driver**

Policy and legal: Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

### **Company- specific description**

It is expected that the formulation of regulations on CO2 reduction will be accelerated in both timeframe and reduction intensity globally after Paris Agreement (COP21), especially on the deployment of CAFE reductions for decarbonisation of the automotive industry. Europe, where 14% of our revenue is generated (with growing sales trend), will have more stringent CO2 regulations in place to achieve 95 gCO2 (M1 PC) and 147 gCO2 (N1 LCV) by 2021. We are currently working to further improve the fuel efficiency of internal combustion engines in the short term to achieve the 2021 targets, and in the longer term, we see the need to bring about more widespread use of electric and fuel cell-powered vehicles, making use of renewable energy sources to provide the power they need. If we can no longer meet market and client expectations, we may be exposed to reputational risk (which may consequently further reduce demand for goods/services) and regulatory penalties.

### **Time horizon**

Short-term

### **Likelihood**

Very likely

### **Magnitude of impact**

High

### **Potential financial impact**

8000000000

### **Explanation of financial impact**

Nissan's model range will comply with European CO2 regulations and therefore no financial impact is expected. However, the potential impact of non-compliance could be significant; in FY17 Nissan sold 756,000 units in Europe, and exceeding the regulatory limit by 1g of CO2 for that sales volume could lead to a penalty of more than 8 billion JPY, with a potential drawback in sales in the region due to reputational issues.

### **Management method**

[Situation] Decarbonisation is one of the major trends influencing business, as the private sector is also expected to play a larger role in reducing CO2 emissions post-Paris Agreement. More stringent CO2 regulation is in place especially in Europe. [Task] Nissan’s ambitious long term vision of reducing CO2 emissions from our vehicles by 90% in 2050 is aligned with the European transport decarbonisation strategy and will allow complying with European regulation. [Action] The six-year environmental mid-term plan, the Nissan Green Program 2022 will contribute to substantial improvements in average CO2 emissions from new vehicles. The target is to reduce average emissions by 40% as compared to 2000 levels for Nissan vehicles sold in Japan, China, Europe and the United States. Nissan Europe monitors the annual CO2 emissions for new vehicles and also possesses a reliable data tool to assist in emissions forecasting. Nissan has also retained in Europe an organization that monitors, analyses and defines specific CO2 targets for new products. [Result] The data allows forecasting future levels of CO2 emissions for the coming years, while the cross-functional structure allows the regional executives to anticipate any risk and assess the progress made towards Nissan mid-term commitments and long term vision. A 33.4% CO2 emission reduction was achieved in FY17 compared with 2000 levels on a corporate average for all Nissan vehicles sold in Japan, China, Europe and the US.

### **Cost of management**

500000000000

### **Comment**

The Renault-Nissan Alliance has announced that it has invested more than 500 billion JPY in numerous projects, such as EV projects, with bold plans for the next five years to expand further as demand for clean, efficient and affordable electric and non-electric cars continues to grow.

### **Identifier**

Risk 2

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

Customer

### **Risk type**

Transition risk

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

Market: Changing customer behavior

### **Type of financial impact driver**

Market: Reduced demand for goods and/or services due to shift in consumer preferences

### **Company- specific description**

Climate change has increased consumer demand for vehicles with improved GHG emissions performance. Especially given the continued increase of urbanization, consumers have to face congestion problems and spend more time idling in gridlock conditions, whilst fuel efficiency would be reduced and more GHG would be emitted. With such concern about environmental problems, fuel inefficiency and time wastage, it is expected that customers will no longer just demand for products with good fuel efficiency performances with a shift to smaller size vehicles, but also smart mobility technology. Nissan has already started responding to these changing customer preferences via eco-driving support technology. Our INFINITI brand, however, which relatively carries larger segment and more luxurious cars may be especially affected.

### **Time horizon**

Current

### **Likelihood**

Likely

### **Magnitude of impact**

Medium-high

### **Potential financial impact**

49000000000

### **Explanation of financial impact**

Our INFINITI brand which relatively carries larger segment and more luxurious cars may be especially affected by the shift of consumer preference. In case we cannot the meet customer demand for improved fuel efficiency and smart mobility technology, we might experience a decrease in demand. This may lead to a 1% net profit loss for INFINITI brand, which is around 49 billion JPY, contributing to 0.3% of Nissan's total revenue for FY2017.

### **Management method**

[Situation] Especially given the continued increase of urbanization, and consumers having to face congestion problems and spending more time idling in gridlock conditions, consumers are demanding vehicles with better fuel efficiency and emissions performance, especially under urban environment. [Task] Nissan innovates providing new technology for connected cars that can help improve environmental performances of the vehicles in order to address the negative characteristics of urbanization. [Action] One of Nissan's technology derived from connected car is a smart transport system using data communication between vehicles, infrastructure, drivers, and the driving environment. It guides the driver to identify the latest route, helps improve average speed, supports eco-driving and contributes to improve average fuel economy. The average travel time was reduced by 16.2% and the average fuel economy was improved by 7.8% in the Los Angeles area driving experiment. [Result] Nissan aims to attract more customers with products having improved environmental performance, and has been successful in gradually increasing their demand.

### **Cost of management**

112000000000

### **Comment**

Nissan will be responsible for contributing with 40% of the figure as the Nissan-Renault-Mitsubishi Alliance starts a joint venture capital fund, which will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity.

### **Identifier**

Risk 3

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

Supply chain

### **Risk type**

Transition risk

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

Technology: Costs to transition to lower emissions technology

### **Type of financial impact driver**

Technology: Costs to adopt/deploy new practices and processes

### **Company- specific description**

With the temporary nuclear power plants shutdown since Fukushima nuclear disaster in 2011 in Japan, the GHG emission factor in the country has increased. The catastrophic event resulted in the transition from nuclear power to fossil fuels, with the general public pressuring utilities to introduce more renewables in their mix such as solar power. Consequently, utilities including TEPCO, the major electricity supplier for Nissan's operations in Japan, started to require a surcharge for the introduction of renewables. Although Nissan encourages the introduction of renewable energies through many internal programs in Japan and through electricity purchases, it is fundamental to understand the cost increases this may cause as well as the change in the GHG emissions balance per power output throughout the company. In FY17, for example, taking into consideration external factors, Nissan increased its share of renewables in Japan, which led to a total cost rise of approximately 1%. Thanks to our on-going energy saving programs and purchasing team efforts, we were able to abate this cost rise more than 1%. Similar events and/or growing public pressure for the transition to renewables may also cause further surcharges for large electricity consumers including Nissan in other areas.

### **Time horizon**

Current

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium

### **Potential financial impact**

2000000000

### **Explanation of financial impact**

Our domestic manufacturing plants are mainly powered by Tokyo Electric Power Company (TEPCO), which has introduced a surcharge for solar energy promotion. If the tariff for corporate rates increases by an expected 17%, electricity cost could increase by nearly 2 billion JPY.

### **Management method**

[Situation] Climate change may accelerate the trend to switch to renewable energy for decarbonisation. Electricity cost in Japan is increasing due to surcharges for renewables. [Target] As a countermeasure, Nissan works on reduction of energy purchase through energy conservation activities at sites, and introduced its own renewable energy generation facilities. Our Nissan Green Program 2022 has set targets to reduce CO2 emissions in manufacturing by 36% (t-CO2/vehicle produced) in 2022 globally, and 1%/year in offices and dealers' offices in Japan. [Action] One important example of sales dealers’ activity was the installation of 10kW of solar panels saving 12% in electricity costs from FY13. Nissan advises dealers to implement energy conservation activities, and some achieved 50% in power consumption reduction. Nissan also manages the cost of renewable energy purchases through registering as a member of Japan's Power Producers and Suppliers (PPS). Through the use of mixed supply energy procurement and leasing rooftop space, Nissan can now procure cheaper renewable energy with its own specific profile, depending less on renewable energy suppliers. The rate of renewable energy usage was increased from 8% before the introduction of PPS and Mix Supply Scheme to 16% after the introduction. [Result] In FY2017, PPS system supply around 1,100 retail outlets in some areas in Japan with around 146,000 MWh of energy, with annual reduction of some 11,000 tons in CO2 emissions.

### **Cost of management**

2000000000

### **Comment**

Approximate cost of energy conservation activities in Japan.

### **Identifier**

Risk 4

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

Direct operations

### **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 driver**

Reduced revenues from lower sales/output

### **Company- specific description**

Climate change may increase the frequency of extreme weather events, such as typhoons, droughts, floods and heavy snowfall, causing catastrophic damage to company operations. Nissan currently operates in regions where extreme weather is frequently observed, such as Thailand and India, and where production or operation could be severely affected (e.g. instability in inbound logistics from suppliers, causing delays). For example in FY16, Nissan's plant in Chennai, India was severely affected by the Cyclone Vardah, and more than 1,100 vehicles were damaged at our plant and port causing significant financial loss.

### **Time horizon**

Current

### **Likelihood**

Very likely

### **Magnitude of impact**

High

### **Potential financial impact**

1000000000

### **Explanation of financial impact**

Natural disasters like floods or droughts may shut down the facilities, drown newly assembled cars in the region or stop production lines due to insufficient water, but such local extreme weather conditions is unlikely to occur simultaneously in all regions. Taking the Chennai cyclone in India as an example, more than 1,100 vehicles were damaged at our plant/port leading to significant loss in terms of revenues that amount to approximately 1 billion JPY.

### **Management method**

[Situation] Some of our production sites may be exposed to extreme weather conditions in the near future. [Task] We need to draw up our supply chain business continuity plan (BCP), from the cases in Thailand and Japan, which have started adopting them since 2014, and expand the scope to regions with high water risk. [Action] BCP includes assessment of work priorities for each function, and development of countermeasures for managing natural disaster risk. A task force has been set up to gather information about employees’ safety and the damage situation of facilities and to work for business continuity. We expanded our scope of consideration to include establishing similar supply chain BCPs for other operations in China, India, North America, and Europe. We also promoted the visualization of the supply chain via steps to ensure smooth initial response by ascertaining supply chain conditions and measures to address anticipated risks in advance. [Result] Our supply chain BCPs has covered major production sites. The promotion of visualization of the supply chain in steps can ensure smooth initial response by ascertaining supply chain conditions and measures to address anticipated risks in advance. It allowed our Chennai plant in India to be fully equipped, and handled the emergencies well with proper mitigation during the cyclone event, or otherwise much higher financial damage could be expecte

### **Cost of management**

6000000

### **Comment**

Human resource costs associated with these activities is more than 6 million JPY.

## **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?**

Customer

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

### **Company- specific description**

After the Paris Agreement, countries started mobilizing in order to develop solutions for decarbonisation with the objective of creating more sustainable mobility patterns. EU and ACEA are responding to future mobility challenges addressing the growing demand for eco-friendly transport and mobility. A standard for autonomous driving will also be established in 2020 in the EU, which has the additional benefit of minimizing emissions and optimize driving behavior. This trend offers opportunities for Nissan to promote its zero-emission vehicles (EVs) and autonomous-driving technology features. These technologies have been developed to help realize an emission-free and accident-free society. Nissan is a pioneer in the development of EVs, and the market introduction of the pure-electric vehicle Nissan LEAF, the first mass-market vehicle launched globally, is a starting point for maintaining competitive advantage and expansion in this market.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

### **Potential financial impact**

19000000000

### **Explanation of financial impact**

Currently our major markets for EVs are the US, Japan and Europe; assuming that global EV sales can be increased by 1% in the upcoming year compared to the 60,000 units in FY17, an additional 19 billion JPY may be obtained in revenue.

### **Strategy to realize opportunity**

[Situation] There is a global trend to seek solutions for decarbonisation in order to realize more sustainable mobility patterns, and drastically curtailing the number of car accidents after COP21. [Target] The trend creates business opportunity for Nissan to promote its vehicles using clean energy through EVs and with autonomous features which have been developed to help realize an emissions-free and accident-free society. Nissan, which owns the world's all-time best selling 100% electric vehicle LEAF, is a leader in promoting the adoption of eco-cars. Besides the effort in promoting EV for encouraging clean energy usage, Nissan also innovates in new technology for connected cars that can help improving vehicle environmental performance. [Action] Nissan announced a new six-year environmental plan, Nissan Green Program 2022 (NGP 2022) in November 2017. This plan, among other areas, focuses on the reduction of carbon footprint, with a target to maintain its leadership position in Zero-Emission Vehicles sales. Moreover, Nissan continues to innovate by developing new technologies like "single-lane control" and "multiple-lane control" for assisting drivers to deal with heavy and stop-and-go traffic, further helping to reduce carbon emissions. [Result] 60,000 units of EVs have been sold in FY17, resulting in cumulative sales reaching more than 380,000 units. Only in FY17, this remarkable feat has helped keeping more than 250,000 tons of CO2 from being emitted.

### **Cost to realize opportunity**

44800000000

### **Comment**

Nissan will be responsible for contributing with 40% of a figure of 112 billion JPY as the Nissan-Renault-Mitsubishi Alliance starts a joint venture capital fund, which will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity.

### **Identifier**

Opp2

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

Customer

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Type of financial impact driver**

Increased revenue through demand for lower emissions products and services

### **Company- specific description**

More stringent CO2 emissions regulations in Japan, US, EU, China, where approximately 90% of our production and sales occur, encourage production and use of smaller segment vehicles with more advanced fuel efficient technologies. Maximizing energy efficiency in order to reduce fuel consumption and CO2 emissions from non-electric vehicles is another branch of Nissan’s activities: the R&D efforts are directed toward improving fuel economy of engine-powered vehicles. Our advanced technology is being prepared in order to provide all our customers with vehicles having outstanding fuel economy, in the pure electric vehicles, e-POWER and conventional engine-powered vehicles.

### **Time horizon**

Current

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium-high

### **Potential financial impact**

19000000000

### **Explanation of financial impact**

Europe, an environmentally conscious region, had a total market sales volume of 756,000 vehicles in fiscal year 2017. If Nissan secures additional 1% of the revenues, our net revenues would increase by approximately 200 billion JPY (this figure includes electric and conventional engine-powered vehicles).

### **Strategy to realize opportunity**

[Situation] There is a trend towards more stringent CO2 emissions regulations and demand for more fuel efficient vehicles. [Task] Nissan has to improve fuel economy of engine powered vehicles in order to reduce fuel consumption and meet the stringent regulations on fuel economy. [Action] NGP2022, the company's fourth environmental mid-term plan, will contribute to substantial improvements in average CO2 emissions from Nissan newly produced vehicles. The target is to reduce average emissions by 40% as compared to 2000 levels for Nissan vehicles sold in Japan, China, Europe and the United States. Advanced technologies can be adopted from small segments to large segments cars in order to improve fuel efficiency of non-EV vehicles. [Result] Cumulative sales of more than 320,000 EV units in FY2017; average CO2 emissions from new vehicles (t-CO2/km) have decreased 33.4% as compared to 2000 levels. The further expansions in EV sales and development of more advanced technologies to decrease fuel efficiency will contribute for Nissan's achievement of the 40% reduction target by 2022.

### **Cost to realize opportunity**

44800000000

### **Comment**

Nissan will be responsible for contributing with 40% of a figure of 112 billion JPY Nissan-Renault-Mitsubishi Alliance joint venture capital fund, which will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity.

### **Identifier**

Opp3

### **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 driver**

Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)

### **Company- specific description**

Climate change may cause more intense and frequent extreme weather events with greater temperature fluctuation and higher incidence of lightning; those severe weather conditions may result in increased electricity grid failures and create unexpected demands for electricity. Nissan's electric vehicles have on board battery capacity to light up one average house in Japan for 2 days with an advanced power supply system. In case of natural disasters or blackout periods, prompt disaster recovery is crucial. We see EV batteries along with vehicle to home/building energy supply system as playing a key role in the restoration of electrical power. We expect a growth in demand for disaster risk reduction systems, and this creates additional benefits to the ownership of EVs. Nissan has collaborated with other parties, and has been expanding its V2X (Vehicle-to-Home, Vehicle-to-Grid electricity supply) such as activities pilot projects in Japan, EU and the US. In the next 5 years, it is expected that the commercialization of V2X solutions will expand substantially, thereby facilitating Nissan’s market development in the field.

### **Time horizon**

Medium-term

### **Likelihood**

Very likely

### **Magnitude of impact**

Medium-high

### **Potential financial impact**

6000000000

### **Explanation of financial impact**

Currently there are around 50,000 Nissan LEAF circulating in Japan. Considering their potential market, the purchase of a Power Control System for emergency electricity provision would bring additional revenue at around 6 billion JPY (calculated assuming that 25% of LEAF owners could potentially have purchased the Power Control System together with the vehicle).

### **Strategy to realize opportunity**

[Situation] Many Japanese people suffer electric outages caused by concentrated heavy rain, lightning, and temperature fluctuations. Only in 2015, there were 10,832 blackout incidents in Japan, in which 37% of them were caused by such extreme weather events. As a result, there is a growing need for the installation of emergency power systems. [Task] Nissan seeks to improve EV availability to reduce disaster risk, from provision of backup electricity source using EVs, to prevention of blackout by helping power companies reduce peak demand. [Action] Our "LEAF to Home" power supply system is able to supply electricity from batteries mounted on EV to homes when used in conjunction with the "EV Power Station" unit. "LEAF to Home" is an industry-first backup power supply system that can transmit the electricity stored in the large-capacity batteries of EVs to a residential home. This can be used as a back-up power source in case of power outages. Nissan participated in the Third UN World Conference on Disaster Risk Reduction to demonstrate how to adopt EV as a vitally important aid to people's lives. [Result] 3,700 units "LEAF to Home" power supply system have been sold, which contributes to approximately 10 billion of JPY revenue stream.

### **Cost to realize opportunity**

44800000000

### **Comment**

Nissan will be responsible for contributing with 40% of a figure of 112 billion JPY Nissan-Renault-Mitsubishi Alliance joint venture capital fund, which will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity. The development of "LEAF to Home"-related technologies is included as a fraction of the total amount.

## **C2.5**

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

|  |  |  |
| --- | --- | --- |
|  | **Impact** | **Description** |
| Products and services | Not yet impacted | More stringent CO2 emissions regulations in Japan, US, EU, China, where approximately 90% of our production and sales occur, encourage production and use of smaller segment vehicles with more advanced fuel efficient technologies. Maximizing energy efficiency in order to reduce fuel consumption and CO2 emissions for non-electric vehicles is another branch of Nissan’s R&D activities. Our advanced technology is being prepared in order to provide all our customers with vehicles having outstanding fuel economy, in the pure electric vehicles, e-POWER and conventional engine-powered vehicles. Europe, an environmentally conscious region, had a total market sales volume of 756,000 vehicles in fiscal year 2017. If Nissan secures additional 1% of the sale, our net sales would increase by approximately 200 billion JPY (this figure includes electric and conventional engine-powered vehicles). This impact may be observed by 2030 given that this is the target year many countries have set as the deadline year to curtail vehicle CO2 emissions in the EU; this financial impact is also dependent on the consolidation of the EV market, and Nissan will continue to put effort into maintaining its leadership position in the field. |
| Supply chain and/or value chain | Impacted | With the temporary nuclear power plants shutdown since Fukushima nuclear disaster in 2011 in Japan, the GHG emission factors in the country have increased. The catastrophic event resulted in the transition from nuclear power to fossil fuels, with the general public pressuring utilities to introduce more renewables in their mix such as solar power. Consequently, utilities including TEPCO, the major electricity supplier for Nissan's operations in Japan, started to require a surcharge for the introduction of renewables. Although Nissan encourages the introduction of renewable energies through many internal programs in Japan and through electricity purchases, it is fundamental to understand the cost increases this may cause as well as the change in the GHG emissions balance per power output throughout the company. In FY17, for example, taking into consideration external factors, Nissan increased its share of renewables in Japan, which led to a total cost rise of approximately 1%. Thanks to our on-going energy saving programs and purchasing team efforts, we were able to abate this cost rise more than 1%. Similar events and/or growing public pressure for the transition to renewables may also cause further surcharges for large electricity consumers including Nissan in other areas. |
| Adaptation and mitigation activities | Impacted | Climate change may cause more intense and frequent extreme weather with greater temperature fluctuation and higher incidence of lightning; those severe weather conditions result in increased electricity grid failures, which create a need for the development of emergency power systems. In order to contribute to adaptation to climate change, Nissan provides "LEAF to Home" which is an industry-first backup power supply system and which can transmit the electricity stored in large-capacity batteries of EVs to a residential home. Sales of "LEAF to Home" in FY17 globally have contributed with approximately 10 billion yen revenue. |
| Investment in R&D | Impacted | Climate change has increased consumer demand for vehicles with outstanding GHG emission performances. It is expected that customers no longer just demand for products with good fuel efficiency performance shifting to smaller size vehicles, but also smart mobility technology. Nissan needs to respond to these changing customer preferences via eco-driving support technology. Our INFINITI brand which relatively carries larger segment and more luxurious cars may be especially affected. The Nissan-Renault-Mitsubishi Alliance has announced the launch of a joint venture capital fund that will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity, which further contribute to the transition to less energy-intensive and low-carbon mobility. Nissan will be responsible for 40% of the 112 billion JPY fund over 5 years. |
| Operations | Impacted | Some countries where Nissan operates, such as Thailand and India, have a relatively high extreme weather event risk. For example in FY16, Nissan's plant in Chennai, India was highly influenced by Cyclone Vardah. As a result, more than 1,100 vehicles were damaged at our plant/port leading to significant loss in terms of sales that amount to approximately 1 billion JPY. |
| Other, please specify | Not yet impacted |  |

## **C2.6**

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

|  |  |  |
| --- | --- | --- |
|  | **Relevance** | **Description** |
| Revenues | Impacted | More stringent CO2 emissions regulations in Japan, US, EU, China, where approximately 90% of our production and sales occur, encourage production and use of smaller segment vehicles with more advanced fuel efficient technologies. Maximizing energy efficiency in order to reduce fuel consumption and CO2 emissions from non-electric vehicles is another branch of Nissan’s R&D activities. Our advanced technology is being prepared in order to provide all our customers with vehicles having outstanding fuel economy, in the pure electric vehicles, e-POWER and conventional engine-powered vehicles. Europe, an environmentally conscious region, had a total market sales volume of 756,000 vehicles in fiscal year 2017. If Nissan secures additional 1% of the sale, our net sales would increase by approximately 200 billion JPY (this figure includes electric and conventional engine-powered vehicles). |
| Operating costs | Impacted | With the temporary nuclear power plants shutdown since Fukushima nuclear disaster in 2011 in Japan, the GHG emission factor in the country has increased. The catastrophic event resulted in the transition from nuclear power to fossil fuels, with the general public pressuring utilities to introduce more renewables in their mix such as solar power. Consequently, utilities including TEPCO, the major electricity supplier for Nissan's operations in Japan, started to require a surcharge for the introduction of renewables. Although Nissan encourages the introduction of renewable energies through many internal programs in Japan and through electricity purchases, it is fundamental to understand the cost increases this may cause as well as the change in the GHG emissions balance per power output throughout the company. In FY17, for example, taking into consideration external factors, Nissan increased its share of renewables in Japan, which led to a total cost rise of approximately 1%. Thanks to our on-going energy saving programs and purchasing team efforts, we were able to abate this cost rise more than 1%. Similar events and/or growing public pressure for the transition to renewables may also cause further surcharges for large electricity consumers including Nissan in other areas. Therefore, additional costs associated with renewable energy is considered when annual budget is planned. |
| Capital expenditures / capital allocation | Impacted | Production sites in specific locations such as India and Thailand are exposed to relatively extreme weather conditions, and are subject to higher water risk. The Cyclone Vardah, which affected our Chennai plant in India in FY16 caused damage of approximately 1 billion JPY, in sales loss terms. We expanded our scope of establishing supply chain BCPs for operations in China, India, North America, and Europe in FY17. We also promoted the visualization of the supply chain via steps to ensure smooth initial response by ascertaining supply chain conditions and measures to address anticipated risks in advance. A task force has been set up to gather information about employees’ safety and the damage situation of facilities and to work for business continuity. Our supply chain BCPs has covered major production sites. These efforts allowed our Chennai plant in India to be fully equipped, and handled the emergencies well with proper mitigation during the cyclone event. Therefore, the costs associated with the establishment of the supply chain is considered when annual budget is planned. |
| Acquisitions and divestments | Impacted | The accelerated formulation of regulations on CO2 reduction in our market would trigger acquisitions of technology companies to maintain our competitiveness. For example, we completed an equity acquisition in the firm Ionic Materials Inc. as a one of the investors, in a capital volume of 6,500,000,000 JPY raised by the firm, a solid polymer developer that will help batteries become more efficient, which ultimately may lead to further reduced energy requirements for electric cars. |
| Access to capital | Not impacted | Access to capital has not been affected as we have not experienced any privilege or limitation, for example, for interest rates for borrowing and capital subscription due to our maturity of measures taken towards climate related issues. While climate related risks and opportunities could be a factor which affects our access to capital, they are not recognized material factors as a result of our risk assessment. Therefore, there is no impact on this area of our financial planning process. |
| Assets | Impacted | Some countries where Nissan operates, such as Thailand and India, have a relatively high extreme weather event risk. For example in FY16, Nissan's plant in Chennai, India was highly influenced by Cyclone Vardah. As a result, more than 1,100 vehicles were damaged at our plant/port leading to significant loss in asset value that amounts to approximately 1 billion JPY. |
| Liabilities | Not yet impacted | It is expected that the formulation of regulations on CO2 reduction will be accelerated in both timeframe and reduction intensity globally after Paris Agreement (COP21), especially on the deployment of CAFE reductions for decarbonisation of the automotive industry. Europe, where 14% of our revenue is generated (with growing sales trend), will have more stringent CO2 regulations in place to achieve 95 gCO2 (M1 PC) and 147 gCO2 (N1 LCV) by 2021. We are currently working to further improve the fuel efficiency of internal combustion engines in the short term to achieve the 2021 targets, and in the longer term, we see the need to bring about more widespread use of electric and fuel cell-powered vehicles, making use of renewable energy sources to provide the power they need. If we can no longer meet market and client expectations, we may be exposed to regulatory penalties. This impact maybe observed by 2021 due to non-compliance with the CO2 regulations. |
| 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.**

a) How the strategy has been influenced

Nissan analyses its use of resources and energy, the impact on the environment and how it can reduce that impact throughout the value chain. The company identifies stakeholders at each stage, from the extraction of resources needed to make vehicles to manufacturing, shipping, use and disposal of end-of-life vehicles. Through a broad range of approaches, it gains an understanding of stakeholder views and the diverse needs of society, taking them into consideration as it develops and implements environmental strategies.

As one example, members of Nissan’s Board of Directors hold annual Advisory Meetings with the participation of environmental experts and leading businesspeople from various sectors. The outcomes of their discussion regarding environmental policies are the basis for the development of Nissan’s environmental strategy; the Environmental Strategy Group conducts materiality assessments to prioritize the most significant set of environmental risks and opportunities. These, in turn, are translated into the company’s business strategies as risks requiring management for the maintenance of Nissan’s market competitiveness, regulatory compliance and stakeholder trust.

b) Aspects of climate change which have influenced the strategy and the most substantial business decisions made

Climate change risks and opportunities affect many areas of our corporate strategy. The perceived threat of climate change has largely affected customer preference for more energy efficient vehicles, and Nissan takes this fact as a fundamental premise for the boost in the hybrid vehicles and EVs production. For example, Nissan is aiming to sell 1 million electrified vehicles – either pure electric models or those with alternative powertrains – annually by fiscal year 2022, as part of its Nissan M.O.V.E. to 2022 midterm business plan. The use of renewable energy is being implemented as a pillar in our manufacturing operation strategy, as Nissan seeks to further reduce its cabon footprint per vehicle produced. Also, natural disaster risks caused by extreme weather events are likely to become more frequent with the advancement of climate change. With this identified risk in mind, we have engaged suppliers’ to strengthen their natural disaster risk management schemes as a countermeasure to ensure business continuity in the case of adverse circumstances.

c) The most important components of the short term strategy

Our short term strategy towards climate change as a part of the business strategy is to reduce CO2 emissions from our products by improving fuel efficiency.

To help achieve 90% reduction in 2050, Nissan has been making an ongoing effort to develop technologies to maximize the energy efficiency of vehicles with internal combustion engines and keep CO2 emissions at the lowest level possible. The marketing of vehicles with such technologies is one way we are helping to reduce CO2 emissions. The core technologies in these vehicles include lithium-ion batteries, motor, two-clutch parallel hybrid systems, next-generation continuously variable transmission systems, etc. In this context, Nissan’s e-POWER technology is a fundamental breakthrough; this technology consists of a 100% electric powertrain making use of EV technology in the Nissan LEAF. A gasoline engine is used to charge the batteries, which provide power to the electric motors that drive the wheels of the e-POWER vehicles. As the gasoline engine does not directly drive the wheels, it can be run at its optimal speed at all times to generate electricity. In city driving, where these vehicles are expected to see more frequent use, they achieve top-class fuel efficiency and reduced CO2 emissions, as compared with standard hybrid vehicle types. Overall, our target by FY2022 is a 40% reduction in the average CO2 emissions from new vehicles as compared to FY2005 levels (target for the Japan, U.S., Europe and China markets). Our result in FY2017 was 33.4% improvement from the FY2005 level.

d) The most important components of the long term strategy

Our long term strategy towards climate change is to promote zero-emission vehicles. Over the long term (toward 2050), we aim to increase the adoption of EVs and FCEVs and to make use of renewable energy to power these technologies while each country and region moves toward more renewable energy sources. We believe that practically all vehicles should be replaced with zero-emission vehicles by 2050 to help protect the global environment. The cumulative sales volume of Nissan LEAF reached more than 320,000 units in FY17. Summed with other EV sales, including the vehicle eNV-200 and other models commercialized in China, such as the e30, this figure reaches 380,000 vehicles, making Nissan a global EV market leader in FY17. Zero-emission vehicles, along with engine-powered vehicles with improved fuel economy, will help tackle climate change imperatives, and thus are closely related to Nissan’s future business strategies. This may bring additional values to Nissan’s brands and improve market share in the future.

e) Our strategic advantage over competitors

We have set a target to make Nissan the leader in zero-emission vehicles. In addition, we are working on infrastructure development in cooperation with many governments and local bodies to facilitate their proliferation. As an example, we launched the Nissan LEAF, our 100% electricity-powered vehicle, in Japan and the US in 2010 and in Europe in 2011. The Nissan LEAF has achieved outstanding environmental performance with zero emissions. Its high-capacity lithium-ion battery, Nissan-developed inverter and electric motor provide powerful, smooth acceleration and a luxurious, quiet ride at all speeds. The new Nissan LEAF offers superior handling stability realized by its excellent weight balance and features a maximum driving range increased from 200 km to 400 km on one full charge (as measured in JC08 test mode).

f) Implementation of forward-looking scenario analyses in strategy planning

The IPCC 2°C scenario was the major scientific source of reference for formulating Nissan’s long term carbon emission reduction target. Based on this, we have calculated that "well-to-wheel" CO2 emissions for new vehicles, from primary energy extraction along with fuel consumption during operation, and set a target to reduce emissions intensity by 90% until 2050 compared to 2000 levels. Our business strategies are based on our continuous technological advancements, optimized energy consumption profile and adoption of zero-emission vehicles; the ultimate aim is to achieve our long-term target and contribute in creating a more sustainable society.

## **C3.1d**

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

|  |  |
| --- | --- |
| **Climate-related scenarios** | **Details** |
| RCP 2.6 | Nissan’s long-term target was first set in 2006. The 2 degrees C scenario on the IPCC Third Assessment Report was set in a scenario to stabilize atmospheric CO2 under 550 ppm. Nissan has used IPCC 2°C scenario as a major scientific source of reference as it is a consensus of scientists around the world. To achieve this, we analyzed quantitatively, using the desired global CO2 emissions in 2050 from the scenario and the estimated vehicle volume in 2050 in IEA’s Mobility Model as inputs, that the “Well-to-Wheel (WtW)” CO2 emissions of new vehicles in 2050 will need to be reduced by 70% from 2000 levels in case of Nissan. According to the 450 ppm scenarios of Category I in IPCC’s Fourth Assessment Report released in 2008, global absolute CO2 emission levels in 2050 would have to half those of 2000. By taking this new report into account, Nissan realized that further CO2 emission reductions would be necessary, and recalculated its new WtW as a 90% reduction of Product CO2 emissions in 2050 as compared to 2000 levels. During the analysis, our value chain including product use, is considered as a part of “Well-to-Wheel (WtW)” target. And our R&D and production areas were and still remain the main areas to be considered in the development of targets. The year 2050 is considered as a suitable time horizon for the development of a long term target and climate scenarios, as we are experiencing significant changes including EV, self-driving cars, connected cars in the automotive sector. Next generation technologies expected to be developed and deployed by 2050 have been considered in consultation with R&D areas in order to develop emission reduction targets. The result of the scenario analysis has been used to set the long term environmental targets, which, in turn, has been incorporated into Nissan’s business strategy. As a result, for instance, Nissan is aiming to sell 1 million electrified vehicles annually – either pure electric models or those with e-POWER powertrains – by fiscal year 2022, as part of its Nissan M.O.V.E. to 2022 midterm business plan. |

## **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.**

a) The most important components of the short term strategy

Our short term strategy towards climate change is to reduce CO2 emissions from our products by improving fuel efficiency.

To help achieve 90% reduction in 2050, Nissan has been making an ongoing effort to develop technologies to maximize the energy efficiency of vehicles with internal combustion engines and keep CO2 emissions at the lowest level possible. The marketing of vehicles with such technologies is one way we are helping to reduce CO2 emissions. The core technologies in these vehicles include lithium-ion batteries, motor, two-clutch parallel hybrid systems, next-generation continuously variable transmission systems, etc. In this context, Nissan’s e-POWER technology is a fundamental technological achievement; this technology consists of a 100% electric powertrain making use of EV technology in the Nissan LEAF. A gasoline engine is used to charge the batteries, which provide power to the electric motors that drive the wheels of the e-POWER vehicles. As the gasoline engine does not directly drive the wheels, it can be run at its optimal speed at all times to generate electricity. In city driving, where these vehicles are expected to see more frequent use, they achieve top-class fuel efficiency and reduced CO2 emissions, as compared with standard hybrid vehicle types. Overall, our target by FY2022 is a 40% reduction in the average CO2 emissions from new vehicles as compared to FY2000 levels (target for the Japanese, U.S., European and Chinese markets). Our result in FY2017 was 33.4% improvement from the FY2000 levels.

b) The most important components of the long term strategy

Our long term strategy towards climate change is to promote zero-emission vehicles. Over the long term (toward 2050), we aim to increase the adoption of EVs and FCEVs and to make use of renewable energy to power these technologies while each country and region moves toward more renewable energy sources. We believe that almost all vehicles need to be replaced with zero-emission vehicles by 2050 to help protect the global environment. The cumulative sales volume of Nissan LEAF reached more than 320,000 units in FY17, making the company. Summed with other EV sales, including the vehicle eNV-200 and other models commercialized in China, such as the e30, this figure reaches 380,000 vehicles, making Nissan a global EV market leader in FY17. The association of climate change imperatives are closely related to Nissan’s future business strategies, and may bring additional values to Nissan’s brands and improve market share in the future.

c) Our strategic advantage over competitors

We have set the target of making Nissan the leader in zero-emission vehicles. In addition, we are working on infrastructure development in cooperation with many governments and local bodies to facilitate their proliferation. As an example, we launched the Nissan LEAF, our 100% electricity-powered vehicle, in Japan and the US in 2010 and in Europe in 2011. The Nissan LEAF has achieved outstanding environmental performance with zero emissions. Its high-capacity lithium-ion battery, Nissan-developed inverter and electric motor provide powerful, smooth acceleration and a luxurious, quiet ride at all speeds. The new Nissan LEAF offers superior handling stability realized by its excellent weight balance and features a maximum driving range increased from 200 km to 400 km on one full charge (as measured in JC08 test mode).

## **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) +3 (downstream)

### **% emissions in Scope**

100

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

5

### **Base year**

2000

### **Start year**

2017

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

135000000

### **Target year**

2030

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

### **% achieved (emissions)**

0

### **Target status**

Underway

### **Please explain**

Scope1, 2, and 3 emissions targets include the use of sold products. The percentages presented here were calculated based on absolute emissions reduction compared to year 2000 as base year. We set our mid-term and long-term absolute targets for 2030 and 2050, respectively, starting from 2017. In the mid-term, Nissan will not be able to reach an average year-on-year reduction between 2017 and 2030 of at least 2.1%; on the contrary, a slight absolute emissions increase of 0.8% a year is expected to be observed for this period. However, according to our internal study, Nissan predicts that the penetration of its EVs will accelerate substantially in the long term, and absolute CO2 emissions will drop steeply from the mid-2030s. Indeed, the average year-on-year reduction between 2017 and 2050 is 2.12%, which means that the contribution of EVs is one of the most important aspects in our long-term goal of reducing absolute emissions according to our target. The percentages were calculated dividing the difference in emissions between start year and target year in relation to base year emissions. In 2008, Nissan realised that further reductions also in terms of intensity may be necessary as suggested by the IPCC’s Fourth Assessment Report. 450ppm represents the scenarios of Category I, and change in global CO2 emissions 2050 need to be half (50%) of 2000 which is re-calculated in WtW as -90% in 2050, which is an intensity target applied for new vehicles (in g-C02/km). In order to translate -50% absolute IPCC requirement to the WtW -90% intensity, the estimated 2050 vehicle volume shown in IEA’s Mobility Model is adopted. Nissan understands that current IPCC’s Fifth Assessment Report needs to revise its base year to 2010, and SBT methods are following the calculations accordingly. Nissan believes that the base year 2000 scenario is equivalent or more stringent than the 2010 scenarios. Nissan has submitted the SBT for Target Quality Check to SBTI, and the verifications to the Science Based Target Initiatives is under process.

### **Target reference number**

Abs 2

### **Scope**

Scope 1+2 (location-based) +3 (downstream)

### **% emissions in Scope**

100

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

50

### **Base year**

2000

### **Start year**

2017

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

135000000

### **Target year**

2050

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science-Based Targets initiative

### **% achieved (emissions)**

0

### **Target status**

Underway

### **Please explain**

Scope1, 2, and 3 emissions targets include the use of sold products. The percentages presented here were calculated based on absolute emissions reduction compared to year 2000 as base year. We set our mid-term and long-term absolute targets for 2030 and 2050, respectively, starting from 2017. In the mid-term, Nissan will not be able to reach an average year-on-year reduction between 2017 and 2030 of at least 2.1%; on the contrary, a slight absolute emissions increase of 0.8% a year is expected to be observed for this period. However, according to our internal study, Nissan predicts that the penetration of its EVs will accelerate substantially in the long term, and absolute CO2 emissions will drop steeply from the mid-2030s. Indeed, the average year-on-year reduction between 2017 and 2050 is 2.12%, which means that the contribution of EVs is one of the most important aspects in our long-term goal of reducing absolute emissions according to our target. The percentages were calculated dividing the difference in emissions between start year and target year in relation to base year emissions. In 2008, Nissan realised that further reductions also in terms of intensity may be necessary as suggested by the IPCC’s Fourth Assessment Report. 450ppm represents the scenarios of Category I, and change in global CO2 emissions 2050 need to be half (50%) of 2000 which is re-calculated in WtW as -90% in 2050, which is an intensity target applied for new vehicles (in g-C02/km). In order to translate -50% absolute IPCC requirement to the WtW -90% intensity, the estimated 2050 vehicle volume shown in IEA’s Mobility Model is adopted. Nissan understands that current IPCC’s Fifth Assessment Report needs to revise its base year to 2010, and SBT methods are following the calculations accordingly. Nissan believes that the base year 2000 scenario is equivalent or more stringent than the 2010 scenarios. Nissan has submitted the SBT for Target Quality Check to SBTI, and the verifications to the Science Based Target Initiatives is under process.

## **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 (market-based)

### **% emissions in Scope**

100

### **% reduction from baseline year**

30

### **Metric**

Metric tons CO2e per vehicle produced\*

### **Base year**

2005

### **Start year**

2017

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

0.81

### **Target year**

2022

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

### **% achieved (emissions)**

97

### **Target status**

Underway

### **Please explain**

NGP2022, the company's fourth environmental mid-term plan, will contribute to substantial improvements in corporate CO2 emissions (t-CO2/vehicle produced) from Nissan's manufacturing and non-manufacturing facilities. The mid-term target to be reached in 2022 is to reduce average emissions by 30% as compared to 2005 levels for Nissan's corporate activities emissions, whereas the long-term target is set at 80% emissions reduction by 2050.

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

18

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

0

### **Target reference number**

Int 2

### **Scope**

Scope 2 (market-based)

### **% emissions in Scope**

100

### **% reduction from baseline year**

80

### **Metric**

Metric tons CO2e per vehicle produced\*

### **Base year**

2005

### **Start year**

2006

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

0.81

### **Target year**

2050

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

### **% achieved (emissions)**

35

### **Target status**

Underway

### **Please explain**

NGP2022, the company's fourth environmental mid-term plan, will contribute to substantial improvements in corporate CO2 emissions (t-CO2/vehicle produced) from Nissan's manufacturing and non-manufacturing facilities. The mid-term target to be reached in 2022 is to reduce average emissions by 30% as compared to 2005 levels for Nissan's corporate activities emissions, whereas the long-term target is set at 80% emissions reduction by 2050.

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

-58

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

0

### **Target reference number**

Int 3

### **Scope**

Scope 3: Use of sold products

### **% emissions in Scope**

100

### **% reduction from baseline year**

40

### **Metric**

Grams CO2e per kilometer\*

### **Base year**

2000

### **Start year**

2017

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

209

### **Target year**

2022

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

### **% achieved (emissions)**

83

### **Target status**

Underway

### **Please explain**

NGP2022, the company's fourth environmental mid-term plan, will contribute to substantial improvements in corporate CO2 emissions (t-CO2/vehicle produced) from Nissan's manufacturing and non-manufacturing facilities. The mid-term target to be reached in 2022 is to reduce average emissions by 30% as compared to 2005 levels for Nissan's corporate activities emissions, whereas the long-term target is set at 80% emissions reduction by 2050.

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

0

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

32

### **Target reference number**

Int 4

### **Scope**

Scope 3: Use of sold products

### **% emissions in Scope**

100

### **% reduction from baseline year**

90

### **Metric**

Grams CO2e per kilometer\*

### **Base year**

2000

### **Start year**

2006

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

209

### **Target year**

2050

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

Yes, we consider this a science-based target, but this target has not been approved as science-based by the Science Based Targets initiative

### **% achieved (emissions)**

42

### **Target status**

Underway

### **Please explain**

NGP2022, the company's fourth environmental mid-term plan, will contribute to substantial improvements in corporate CO2 emissions (t-CO2/vehicle produced) from Nissan's manufacturing and non-manufacturing facilities. The mid-term target to be reached in 2022 is to reduce average emissions by 30% as compared to 2005 levels for Nissan's corporate activities emissions, whereas the long-term target is set at 80% emissions reduction by 2050.

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

0

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

-50

## **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 projects at each stage of development, and for those in the implementation stages, the estimated CO2e savings.**

|  |  |  |
| --- | --- | --- |
|  | **Number of projects** | **Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked \*)** |
| Under investigation | 112 | 43935 |
| To be implemented\* | 19 | 10011 |
| Implementation commenced\* | 74 | 26070 |
| Implemented\* | 56 | 39200 |
| Not to be implemented | 106 | 34469 |

## **C4.3b**

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

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Fuel switch

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

4200

### **Scope**

Scope 1

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

72000000

### **Investment required (unit currency – as specified in CC0.4)**

136374000

### **Payback period**

1-3 years

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

11-15 years

### **Comment**

Replacing heating oil and LPG with LNG in the furnaces at Iwaki plant.

### **Activity type**

Energy efficiency: Building services

### **Description of activity**

Lighting

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

12175

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

307748905

### **Investment required (unit currency – as specified in CC0.4)**

339319593

### **Payback period**

4 - 10 years

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

16-20 years

### **Comment**

Lighting replacement with LED and related projects.

### **Activity type**

Energy efficiency: Processes

### **Description of activity**

Process optimization

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

22422

### **Scope**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

547616384

### **Investment required (unit currency – as specified in CC0.4)**

562551382

### **Payback period**

1-3 years

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

11-15 years

### **Comment**

Adding VFD (Variable Frequency Drives) to air supply fans, water supply pumps and otherequipment.

### **Activity type**

Other, please specify (Employee commuting emissions)

### **Description of activity**

<Not Applicable>

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

283

### **Scope**

Scope 3

### **Voluntary/Mandatory**

Voluntary

### **Annual monetary savings (unit currency – as specified in CC0.4)**

548000000

### **Investment required (unit currency – as specified in CC0.4)**

893000000

### **Payback period**

4 - 10 years

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

6-10 years

### **Comment**

Nissan introduced a companywide CO2 reduction plan for car commuting employees in Japan, encouraging them to shift from internal combustion engine vehicles to EVs in order to reduce CO2 emissions.

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Financial optimization calculations |  |

## **C4.5**

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

Yes

## **C4.5a**

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

### **Level of aggregation**

Group of products

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

Our customers’ Scope 1 emissions from fleet vehicle use can be reduced by substituting internal combustion engine vehicles with EVs. Electricity usage may increase and Scope 2 emissions would be influenced, but since electricity can be generated from various sources, an overall reduction in CO2 emissions can be expected in many countries. Our well-to-wheel analysis shows that switching from fossil-fuel-powered vehicles to EVs increases energy efficiency and thus reduces CO2 emissions. If renewable energy is used to charge EVs then well-to-wheel emissions could approach a zero figure.

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

Low-carbon product

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

Other, please specify (ISO14040, life cycle assessment)

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

2

### **Comment**

Average use in Japan may decrease annual CO2 emissions of 0.63 tonne per vehicle if switched from equivalent internal combustion vehicle. In FY2017, cumulative sales of Nissan LEAF EV reached 320,000 units globally. These vehicles may reduce annual CO2 output by 157,500 tons in a single year. Additionally, adding up sales data of other EV commercial vehicles sold mainly in China, the total EV sales figure reaches 380,000 units.

## **C5. Emissions methodology**

## **C5.1**

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

### **Scope 1**

### **Base year start**

April 1 2005

### **Base year end**

March 31 2006

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

1050000

### **Comment**

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

### **Base year start**

April 1 2005

### **Base year end**

March 31 2006

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

1840000

### **Comment**

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

### **Base year start**

April 1 2005

### **Base year end**

March 31 2006

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

1840000

### **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.**

Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superceded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)

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?**

### **Row 1**

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

912476

### **End-year of reporting period**

<Not Applicable>

### **Comment**

## **C6.2**

### **(C6.2) Describe your organization’s approach to reporting Scope 2 emissions.**

### **Row 1**

### **​Scope 2, location-based​**

We are reporting a Scope 2, location-based figure

### **Scope 2, market-based**

We are reporting a Scope 2, market-based figure

### **Comment**

## **C6.3**

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

### **Row 1**

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

2563866

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

2394109

### **End-year of reporting period**

<Not Applicable>

### **Comment**

Source Japan : Ministry of Environment Others: IEA (2017), "CO2 EMISSIONS FROM FUEL COMBUSTION (2017 Edition)"

## **C6.4**

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

Yes

## **C6.4a**

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

### **Source**

Manufacturing facilities emitting very small amounts of CO2 and other group companies with 500 employees or less emitting negligible amounts of GHGs

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

Emissions are not relevant

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

Emissions are not relevant

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

Emissions are not relevant

### **Explain why the source is excluded**

Based on past studies, we have excluded emissions from manufacturing facilities emitting very small amounts of CO2, and other group companies and dealers with 500 employees or less emitting negligible amounts of CO2 as compared to the total CO2 emissions. Our internal data in the past showed that emissions from excluded facilities represent approximately 1% of summed Scope 1 and 2 emissions volume.

## **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**

17971000

### **Emissions calculation methodology**

Activity data: Based on production volume from financial results document (Kessan Tanshin) and financial information (Yukashoken-Houkokusho) in IR library. Emission factors: Based on CFP (Carbon Footprint) pilot project conducted by Japanese government and JEMAI (Japan Environmental Management Association for Industry). Also, Nissan internal data for vehicle material ratio was used. Methodology: Multiply regional production volume and material use ratio, and convert each material volume to CO2 emissions with emission factors.

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

### **Explanation**

### **Capital goods**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

1203000

### **Emissions calculation methodology**

Activity data: Based on facility investments from financial results document (Kessan Tanshin) and financial information (Yukashoken-Houkokusho) in IR library. Emission factors: Based on 3EID (Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables) from National Institute for Environmental Studies in Japan. Methodology: Multiply regional facility investments with 3EID emission factors.

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

### **Explanation**

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

412000

### **Emissions calculation methodology**

Activity data: Based on annual energy and fuel procurement data. Emission factors: Based on combination of actual data from energy supplier, IEA energy balance table, and CFP pilot project conducted by Japanese government and JEMAI (Japan Environmental Management Association for Industry). Methodology: Multiply annual energy and fuel usage with each emission factors of above.

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

### **Explanation**

### **Upstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

740000

### **Emissions calculation methodology**

Activity data: Based on annual logistics CO2 data disclosed in Sustainability Report. Emission factors: Actual CO2 data from transportation suppliers were used. Methodology: Annual regional logistics including parts procurement from suppliers, transportation of knockdown parts, complete vehicles, and service parts are used to create total emissions.

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

### **Explanation**

### **Waste generated in operations**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

197000

### **Emissions calculation methodology**

Activity data: Based on annual waste generated data. Emission factors: Based on CFP pilot project conducted by Japanese government and JEMAI (Japan Environmental Management Association for Industry). Methodology: Manifest of generated waste in Japan was used to create a global waste profile. Each waste material was multiplied by emission factors for total emissions.

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

### **Explanation**

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

230000

### **Emissions calculation methodology**

Activity data: Based on number of regional employees. Emission factors: Actual data within R&D for overseas and domestic business trips was used to create per employee CO2 factors. Methodology: Total employee numbers for Nissan Motor Co. and its five main manufacturing subsidiaries were multiplied by per employee CO2 factors.

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

### **Explanation**

### **Employee commuting**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

252000

### **Emissions calculation methodology**

Activity data: Based on number of regional employees. Emission factors: Based on 3EID (Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables) from National Institute for Environmental Studies in Japan. Also, factors from Global Fuel Economy Initiative, IEA and Japan Environmental Management Association for Industry - JEMAI, were utilized. Methodology: Each commuting style (i.e. rail, buses, own car, etc.) was multiplied by their respective emission factors.

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

### **Explanation**

### **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

Category 8 is not applicable as there is no operation of assets that are leased by Nissan.

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

### **Explanation**

### **Downstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

874000

### **Emissions calculation methodology**

Activity data: Based on annual number of car dealers that are not owned by consolidated companies. Emission factors: Based on CFP (Carbon Footprint) pilot project conducted by Japanese government and JEMAI (Japan Environmental Management Association for Industry). Methodology: Average car dealer’s energy and fuel usage in Japan are multiplied by emission factors and the regional activity data.

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

### **Explanation**

### **Processing of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

11000

### **Emissions calculation methodology**

Activity data: Based on the total weight of annual sales units and the annual knockdown production volume. Emission factors: Based on CFP (Carbon Footprint) pilot project conducted by Japanese government and JEMAI (Japan Environmental Management Association for Industry). Methodology: Unit sales and knockdown production data were multiplied by per assembly CO2 emission factor.

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

### **Explanation**

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

190261000

### **Emissions calculation methodology**

Activity data: Based on global sales volume from financial results document (Kessan Tanshin) and financial information (Yukashoken-Houkokusho) in IR library. Emission factors: Based on IEA SMP Model. Methodology: Regional sales volume is multiplied by regional annual vehicle travel distance and regional service life of the vehicle. Result is multiplied by IEA emission factors.

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

### **Explanation**

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

425000

### **Emissions calculation methodology**

Activity data: Based on global sales volume from financial results document (Kessan Tanshin) and financial information (Yukashoken-Houkokusho) in IR library. Emission factors: Based on the report from NEDO (New Energy and Industrial Technology Development Organization) in Japan. Methodology: Multiply regional sales volume with emission factors.

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

### **Explanation**

### **Downstream leased assets**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

470000

### **Emissions calculation methodology**

Activity data: Based on the actual fleet volume of leasing companies within Nissan Group in Japan Emission factors: Based on CO2 emissions per vehicle calculated by Nissan. Methodology: Actual fleet volume is multiplied by fuel economy and emission factors.

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

### **Explanation**

### **Franchises**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

Not relevant, based on the fact that all companies within our consolidated boundary are included in the Scope 1 and 2 emissions, and “Downstream transportation and distribution” of the Scope 3 emissions.

### **Investments**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

Not relevant, because all companies within our consolidated boundary were included in our Scope 1 and 2 emissions. For the automotive industry, pension fund investment is negligible and will not exceed 0.1% of total Scope 3 emissions.

### **Other (upstream)**

### **Evaluation status**

Not evaluated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **Explanation**

### **Other (downstream)**

### **Evaluation status**

Not evaluated

### **Metric tonnes CO2e**

### **Emissions calculation methodology**

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

### **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**

0.25

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

3306584

### **Metric denominator**

Other, please specify (Total revenue (million JPY))

*The intensity figure unit is: t-CO2/million JPY*

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

13315000

### **Scope 2 figure used**

Market-based

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

10.9

### **Direction of change**

Decreased

### **Reason for change**

Net revenue increased 3.7% compared to FY16 with vehicle production output remaining practically unchanged. The decrease can be mainly attributed to emission reduction activities including purchasing lower carbon electricity and energy efficiency improvement activities in global manufacturing/non-manufacturing sites. The reduced number of accounted sites due to a group divestment also had a contribution.

### **Intensity figure**

0.58

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

3306584

### **Metric denominator**

vehicle produced

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

5672000

### **Scope 2 figure used**

Market-based

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

7.6

### **Direction of change**

Decreased

### **Reason for change**

The decrease can be mainly attributed to emission reduction activities including purchasing lower carbon electricity and energy efficiency improvement activities in global manufacturing/non-manufacturing sites. The reduced number of accounted sites due to a group divestment also had a contribution.

## **C7. Emissions breakdowns**

## **C7.1**

### **(C7.1) Does your organization have greenhouse gas emissions other than carbon dioxide?**

Yes

## **C7.1a**

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

|  |  |  |
| --- | --- | --- |
| **Greenhouse gas** | **Scope 1 emissions (metric tons of CO2e)** | **GWP Reference** |
| CO2 | 901894 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| CH4 | 4823 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| N2O | 1542 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| PFCs | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| SF6 | 36 | IPCC Fifth Assessment Report (AR5 – 100 year) |

## **C7.2**

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

|  |  |
| --- | --- |
| **Country/Region** | **Scope 1 emissions (metric tons CO2e)** |
| Japan | 408753 |
| North America | 202761 |
| Europe | 135814 |
| Other, please specify (Rest of the World) | 165148 |

## **C7.3**

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

By activity

## **C7.3c**

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

|  |  |
| --- | --- |
| **Activity** | **Scope 1 emissions (metric tons CO2e)** |
| Manufacturing activities | 855683 |
| Non-manufacturing activities | 56793 |

## **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 | 855683 | <Not Applicable> | The figure represents CO2 emissions for manufacturing activities only. Manufacturing and non-manufacturing emissions amounted to 855683 and 56793 metric tons CO2, respectively. |
| 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 | 1087436 | 924583 | 2182457 | 200 |
| North America | 538750 | 480571 | 1278358 | 139758 |
| Europe | 147091 | 93184 | 424688 | 277389 |
| Other, please specify (Rest of the World) | 790589 | 895771 | 1149791 | 216548 |

## **C7.6**

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

By activity

## **C7.6c**

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

|  |  |  |
| --- | --- | --- |
| **Activity** | **Scope 2, location-based emissions (metric tons CO2e)** | **Scope 2, market-based emissions (metric tons CO2e)** |
| Manufacturing activities | 2356612 | 2215455 |
| Non-manufacturing activities | 207254 | 178654 |

## **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 | 2356612 | 2215455 | The figures represent CO2 emissions for manufacturing activities only. Location-based manufacturing and non-manufacturing emissions amounted to 2356312 and 207254 metric tons CO2, respectively, whereas market-based emissions amounted to 2215455 and 178654 metric tons CO2, respectively. |
| 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**

190261

### **Metric denominator**

p.km

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

1859794585

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

0.2

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

5770000

### **Vehicle lifetime in years**

17

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

12470

### **Load factor**

1.39

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

The results of Scope 3 emissions have been validated by a third party. In order to respond this question, emissions intensity, average vehicle lifetime in years and annual distance in km were calculated based on regional data collected by Nissan for each variable. The load factor is an average of the values published by government statistics across the main regions where Nissan operates (EU: Environment Agency, US: Energy Databook, PRC: World Bank study for transport demand, JPN: Road Bureau of the Ministry of Land, Infrastructure, Transport and Tourism).

## **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 |  | <Not Applicable> |  |  |
| Other emissions reduction activities | 150000 | Decreased | 4.1 | In FY2017, Nissan started to use new low-carbon fuel. The conclusion of the construction of new city gas fuel supply facilities mainly at the Japan sites were responsible for the reduction of Scope 1 CO2 emissions by approximately 150 ktCO2e. This amount represents approximately a 4.1% reduction comparedto the total FY2016 Scope 1 and 2 emissions((150000/3577689)\*100%). |
| Divestment | 120000 | Decreased | 3.3 | In FY2017, emissions reduced by approximately 120 ktCO2e due to a group divestment. Our total Scope 1 and Scope 2 emissions reduced 3.3% in the comparison with the total emissions in FY2016. ((1200/3578)-1=-3.3%) |
| Acquisitions |  | <Not Applicable> |  |  |
| Mergers |  | <Not Applicable> |  |  |
| Change in output |  | <Not Applicable> |  |  |
| Change in methodology |  | <Not Applicable> |  |  |
| Change in boundary |  | <Not Applicable> |  |  |
| Change in physical operating conditions |  | <Not Applicable> |  |  |
| Unidentified |  | <Not Applicable> |  |  |
| Other |  | <Not Applicable> |  |  |

## **C7.9b**

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

Market-based

## **C8. Energy**

## **C8.1**

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

More than 5% but less than or equal to 10%

## **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) | LHV (lower heating value) | 0 | 4622635 | 4622635 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 186153 | 4569744 | 4755897 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 5000 | 5000 |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 128038 | 128038 |
| Consumption of purchased or acquired cooling | <Not Applicable> | 0 | 6661 | 6661 |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 14609 | <Not Applicable> | 14609 |
| Total energy consumption | <Not Applicable> | 200762 | 9332078 | 9532840 |

## **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 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)**

Motor Gasoline

### **Heating value**

LHV (lower heating value)

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

298999

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

0

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

298999

### **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

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

Kerosene

### **Heating value**

LHV (lower heating value)

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

147522

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

0

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

147522

### **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

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

Diesel

### **Heating value**

LHV (lower heating value)

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

48259

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

0

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

48259

### **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

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

Fuel Oil Number 1

### **Heating value**

LHV (lower heating value)

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

27652

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

0

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

27652

### **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

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

Town Gas

### **Heating value**

LHV (lower heating value)

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

3701640

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

0

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

2805317

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

370164

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

0

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

526159

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

Liquefied Petroleum Gas (LPG)

### **Heating value**

LHV (lower heating value)

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

179945

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

0

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

179945

### **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

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

Coke Oven Gas

### **Heating value**

LHV (lower heating value)

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

218618

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

0

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

218618

### **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

## **C8.2d**

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

### **Coke Oven Gas**

### **Emission factor**

2.8

### **Unit**

metric tons CO2e per metric ton

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

### **Diesel**

### **Emission factor**

0.0026

### **Unit**

metric tons CO2e per liter

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

### **Fuel Oil Number 1**

### **Emission factor**

0.0027

### **Unit**

metric tons CO2e per liter

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

### **Kerosene**

### **Emission factor**

0.0025

### **Unit**

metric tons CO2e per liter

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

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

### **Emission factor**

3

### **Unit**

metric tons CO2e per metric ton

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

### **Motor Gasoline**

### **Emission factor**

0.0023

### **Unit**

metric tons CO2e per liter

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

### **Town Gas**

### **Emission factor**

0.002

### **Unit**

metric tons CO2 per m3

### **Emission factor source**

The GHG Emissions Accounting, Reporting, and Disclosure System under Japan's Act.

### **Comment**

## **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 | 14609 | 14609 | 14609 | 14609 |
| Heat | 0 | 0 | 0 | 0 |
| Steam | 0 | 0 | 0 | 0 |
| Cooling | 0 | 0 | 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**

Power Purchase Agreement (PPA) without energy attribute certificates

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

Hydropower

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

34656

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

0.000056

### **Comment**

Nissan Do Brasil Automoveis Ltda. purchased 100% hydropower-generated electricity.

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

Power Purchase Agreement (PPA) without energy attribute certificates

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

Biomass (including biogas)

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

6142

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

0

### **Comment**

In 2012 the Aguascalientes facility became the first automotive plant in Mexico, and Nissan’s first plant globally, to use biogas-generated electricity for its manufacturing operations.

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

Power Purchase Agreement (PPA) without energy attribute certificates

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

Wind

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

133616

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

0

### **Comment**

In January 2013, the Aguas Calientes plant also started to source electricity generated by wind-power stations.

### **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**

Wind

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

10335

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

0

### **Comment**

Nissan Motor Manufacturing UK Ltd. has on-site wind turbine facilities in the Sunderland plant.

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

Power Purchase Agreement (PPA) without energy attribute certificates

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

Solar PV

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

4190

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

0

### **Comment**

Newly installed 19,000 solar panels in FY16 started the generation of 100% renewable energy electricity.

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

Power Purchase Agreement (PPA) without energy attribute certificates

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

Nuclear

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

262854

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

0

### **Comment**

Purchasing of 100% Nuclear electricity in the U.K. facilities.

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

Power Purchase Agreement (PPA) without energy attribute certificates

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

Wind

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

181892

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

0

### **Comment**

In 2016, Renault Nissan Automotive India Private Limited started to source electricity generated by wind-power stations.

## **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**

0.58

### **Metric numerator**

tCO2e

### **Metric denominator**

Production: Vehicle

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

3306384

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

5672000

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

-7.6

### **Please explain**

The decrease can be mainly attributed to emission reduction activities including purchasing lower carbon electricity and energy efficiency improvement activities in global manufacturing/non-manufacturing sites. The reduced number of accounted sites due to a group divestment also contributed.

## **C9. Additional metrics**

## **C9.1**

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

### **Description**

Waste

### **Metric value**

26.92

### **Metric numerator**

152674000 kg （waste generated）

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

5672000 (vehicles produced)

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

4.3

### **Direction of change**

Decreased

### **Please explain**

This metric is the amount of waste generated per vehicle produced. "Waste generated" here includes waste that is remanufactured, reused or recycled, which represents some 95% (144,633 tons) of the total generated waste (152674 tons). The reduction of 4.3% from the previous year is related to a large scale project to reduce waste generation in North America.

## **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**

Battery electric vehicle (BEV)

### **Metric figure**

59000

### **Metric unit**

Units

### **Explanation**

The Nissan LEAF and other electric commercial vehicles are included in the sum total of 59,000 units.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Conventional hybrid

### **Metric figure**

105000

### **Metric unit**

Units

### **Explanation**

Conventional hybrid vehicles sold globally.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Other, please specify (e-POWER vehicles)

### **Metric figure**

92000

### **Metric unit**

Units

### **Explanation**

e-POWER vehicles utilize a 100% electric powertrain making use of EV technology in the Nissan LEAF. A gasoline engine is used to charge the batteries, which provide power to the electric motors that drive the wheels of the vehicle. As with other gasoline-powered and hybrid cars, the e-POWER system uses gasoline as its power source, removing the need to charge the battery. Driven completely by electric motors, it offers driving pleasure equivalent to that of an EV, making it a vehicle with an all-new electric powertrain completely different from the hybrid systems commonly included in compact cars to date. This figure is a global sales value for e-POWER vehicles.

## **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**

January 15 2018

### **Investment end date**

January 15 2018

### **Investment area**

R&D

### **Technology area**

Electrification

### **Investment maturity**

Applied research and development

### **Investment figure**

112000000000

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

41-60%

### **Please explain**

The Nissan-Renault-Mitsubishi Alliance joint venture capital fund will mainly focus on R&D in areas such as electrification, autonomous systems and connectivity.

## **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**

[Independent Assurance Report (Nissan).pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/ygWQIdJ_Gk2lWUv4a3cF9w/IndependentAssuranceReportNissan.pdf)

### **Page/ section reference**

p. 1, 2: Independent Assurance Report p. 3: Letter to CDP

### **Relevant standard**

ISAE 3410

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

89

### **Scope**

Scope 2 market-based

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

Annual process

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

Complete

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

Limited assurance

### **Attach the statement**

[Independent Assurance Report (Nissan).pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/ygWQIdJ_Gk2lWUv4a3cF9w/IndependentAssuranceReportNissan.pdf)

### **Page/ section reference**

p. 1, 2: Independent Assurance Report p. 3: Letter to CDP

### **Relevant standard**

ISAE 3410

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

84

## **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- at least one applicable category

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

Annual process

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

Complete

### **Attach the statement**

[Independent Assurance Report (Nissan).pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/ygWQIdJ_Gk2lWUv4a3cF9w/IndependentAssuranceReportNissan.pdf)

### **Page/section reference**

p. 1, 2: Independent Assurance Report p. 3: Letter to CDP

### **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?**

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

## **C11. Carbon pricing**

## **C11.1**

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

Yes

## **C11.1a**

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

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**

5

### **Period start date**

January 1 2017

### **Period end date**

December 31 2017

### **Allowances allocated**

45477

### **Allowances purchased**

0

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

45477

### **Details of ownership**

Facilities we own but do not operate

### **Comment**

## **C11.1d**

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

Nissan expects higher sales and production volume in the EU in the next few years. Nevertheless, our manufacturing department has created a strategy to lower our emissions through energy conservation, renewable energy, and process improvements. Based on this strategy, the plants having the greatest potential to obtain allowances will be continuously investigated in the EU. At the moment, Nissan has obtained allowances from our Cantabria and Barcelona factories in Spain. We have no plans to acquire credits at the moment.

## **C11.2**

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

Yes

## **C11.2a**

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

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

Credit origination

### **Project type**

Fossil fuel switch

### **Project identification**

Energy from wind turbines installed in Nissan Motor Manufacturing UK Ltd’s Sunderland plant created 10,335MWh in FY17, which has been verified by the Renewable Obligation Certificate in the UK

### **Verified to which standard**

Other, please specify (Renewable Obligation Certificate (UK))

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

2615

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

2615

### **Credits cancelled**

No

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

Voluntary Offsetting

## **C11.3**

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

Yes

## **C11.3a**

### **(C11.3a) Provide details of how your organization uses an internal price on carbon.**

### **Objective for implementing an internal carbon price**

Drive energy efficiency

### **GHG Scope**

Scope 1

Scope 2

### **Application**

Nissan has ambitious carbon reduction targets of reducing CO2 emissions of global corporate activities by 80% in 2050 compared to FY2005, and reducing CO2 emissions from new vehicles by 90% in 2050 compared to FY2000 levels. In order to achieve these targets, Nissan considers GHG emissions reduction as one of the most crucial parameters in our investment selection process. Proposals are compared and selected based on carbon emissions reduction per unit cost of investment, as well as the energy reduction potential, measured with an internal price of carbon. Nissan has been making great strides in reducing CO2 emissions and improving sustainability in its global corporate activities, while simultaneously increasing vehicle production and plant energy efficiency.

### **Actual price(s) used (Currency /metric ton)**

30000

### **Variance of price(s) used**

The variation of the carbon price used was 5000-80000 yen across various types of projects.

### **Type of internal carbon price**

Implicit price

### **Impact & implication**

At Nissan, the resources for sponsoring environmental improvements in terms of CO2 emissions reduction are negotiated with manufacturing plants, and prioritized/implemented according to carbon price or unit cost to reduce CO2 emissions and timescale for return on investment (ROI). As a general rule, projects with large potential for CO2 reductions, relatively low investment cost and short ROI are prioritized. One of the signature projects is The Nissan Energy Saving Collaboration (NESCO) which received Chairman's Prize of ECCJ (Energy Conservation Center, Japan) in 2016 for its energy-saving activities across the company. It demonstrates Nissan’s continuous effort in adopting internal price of carbon in improvement activities for achieving carbon reduction. Besides the NESCO activities, Nissan has invested in various types of equipment such as compressors, pumps, air conditioners and illumination, in order to achieve reductions in CO2 emissions. Those investments have cut emissions by about 16,000 tons of CO2 globally in fiscal 2017.

## **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**

11.1

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

56.3

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

1.11

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

Nissan every year requests the top 400 tier-one suppliers by purchase amount to answer CDP Supply Chain Information Request. Although the proportion of suppliers which are requested to respond to the Information Request is less than 15%, they represent 56% of total procurement spend. We believe it makes sense for us to focus on major suppliers if we are to manage climate change risks in our supply chain cost-effectively. Suppliers are incentivized to respond to the Information Request because the Nissan Green Purchasing Guideline explicitly asks Nissan suppliers to respond to such a request.

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

The CDP Supply Chain Information Request, which we ask our major suppliers to answer, includes questions on climate change related risk assessment, accounting and targets. Answers from those suppliers are used to understand their recognition of climate change risks and how they have responded to those risks, and to enhance engagement with suppliers. We monitor the response rate and the distribution of scores as the metrics to measure success of the engagement. Since we started to engage with our major suppliers, we were able to reach a response rate of more than 80% and observed a higher awareness on their part. Also, the improvement observed in the CDP Supply Chain evaluation also provide a gain of momentum in our efforts to strengthen our supplier engagement activities.

### **Comment**

The figure of 1.1% in "% Scope 3 emissions" was calculated by multiplying the number of suppliers responding to the questionnaire and the estimated percentage of Scope 3 emissions of all suppliers. "% Scope 3 emissions" is heavily influenced by the "Use of Sold Products" item which represent almost 90% of our Scope 3 emissions.

## **C12.1b**

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

### **Type of engagement**

Collaboration & innovation

### **Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

### **Size of engagement**

2

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

89

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

This engagement builds an important bridge with our customers, allowing Nissan to showcase its technological advancements and the ways which customers can utilize them in order to improve their quality of life. The Chinese market is very important for Nissan and creating a closer relationship with existing and potential new Chinese clients justifies this activity.

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

In 2010, Nissan launched eco-driving support provided via the car navigation system, which aims to improve fuel economy by changing drivers’ habits. We utilize travel time reduction and fuel economy improvement as indexes to measure the success of the projects. In one experiment, around 12,000 ordinary drivers in Beijing’s Wangjing district used Portable Navigation Devices with DRGS and eco-driving support. Results from the experiment, which lasted around one year, showed that DRGS cut travel time by 5.1% and increased fuel economy by 7.6%. Enabling drivers to avoid congested roads led to the dispersion of traffic flow, enhancing overall speed within the area. Furthermore, by helping users cultivate better driving habits, eco-driving support increased fuel economy by 6.8%. Nissan is seeking to create new eco-driving projects in order to showcase technological solutions for reducing CO2 emissions on the customer side. Similar engagement projects will be implemented in other regions, and further developed to include Connected Car initiatives and CO2 emissions monitoring in the future.

## **C12.1c**

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

i) Description

In order to reduce Scope 3 emissions from the use of sold products and engage our employees on combating climate change problems together, Nissan developed a programme to provide incentives to employees to use zero-emission electric vehicles.

ii) Strategy

Since FY2013, Nissan introduced a voluntary and companywide CO2 reduction plan for employees’ car-commuting in Japan. Incentives like priority parking and free electricity charging are provided to employees driving Nissan’s zero-emission vehicle LEAF to major offices and plants. This plan encourages car commuters to shift from internal combustion engine vehicles to Nissan LEAF for reducing CO2 emissions. The objective is to reduce commuting emissions by 1% in ton-CO2/vehicle annually.

## **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?**

Direct engagement with policy makers

Trade associations

Funding research organizations

Other

## **C12.3a**

### **(C12.3a) On what issues have you been engaging directly with policy makers?**

|  |  |  |  |
| --- | --- | --- | --- |
| **Focus of legislation** | **Corporate position** | **Details of engagement** | **Proposed legislative solution** |
| Other, please specify (Zero emission mobility adoption in PRC) | Support | Nissan conducted with China’s Tsinghua University on an EV Simulation Study, which focuses on simulating zero emission vehicle penetration impact in Beijing with traffic data, and supported by the Chinese government and the Beijing government. The project aims at studying the effectiveness of EV penetration in improving air quality in different environments, hence for proposing the best zero emission mobility solution to PRC government to solve the serious particulates and smog problem. Based on the study results, a proposal with implementation recommendations has been made in the China/Beijing congresses in March 2016. The details have been thoroughly discussed at various policy boards organized by the Chinese governments, with 4 new policy guidelines/notices being proposed and endorsed. With such success in the engagement, a new phase of the study started in FY16. | The study proved that EVs can reduce PM2.5 more than PHEV/HEV, and its energy consumption and CO2 emissions (well-to-wheel basis) performances are better as well. Besides, air quality improvements of EV penetration in certain environments is significantly better than in others. Based on the findings, the following recommendations were proposed to the China/ Beijing congresses: (1) city government should control the proportion of electric vehicles to maintain a certain proportion of new vehicles registration (2) EV purchase incentives (financial support) (3) Deployment of charging infrastructure with layout focusing on hot spots and area with high population density based on vehicle probe data collected (4) Usage incentives in parking and plate number registration, etc. (5) electricity price incentives (6) Set electric vehicle demonstration area (7) Deploy High-occupancy Vehicles or EV-only lanes in areas with poor air quality (8) On-demand EV taxi and EV-car sharing in residential area. With the cooperation of the Chinese/ Beijing governments, Phase II of the study is started in FY16 for further studying the impact of EV new mobility services on traffic and environment. |
| Other, please specify (CHAdeMO charging across Europe ) | Support | National Implementation of Alternative Fuels Infrastructure (“AFI”) Directive across Europe - Nissan is influencing the national implementation processes in the Member States ensuring that its position is heard. Following reviews of a number of submissions in early 2016, Nissan (together with Renault) developed some key provisions to serve as a basis for providing guidance to other Member States, which include a proposed wording for a definition of public and private infrastructure. | The engagement can ensure favorable environment on all the necessary technical features to foster EV mass deployment across the EU, and ensure National Policy Frameworks remain favorable for multi standard charging approach (including CHAdeMO, one of the international standardsfor EVs DC charging). |

## **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**

CHAdeMO Association

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

Consistent

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

In order to achieve a zero-emission society, the objective of CHAdeMO is to accelerate electric vehicle adoption by providing drivers with opportunities to quickly charge their battery, alleviating any nervousness, or "range anxiety", they may have. CHAdeMO is the world’s first DC fast charging standard designed for modern Electric Vehicle. The CHAdeMO Association will continue to push forward with the deployment of charger infrastructure to help bolster the diffusion of electric vehicles for the cause of global warming prevention, in collaboration with stakeholders including various national and local governments all over the world.

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

Our previous vice chairman, Toshiyuki Shiga, is the President of CHAdeMO Association. As a leading manufacturer of mass-produced EV, we strongly support CHAdeMO through deployment of quick charging infrastructure, international or regional standardization, involvement of global suppliers and utilities, and communication with stakeholders.

### **Trade association**

Japan Automobile Manufacturers Association, Inc.

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

Consistent

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

To achieve significant reductions in CO2 emissions in global road transport, JAMA advocates the adoption of an integrated approach, requiring that initiatives be taken in four areas: increased vehicle fuel efficiency, diversified automotive fuel supply, improved traffic flow, and more efficient vehicle use. Promoting the wider use of next-generation vehicles is one of the key measures to increase vehicles fuel efficiency. JAMA aims to achieve emission reductions, keeping close relationships with the Japanese government including the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Economy, Trade and Industry.

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

Our Chief Executive Officer, Hiroto Saikawa, is vice-chairman of JAMA. Nissan is actively involved in JAMA's activities in general. As a leading manufacturer of mass-produced EVs, we strongly support JAMA’s next-generation vehicle dissemination. We have introduced EVs to the market and have made concrete proposals based on the information obtained from our findings and users for EV adoption measures, such as subsidies, tax incentives, and infrastructure improvements.

## **C12.3d**

### **(C12.3d) Do you publicly disclose a list of all research organizations that you fund?**

No

## **C12.3e**

### **(C12.3e) Provide details of the other engagement activities that you undertake.**

[1.Smart Grid]

In Japan, there are around 7,000 power conditioners for Vehicle to Home (V2H) use. This makes it possible, for instance, to charge an EV at a time of the day when electricity rates are low to store the electricity in the vehicle. The system also allows the user to store in the vehicle surplus renewable energy generated by a house that consumed later for household uses, thereby helping to reduce CO2 emissions. In Japan, the United States and Europe many EVs are also providing electricity to buildings through Vehicle to Building (V2B) initiatives, and the number of those cases is increasing every year. Both V2H and V2B allow EVs to supply electricity to households, retail stores, and commercial buildings as a backup power source in the case of a power outage during an emergency.

[2. EV Rapid Charging infrastructure]

In 2014, Nissan jointly established a new company, Nippon Charge Service (NCS), with other Japanese automotive manufacturers to promote installation of chargers for electric-powered vehicles (including EVs and plug-in hybrid vehicles). Under NCS management, the companies aim to provide a convenient charging network service letting drivers charge their vehicles anywhere with a single card.

In the United States, Nissan runs the "No Charge to Charge" program, which provides free access to selected charging stations for two years with the purchase or lease of a new Nissan LEAF. As of April 2018, the program is running in 55 areas where Nissan LEAF sales are high, including San Francisco, Los Angeles, Seattle and Portland, Oregon, and the company plans to expand to more areas in the future.

In Europe, Nissan is also working with companies in the energy industry and others to install quick chargers compliant with the CHAdeMO protocol. It is also collaborating with BMW to encourage the spread of EVs and PHEVs by boosting the number of quick-charging stations that can be used by vehicles from both companies. In the United States, as of January 2017, a total of 174 stations had been built in 33 states, and the plan was announced of completing another 50 during the 2017 calendar year.

[3. Renault-Nissan Alliance EV fleet saves 18 tons of CO2 during COP21]

In 2015 COP21, also known as the 2015 Paris Climate Conference, was successfully held aiming to achieve a legally binding and universal agreement on climate, with the aim of keeping global warming below 2°C. In this major international event, the Renault-Nissan Alliance electric vehicle fleet cored 175,000 km without emitting any CO2 tailpipe emissions at COP21. The fleet of 200 electric vehicles, which shuttled delegates during the two-week United Nations annual climate change conference in Paris, saved nearly 200 barrels of oil or 18 tons of CO2 not emitted while driving. The fleet was the world's largest EV fleet ever provided to an international conference.

[4. The Yokosuka EV Creation Project]

On June 3, 2015, Nissan signed the Yokosuka EV Creation Project partnership agreement with the city of Yokosuka, Kanagawa Prefecture, targeting further adoption of EVs. The Oppama Plant in Yokosuka is designated as a major plant for EV production, promoting zero-emission mobility through comprehensive activities including establishment of charging infrastructure and encouraging the adoption of EVs, as well as vehicle production and sales. Meanwhile, Yokosuka has pioneered policies for creating EV demand, e.g. introducing subsidies, supporting instalment of charging stations and conducting a project based around the use of Nissan LEAFs as taxis. There are plans to develop partnership agreement activities further with the goal of boosting the proportion of EVs to 10% of all owned vehicles by fiscal 2020. Both Nissan and Yokosuka prioritize building charging infrastructure in housing complexes and employee parking lots to encourage a shift to EV use. Nissan will contribute to these activities by providing the necessary information and carrying out vehicle demonstrations.

## **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?**

Climate change is a material issue in our strategy and its policies need to be acknowledged and approved by the Board of Directors. Our global environmental management links various functional and regional engagements, and the biannual Global Environmental Management Committee (G-EMC) generally held every March and September determines overall priorities and the content of reports to be put before the Board of Directors. The Environmental Strategy Group makes sure that all engagements are consistent with both climate change strategy and mid-term business strategy.

At Nissan, our commitment to sustainability is a cornerstone of our business. It is also a driver of innovation. Numerous breakthroughs we have brought to the market - from the zero-emission Nissan LEAF to our cutting-edge Safety Shield technologies - have been inspired by our vision of a better world. As we develop the cars of the future, we are working to create products that not only strengthen our business but also enhance our society, increase mobility and help to solve today’s most significant safety and environmental challenges.

## **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 in accordance with the CDSB Framework

*Financial Report*

### **Status**

Underway – previous year attached

### **Attach the document**

[Finacial Report (FY16\_2017).pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/49Ofxp5wwkuSqh9HGis5XQ/FinacialReportFY162017.pdf)

### **Content elements**

Risks & opportunities

Emissions figures

### **Publication**

In mainstream reports

*Annual Report*

### **Status**

Underway – previous year attached

### **Attach the document**

[AR17\_E\_All.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/lUCjiHgM2EWIrFlT8N5Bkw/AR17EAll.pdf)

### **Content elements**

Strategy

### **Publication**

In voluntary communications

*Sustainability Report*

### **Status**

Underway – previous year attached

### **Attach the document**

[SR17\_E\_All.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/XZuXCCfeJUGZ2lOi-hYcrw/SR17EAll.pdf)

### **Content elements**

Governance

Emissions figures

Emission targets

Other metrics

## **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 | Director and Executive Vice President | Director on board |