# **Hyundai Motor Co - Climate Change 2020**

## **C0. Introduction**

## **C0.1**

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

Since the establishment in 1967, today ‘Hyundai’ has developed as a global brand which represents Republic of Korea as a result of leading the growth of Korea car industry with first-time, first-rank records and titles. Hyundai Motor thinks sustainability is for the future basis of growth since performance-based business in the short-term cannot assure the company’s future. Therefore, Hyundai Motor has done its best for value creation with setting ‘product responsibility’, ‘eco-friendly’, ‘cooperative company’, ‘employee’, and ‘local society’ as five sustainability values. Five values that the employee of Hyundai Motor has been made all over the world are in contact with the value of all the persons concerned including the client, and it will be the foundation for the company’s long-term growth and development. We completed the mass-production of IONIQ hybrid, electric vehicle, and plugged-in hybrid which are adapted 3 power-trains based on the world’s first platform for green car and also additionally released KONA EV(SUV) and NEXO(FCEV) in 2018. In recognition of such technological prowess and excellence in design, hybrid and electric vehicles achieved result that it reached best fuel efficiency in American market. In 2013, Hyundai Motor opened to the future green car market through the world’s first mass-production of hydrogen electric vehicle(Tucson) and put efforts for enhancement of system and popularization, thus result in a release to the world market and society through hydrogen electric vehicle private-model, NEXO, in 2018. Not only Hyundai Motor has grown for a global motor company in the Republic of Korea which was a car wasteland in the past half-century, but also it has thought for a sustainable future through diverse economic, environmental, social value creation as making most of the company’s feature. HMC has constantly challenged to make car be able to be a life companion, not just a transportation and to make many people able to enjoy a comfortable and happy life through the car. In the future, Hyundai Motor Company will communicate and cooperate with all the stakeholders concerned with creative and defiant stand. In 2018, HMC decided to transform itself into a smart mobility solutions provider and, as a game-changer in future mobility market, has continued to create innovation for urban living and quality of life, no longer remaining in automobile manufacturers.

## **C0.2**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Start date** | **End date** | **Indicate if you are providing emissions data for past reporting years** | **Select the number of past reporting years you will be providing emissions data for** |
| Reporting year | January 1 2019 | December 31 2019 | No | <Not Applicable> |

## **C0.3**

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

Brazil

China

Czechia

India

Republic of Korea

Russian Federation

Turkey

United States of America

## **C0.4**

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

KRW

## **C0.5**

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

Operational control

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

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

Light Duty Vehicles (LDV)

## **C1. Governance**

## **C1.1**

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

Yes

## **C1.1a**

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

|  |  |
| --- | --- |
| **Position of individual(s)** | **Please explain** |
| Board-level committee | 1. Position in the corporate structure and responsibilities: The Board of Directors in Hyundai Motor as a high decision making organization includes 9 people by law: 4 executive directors and 5 outside directors. The Board votes for the items that laws and Articles of Incorporation set with the aim of sustainable growth and important agenda regarding company’s work process, and oversee the director’s and executives’ performance. 2. Rationale for Climate-related responsibility: The automobile industry faces unprecedented levels of risk. Specifically, as the operation regulation policy of diesel vehicles in Europe and India has started due to climate change, the environmental car market is rapidly growing in China and Europe while the demand of diesel cars is decreasing. As climate change affects business strategy, planning, investment and lineup of HMC, the Board of Directors regularly reports and executes major decisions on performance and plans of management including climate change. 3. A case of climate-related decision-making made by individuals/or committees: Hyundai Motor Co. redesigned its brand vision of" progress toward humanity" in 2019, laid out its vision for future mobility toward" smart mobility solutions enterprises" and established the "2025 Strategy" with a willingness to achieve these visions. Under the 2025 strategy, Hyundai Motor Group plans to fill 23 types of electric vehicles by 2025, half of the new cars. Next year, it will export 1,600 hydrogen-electric trucks to Switzerland sequentially and expand its hydrogen fuel cell system to power sources in various fields such as ships, trains and power generation. In addition, Hyundai Motor Company has been required to disclose ESG-side information based on the Sustainability Accounting Standards (SASB) and the Task Force on the Disclosure of Financial Information on Climate Change (TCFD) in an annual letter from Larry Fink, CEO of Blackrock, the world's largest asset manager, to CEOs in January 2019. Therefore, it is developing our SASB/TCFD response strategy. |

## **C1.1b**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Frequency with which climate-related issues are a scheduled agenda item** | **Governance mechanisms into which climate-related issues are integrated** | **Scope of board-level oversight** | **Please explain** |
| Sporadic - as important matters arise | Reviewing and guiding business plans  Setting performance objectives  Monitoring implementation and performance of objectives | <Not Applicable> | As one of the core business strategies of Hyundai Motor Company, eco-friendly cars are closely linked to climate change. The policy of reducing greenhouse gas emissions in transportation due to climate change, energy efficiency (improvement of fuel efficiency), regulation of diesel vehicles, and eco-friendly vehicles (hydrogen cars, electric cars, etc.) are closely related to the sales of Hyundai Motor and future growth.. Under leadership of the Vice Chairman, R&D director / Sales director / Finance and Accounting director / Business Strategy Planning director have attended PM Reporting Committee and Product Committee and following committees held the agenda including projects which are related with new development of eco-friendly vehicles such as electric vehicles and hydrogen vehicles and new regeneration energy project for establishing green factory, and so on for every month. The outcome of the agenda of the Product Commitment/PM Reporting Council is reported in the management performance by the director of Hyundai Motor's Finance and Economy Division, a member of the PM Reporting Commission/Product Committee, during the regular board meeting. After development, monthly management strategy meetings are held, and the meeting includes the production and sale of electric and hydrogen vehicles. |

## **C1.2**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of the position(s) and/or committee(s)** | **Reporting line** | **Responsibility** | **Coverage of responsibility** | **Frequency of reporting to the board on climate-related issues** |
| Chief Executive Officer (CEO) | <Not Applicable> | Both assessing and managing climate-related risks and opportunities | <Not Applicable> | More frequently than quarterly |

## **C1.2a**

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

Hyundai Motor manages climate change and environment-related issues in two axes, both in terms of the business establishment-side and product-side.

1) Business establishment-side:

Business Strategy Planning Division under CEO, the member of the board of directors, supports the establishment of enterprise-wide strategic and action plans, GHG reduction goals and decisions related with the investment regarding the issues of global business sites climate change and environment-related. Business Strategy Planning Division operates the climate change response consultative group more than once a quarter, and it consists of the production headquarters, the heads of the plant's greenhouse gas departments and team leaders. The company implements an enterprise-wide policy by raising the decision level to the department/division/headquarter level based on agenda consultation and aging while discussing risks for responding to climate change, setting up the mid to long-term greenhouse gas reduction strategies and goals, finding reduction item and making investment decisions. The results of the consultative group's operation are reported to the Representative Director, and the Representative Director is the final decision maker of the applicable enterprise-wide strategy and the GHG reduction target and is responsible for the decision making and overall responsibility on the major issues.

2) Product-side:

Under the leadership of Vice Chairman (In-office Director on board) who is a member of the Board of Directors, Product Committee and PM Reporting Committee are held regularly once a month, and it is composed by the R&D director, Sales director, head of Finance and Accounting, and head of Business Strategy Planning. Major issues such as regulations and trends of corporate climate change, strategies for promoting green business, current status of projects related to new development for full lineup of eco-friendly vehicles such as electric vehicles and hydrogen vehicles, and current status of new renewable energy projects(green factory) are reported by the business department on the agenda, discuss, and determine for major decision-making item. The results and the main points are reported to the Board of Directors regularly and are reported to executive direction in the Board of Directors(Representative Director, Vice President, President) if it is necessary. European regulations on CO2 are strengthening, and we are increasing and managing the sale of hydrogen and electric vehicles in Europe.

## **C1.3**

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

|  |  |  |
| --- | --- | --- |
|  | **Provide incentives for the management of climate-related issues** | **Comment** |
| Row 1 | Yes |  |

## **C1.3a**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Entitled to incentive** | **Type of incentive** | **Activity inventivized** | **Comment** |
| Chief Executive Officer (CEO) | Monetary reward | Energy reduction target | HMC’s CEO is responsible for decision-making of the company’s response to climate-related/environmental issues. The key performance indicators of CEO include performance on business strategy considering technology development of low carbon vehicles and other GHG emission reduction activities. Especially, performances and progress on the projects to improve our products’ energy efficiency are incorporated into incentives and salary system. |
| Facilities manager | Monetary reward | Energy reduction project  Energy reduction target  Efficiency project | In each site energy department and personnel, including employees of calculating the emissions trading and energy saving objectives, and personal and kpi for each group management.It provides incentives by the salary system. Your own or KPI for each group management and performance incentives by the (salary) system. |

## **C2. Risks and opportunities**

## **C2.1**

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

Yes

## **C2.1a**

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | **From (years)** | **To (years)** | **Comment** |
| Short-term | 0 | 7 | 2019-2025 |
| Medium-term | 6 | 12 | 2025-2030 |
| Long-term | 11 | 32 | 2030-2050 |

## **C2.1b**

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

Hyundai Motor classifies workplace outages, shutdowns and product sales risks due to climate change as significant financial or strategic risks. The Company defines and manages the impact of significant financial and strategic impacts on the assessment of risk levels. Looking at the impact assessment criteria, the most significant risk is defined as the critical impact of the organization's sustainability, the level at which top management level management is required due to the failure of the company's core goals, followed by the level at which additional management is required other than general management. In addition, when determining the financial impact of climate change, it is based on 1% of the total size. For example, Hyundai Motor is a company subject to the emission trading system and is designated by the Ministry of Environment every year. If Hyundai Motor's emissions exceed 1% of its quota, its financial impact is considered significant.

## **C2.2**

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

### **Value chain stage(s) covered**

Direct operations

Upstream

Downstream

### **Risk management process**

Integrated into multi-disciplinary company-wide risk management process

### **Frequency of assessment**

More than once a year

### **Time horizon(s) covered**

Short-term

Medium-term

Long-term

### **Description of process**

Hyundai Motors Company is operating the Risk Response Countil to respond to potential risks issues in its overall management, including climate change. In addition, a system was established to upload and share environmental issues and regulatory information in real-time through environmental regulations and legal communication systems. In addition, the company operates monthly meetings of the Product Committee and PM Report Committee to prevent risks and maximize opportunities throughout the company, including vehicle fuel economy and CO2 regulatory response, and establishes and manages domestic and international fuel economy monitoring systems to continuously monitor the current status of fuel efficiency regulatory responses. In addition, a greenhouse gas consultative body is formed to respond to climate change at workplaces to share the current status of greenhouse gases on a quarterly basis and to continuously respond to important issues. Since 2010, a greenhouse gas reduction account has been established and operated in the investment budget, and the appropriateness of the size of the investment has been reviewed and reflected once a year for regulatory response. In addition, the Company strives to respond to compliance issues in advance by conducting in-house regulatory briefing sessions.

## **C2.2a**

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

|  |  |  |
| --- | --- | --- |
|  | **Relevance & inclusion** | **Please explain** |
| Current regulation | Relevant, always included | Example of risk type: Korea Emission Trading Scheme(K-ETS) Hyundai Motor Company implemented the greenhouse gas target management system from 2011 to 2014, and Hyundai Motor, which was designated as a company subject to allocation, is also participating in the emission trading system as the emission trading system has been implemented in Korea since 2015. In our case, we also submitted an application for allocation during the second planning period (2018-2020) after participating in the first planning period (2015-2017) and were notified of the quota of approximately 1,484,000 tons per year within the planned period. Investment in greenhouse gas and energy reduction activities is required to not exceed the quota, and if greenhouse gases are emitted in excess of the quota, the emission right shortage shall be purchased. If a deficiency is not purchased, a fine of three times the average price of the emission right in the year of implementation shall be imposed in accordance with the "Enforcement Decree of the Act on the Allocation and Trade of Greenhouse Gas Emissions Rights". Given this consideration, assuming that the Company failed to achieve even 1% of its 2019 reduction quota of approximately 1,484,000 ton CO2e from the Environment Ministry, our financial impact on the Company is estimated at KRW 482,300,000 (calculated at KRW 32,500 per ton (KAU19), the average price for 2019). Hyundai Motor classifies carbon credits as intangible assets, and as above measures the corresponding fines imposed on emissions exceeding quotas as "emission liabilities." The Company continuously evaluates compliance with current regulations (target control and emission trading systems) and emission trend risks to meet the target management system's stricter greenhouse gas reduction goals, as financial risks such as increased operating costs, increased manufacturing costs and product sales, and increased debt. |
| Emerging regulation | Relevant, always included | Example of risk type: Enhancement of European emission standards and related regulations Germany has set a goal of reducing greenhouse gas emissions by 80 to 95 percent by 2050. Germany's Federal Senate adopted the resolution as part of the European transport for low-emission mobility launched by the EU Commission after the signing of the COP21 Paris Agreement. In July 2016, the EU Commission issued a plan to accelerate the transition to a low-carbon economic system across all sectors of the EU's economy (including a 'low-carbon strategy in the EU') as part of its plan to build an energy alliance and as a policy to cope with climate change. Through this, the German Federal Senate passed a resolution on September 23, 2016 banning the sale of new internal combustion engine cars (oil and gasoline vehicles) from 2030 as part of climate change. It is expected that the supply of pollution-free vehicles such as electric vehicles will be more active in the future, but this will affect Hyundai Motor, which produces and sells internal combustion engine cars, and will affect sales, sales and production risks in the European market. In addition, not only Germany but also the EU and other member countries are urging the government to ban new registrations of internal combustion engines by 2030 and join in distributing only pollution-free vehicles such as electric vehicles and hydrogen cars. The German resolution banning the sale of new internal combustion engine cars (oil and gasoline vehicles) from 2030 is not legally binding, but it is expected that the German regulation will have a significant impact on Germany as well as the automobile industry in the future as it has played a major role in drawing up regulations at the EU and UN Economic Council level. As of 2019, sales in Europe account for about 33.6 percent of Hyundai Motor's global sales (based on the 2019 Hyundai Motor Business Report, p. 147, gross sales), which identifies the risk of losing such opportunities for profit if the company fails to respond to the regulations. Based on this, Hyundai Motor is always monitoring new regulations, and climate change-related regulations are closely related to our product regulations, so new regulatory trends are included and evaluated as essential items in risk assessment. |
| Technology | Relevant, always included | Example of risk type: replacement of existing products due to the emergence of low-carbon products/services To address climate change/energy issues, the government is pushing for stricter fuel efficiency regulations worldwide. The U.S., Japan, China, and European countries are focusing on supplying and distributing EVs in order to ease air pollution problems in the transportation sector of large cities while establishing clean transportation systems. In order to expand the supply of EVs, the German government announced a total funding plan of 1 billion euros (2016), and Poland announced a plan to supply 1 million EVs by 2025. (2016.9). In addition, China has grown to become the largest global market since 2015 due to the implementation of various support measures for the new energy automobile industry, with sales of about 120.6 million units in 2019 alone. In addition, China is actively supporting the supply of hydrogen-powered vehicles at the national level, including setting a goal of supplying 1 million hydrogen-powered vehicles by 2030. Japan also announced its goal of supplying 800,000 units by 2030, and the global hydrogen-powered car market is expected to grow exponentially in the future. If countries fail to lead technology changes as they implement various policies to reduce the amount of GHG emitted from the transportation sector, losing the market opportunity will lead to financial losses and loss of opportunity costs. HMC reflects not only hydrogen-electric vehicles but also various technology development and trends for responding to climate change, such as fuel efficiency and air pollution source reduction technology, for risk assessment items. As such, HMC is investing heavily in developing new energy vehicles. New energy vehicles refer to cars that use energy other than gasoline and diesel, such as pure electric vehicles, plug-in hybrid cars and hydrogen cars. For the first time in the world, we have completed mass production of IONIQ hybrid, EV and plug-in hybrids based on three powertrains on a platform dedicated to eco-friendly vehicles, and we also released KONA EV(SUV) and Nexo(fuel cell-based hydrogen electric vehicle) in 2018. The market share in the U.S. in 2019 was 41.6 % (based on HMC's business report, p. 147), and among them, Kona EV was selected as an EVcategory at the "2020 Best Buy Award" released by the U.S. biggest car price information provider, the Kelly Blue Book, and was recognized for its excellent technology as an EV. |
| Legal | Relevant, always included | Global fuel efficiency regulations are being tightened to reduce greenhouse gas emissions, and there is a risk of legality due to the imposition of penalties if they are not complied with. Furthermore, compliance with fuel efficiency regulations is one of the factors that consumers buy cars, and they recognize that there is also a risk of lawsuits related to fuel economy. Recently, there has been a legitimate fuel economy issue in the automotive industry, and we are managing it to prevent the occurrence of the risk. It regularly monitors cases of lawsuits in the auto industry caused by climate change and evaluates the overall effects derived from legality, such as legality issues, fines and reputation, as risk assessment factors. In order to prevent legality risks caused by climate change in advance, the company is working with suppliers to jointly develop new energy components and to comply with regulations. |
| Market | Relevant, always included | Examples of types of risks include changes in consumer preferences HMC continues to increase production and development of eco-friendly vehicles for the purpose of reducing greenhouse gas emissions and sustainable management. Electric vehicles are currently more expensive to produce than their own internal combustion engine vehicles, which is due to the price of batteries used in electric vehicles. Prices of raw materials such as cobalt, lithium and nickel, which are essential for making electric vehicle batteries, are soaring, affecting the production of electric vehicles. The estimated sales of global electric vehicles in 2030 are expected to reach 23 million to 43 million units (IEA, Global EV Outlook 2019). The demand for raw materials for electric vehicle batteries is increasing, four to eight times higher than last year's global sales of 5.1 million units. In particular, the supply shortage of cobalt, a key material used in electric vehicle batteries, has become more serious around the world, and is becoming the biggest concern for the electric vehicle and battery industry. Cobalt is a key metal that accounts for about 10 to 20 percent of the cost of medium and large batteries, and it serves to increase the most important energy density and stability, especially in batteries for electric vehicles. Therefore, if Hyundai Motor does not prepare a supply system for key raw materials for batteries in advance, it could cause major disruptions in future production and lose opportunities in the relevant market. Because this will lead to financial losses and loss of opportunity costs, we are monitoring raw material price fluctuations in real time. And the changes in raw material prices are reflected in the risk assessment process. Hyundai Motor is currently working on developing next-generation solid batteries that will replace batteries through research institutes and partners. The company is monitoring research and development and price changes so that there is a risk of rising raw material prices, but it plans to continue to complete its lineup of eco-friendly cars. |
| Reputation | Relevant, always included | Examples of risk types: increased stakeholder concerns and negative feedback Hyundai Motor is required by various stakeholders to transparently disclose the company's policy and response capabilities related to climate change, which is directly linked to the company's reputation. Non-financial information such as CDP and DJSI is used as a major measure of the company's investment value, such as financial information. With the recent growth of Social Responsible Investment (SRI), Hyundai Motor recognizes the need to implement management activities from a longer and more active perspective, taking into account not only financial factors but also non-financial factors that affect corporate sustainability, such as the elements of ESG, namely environmental, social and governance. Hyundai Motor Co. is striving to identify and manage its reputation risks and is reviewing and evaluating the impact of climate change response by including risk assessment. For example, Hyundai Motor participated in the CDP Climate Change every year and achieved excellent results in 2019 by participating in the CDP Water for the first time. In the future, we will strive to maintain our reputation by participating in timely international initiatives on climate change, including the CDP. The National Pension Service, the nation's largest institutional investor, voted on "the guidelines for exercising active shareholder rights" at the end of 2019, allowing shareholders to exercise their shareholder rights such as change of articles of association and dismissal through shareholder proposals if the company's value is undermined in issues such as violation of laws such as embezzlement and breach of trust, dividend policies, and socially responsible investments. In particular, if the pension fund holds more than a 5 percent stake in a listed company, the pension fund may demand dividend activities, changes in the articles of association for corporate governance, etc. As of the end of December 2019, the National Pension Service is a shareholder who owns 10.45 percent of Hyundai Motor's shares and risks a fall in the market value of its share price due to a drop in investment by shared investors who will not be able to properly respond to non-financial management items such as climate change and greenhouse gas reduction. |
| Acute physical | Relevant, always included | Example of risk type: changes in tropical low pressure (hurricanes and typhoons) As the intensity and frequency of typhoons increases due to climate change, Hyundai Motor has a plant in Alabama, southeastern United States, which is heavily affected by summer tornadoes, so it is highly likely that tornadoes and typhoons will be affected. With greenhouse gas emissions expected to increase significantly in 2030 compared to 2010, inevitable weather changes such as hurricanes and typhoons will intensify, which will likely hurt our business operations in the Americas. We are trying to save energy by building snow storage and water storage in the basement when building extension of the research center. In addition, the company plans to introduce renewable energy facilities (sunlight power generation facilities, geothermal heat pumps, fuel cells, and energy storage devices) that can be applied to the new office building in Samseong-dong, and is under construction using waste heat recovery systems and high-efficiency energy equipment and materials. Hyundai Motor has established and operated a group risk management team (CPM: Compliance Programme Management; Concept of Risk Included in Compliance) since 2019 in order to effectively respond to tropical cyclones such as typhoons in domestic and foreign businesses and headquarters buildings, and has established and operated an organization to systematically implement global risk management by designating and operating risk management teams and managers for each global workplace. |
| Chronic physical | Relevant, always included | Example of risk type: change in average precipitation : Difficulties in water supply due to changes in average precipitation may affect the increase in operating costs caused by rising unit prices of water. In addition, if the quality of the product decreases due to poor water quality, sales may decrease due to poor sales. Although it depends on the cause and size of the damage, assuming about 1% of total sales, it is expected that about KRW 1 trillion (KRW 10,746,422 million \* 1%) of Hyundai Motor's sales will be incurred. We reflect Basin Risk, Operation Risk as a long-term physical change factor in our risk assessment process. As a result, a no-discharge system was established at the Asan plant, which was derived from the Water Risk Assessment High. In the case of the Asan plant, the reuse facilities for pre-painting wastewater and the re-use facilities of the waste water from the factory were introduced in order to secure sufficient use of water and to reduce the amount of wastewater generated, and the entire amount of waste water was reprocessed and re-supplied as industrial water. As a result of the 2019 Water Risk Assessment, six sites were derived as High Risk, and the company is gradually reviewing the establishment of a no-discharge system at the corresponding sites. |

## **C2.3**

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

Yes

## **C2.3a**

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

### **Identifier**

Risk 1

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

Direct operations

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

|  |  |
| --- | --- |
| Current regulation | Other, please specify (Emission trading scheme) |

### **Primary potential financial impact**

Increased indirect (operating) costs

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

Hyundai Motor Company implemented the greenhouse gas target management system from 2011 to 2014 and has been designated as a company subject to allocation since the emission trading system has been implemented in Korea since 2015. In our case, we submitted an application for allocation in 2017 after the first planning period (2015-2017) and were notified of the quota in the second planning period (2018-2020). Investment in greenhouse gas and energy reduction activities is required to not exceed the quota, and if greenhouse gases are emitted in excess of the quota, the emission right shortage shall be purchased. If a deficiency is not purchased, a fine of three times the average price of the emission right in the year of implementation shall be imposed in accordance with the "Enforcement Decree of the Act on the Allocation and Trade of Greenhouse Gas Emissions Rights". In addition, financial risks, such as increased operating costs, increased manufacturing costs and increased product sales, may arise to meet the target management system's stricter greenhouse gas reduction goals.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

1446900000

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

<Not Applicable>

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

<Not Applicable>

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

The implementation of the emission trading system has the financial risk of the purchase cost of emission rights or the imposition of fines due to over-allocation. Depending on the reduction rate in the auto industry, the amount of greenhouse gases that the company has to cut is not small. Considering this, our 2019 reduction quota from the Ministry of Environment is about 1,484,000 ton CO2e per year, and our financial impact amount is up to 1,446,900,000 KRW ( 1% of allocation units \* average price of KAU (Korean Allowance Unit) 19 = 14,840 \* 32,500 = 1,446,900,000 KRW)

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

260000000

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

Hyundai Motor is effectively responding to the emission trading system by actively implementing greenhouse gas emission reduction activities centered on products and businesses. In order to improve fuel efficiency and reduce CO2 emissions of automobiles, the company aims to increase fuel efficiency of existing internal combustion engines in the short term and develop and distribute pollution-free vehicles in the long term. To this end, the company is considering the ease of recycling from the product design stage, developing technologies for zero emission of automobiles, and continuously reducing the use of harmful substances in car manufacturing. As a result, we are acquiring various international environmental certifications in the automotive sector and will continue to complete eco-friendly vehicle development systems in the future. : The greenhouse gas reduction sector at the workplace thoroughly manages greenhouse gases at all sites and buildings following the implementation of the emission trading system. Hyundai Motor is promoting effective energy use by operating the Global Energy & Greenhouse Gas Management System (GEMS), which monitors the energy of all domestic and foreign businesses in real time. By analyzing real-time aggregated energy indicators such as energy usage, greenhouse gas emissions, and energy costs, the company is sharing technologies that show excellent energy efficiency and seeking ways to improve energy consumption and greenhouse gas emissions by business establishment. Furthermore, active efforts are being made to reduce greenhouse gas emissions at all workplaces, including sales, services and research-related building sections, as well as production plants that produce cars. In addition, our company understands that the management of greenhouse gas emissions by our suppliers is a major focus of its implementation, such as conducting sessions to introduce major issues in the market and sharing emission rights-related grievances that companies are currently facing and holding question-and-answer sessions to come up with the best solutions. Hyundai Motor is carrying out emission reduction activities through those involved in various reduction activities as it is obliged to reduce emissions as a company subject to the emission trading system. In 2019, the Company invested approximately 71 billion KRW in carrying out emission reduction projects including high-efficient lighting installment, obsolete equipment replacement, and etc.

### **Comment**

### **Identifier**

Risk 2

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

Direct operations

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

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

### **Primary potential financial impact**

Decreased revenues due to reduced demand for products and services

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

As emission and air pollutants inevitably generated in the production and use stages of automobiles affect the air environment, we continuously develop and apply technologies to reduce air pollutants in automobile exhaust and factories to minimize air pollution. Recently, automobile emission and fuel efficiency standards by country have been raised. The European Union is imposing a direct penalty on the sale of internal combustion engines, including fines of KRW 8 million per car and KRW 3 million for hybrid cars, starting in 2021, and banning the sale of internal combustion engines in Europe from 2030, led by major countries such as Germany, Denmark and Sweden. In Korea, 97.0g/km and 24.3km/l of greenhouse gas emissions and fuel efficiency must be met by 2020, respectively, and emission acceptance standards are currently under consideration between 2021 and 2030. For vehicles sold in Europe, it has been manufactured since September 2015 to meet the emission Euro-6 standard for all passenger models. This is a more stringent standard for emissions harmful substances (carbon monoxide, nitrogen oxides, hydrocarbons), particulate matter (PM) and particle count (PN) compared to the existing Euro-5 standard, especially for diesel vehicle nitrogen oxides, which require a reduction of 55% or more compared to Euro-5 standard. In addition, with the importance of reducing emissions on roads recently highlighted, new certified vehicles since September 2017 will be subject to a real road test (RDE) for nitrogen oxides and particle counts (PNs) and will be subject to significant fines if they fail to meet the standards because they will have to measure emissions/fuel efficiency in the laboratory according to the stricter test method (WLTP).

### **Time horizon**

Medium-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

33665244000000

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

<Not Applicable>

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

<Not Applicable>

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

Assuming a loss on the European sales ban of internal combustion engines in 2019, sales could result in a financial loss of KRW 33 trillion. The corresponding figure is calculated by applying the ratio of sales other than eco-friendly cars out of Hyundai Motor's total sales of KRW 35,586,939 million in Europe in 2019.

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

187900000000

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

For diesel vehicles, as The Worldwide harmonized Light vehicles Test Procedure (WLTP) of testing methods is enhanced, emissions reduction system and engines that are compliant tests and enhanced testing methods have developed because emissions and fuel efficiency are measured in laboratory, thus reduction of vehicles emission is implementing, and the company strives technical development to improve it continuously. In the case of the company, it has invested KRW 2,767 billion to improve fuel efficiency and develop eco-friendly vehicles in 2018 and will increase the investment to KRW 4,699.6 billion by 2022. In the case of diesel vehicles, emission reduction systems and engines that comply with testing and enhanced testing methods are developed in the laboratory to reduce emissions of vehicles and to continuously improve them, since emission/fuel ratio is measured in accordance with the International Standard Test Method (WLTP). In the case of our company, we invested KRW 454.2 billion (KRW 38.6 billion, KRW 415.6 billion, respectively) to improve fuel efficiency and develop eco-friendly vehicles in 2019, and this account is to expand the investment to KRW 7651.6 billion by 2025.

### **Comment**

### **Identifier**

Risk 3

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

Direct operations

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

|  |  |
| --- | --- |
| Technology | Transitioning to lower emissions technology |

### **Primary potential financial impact**

Decreased revenues due to reduced production capacity

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

To address climate change/energy problems, the government is pursuing a policy of tightening fuel efficiency regulations worldwide. The Ministry of Environment and the Ministry of Trade, Industry and Energy also announced a policy plan to strengthen the greenhouse gas standards for automobiles to 97g/Km and fuel efficiency standards to 24.3km/l by 2020. The standards for fuel efficiency shall be determined by the Ministry of Industry and Energy, and the Ministry of Environment shall integrate and manage all matters, such as management of the performance of production companies. The average greenhouse gas/fuel ratio system for automobiles should be managed by individual manufacturers by averaging greenhouse gas emissions and fuel efficiency performance of vehicles sold in the year. The system is already being implemented preemptively in major auto-producing countries such as the United States, the European Union, Japan and China. Automakers such as Hyundai Motor Co. are required to select and comply with either greenhouse gas or fuel-efficiency standards, and if they fail to meet the standards, they will be fined accordingly, which could serve as a significant risk factor. The company is developing technologies to improve fuel efficiency through the high efficiency of internal combustion engine vehicles. Fuel economy technology is being developed mainly in three directions: reducing CO2 and maximizing fuel efficiency for powertrain generating and transmitting power to promote the improvement of fuel efficiency, minimizing energy loss, and utilizing renewable energy. Although investment costs have increased, we are actively working on the development of fuel efficiency technologies because there are more risk factors such as fines and sales bans than investment costs.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

33665244000000

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

<Not Applicable>

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

<Not Applicable>

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

Regulations on fuel efficiency of each country for air pollution prevention are being strengthened as of 2020. In particular, in Europe, 'the CO2 regulation will be strengthened to 95g/km on the average fuel economy of the company from 21st, and if it is not satisfied with (95))\* (the number of units sold in Europe) every 1g, it will entail serious financial risks and adversely affect the brand image. If we fail to sell vehicles in the European market due to air pollution regulations, we may suffer a financial loss of KRW 33 trillion (based on sales of vehicles from internal combustion engines in Europe in 2019).

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

133100000000

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

Hyundai Motor Company is promoting the development of electric vehicles, hybrid electric vehicles, and hydrogen fuel cell vehicles, focusing on improving fuel efficiency through the high efficiency of internal combustion engine vehicles. In particular, the company is developing fuel efficiency technologies in three directions: reducing CO2 through high efficiency of existing internal combustion engine vehicles, maximizing fuel efficiency for powertrains that generate and transmit power to improve fuel efficiency, minimizing energy loss and utilizing renewable energy. It also plans to set mid- and long-term goals by 2020 and increase investment in R&D for eco-friendly vehicles to achieve them. In 2019, we released three hybrid vehicles (HEVs) such as the Sonata (DN8) hybrid, Kona hybrid, and Grandeur hybrid (modified), and by the end of 2019, we launched Porter Electric Vehicle, the first small commercial electric vehicle in Korea. In 2020, the company plans to introduce electric vehicles with a mileage of more than 400 kilometers. In addition, in the case of hydrogen cars, the company unveiled the "FE Hydrogen Electric Vehicle Concept," a successor to the first commercial hydrogen-powered vehicle Tucson ix35 in 2017, followed by the launch of the fuel-cell-based next-generation hydrogen-electric vehicle Nexo (FCEV) in 2018. In addition, the company plans to contribute to expanding the base of the domestic eco-friendly car market by helping build infrastructure along with the successive release of next-generation eco-friendly cars. Through these multi-faceted efforts, the Company actively responds to the regulations on fuel efficiency and the distribution of eco-friendly vehicles in each country. HMC KRW 133.1 billion to develop eco-friendly vehicles in 2019 (domestic standards) and this account is to expand the investment to KRW 4699.6 billion by 2022. In addition, we plan to invest KRW 61.1 trillion in R&D investment by 2025, of which KRW 20 trillion will be implemented in eco-friendly cars and mobility sectors, including battery procurement and facilities/infrastructure, to implement effective management policies for global fuel efficiency regulations.

### **Comment**

### **Identifier**

Risk 4

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

Direct operations

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

|  |  |
| --- | --- |
| Market | Increased cost of raw materials |

### **Primary potential financial impact**

Increased direct costs

### **Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

### **Company-specific description**

HMC is continuously increasing production and development of eco-friendly vehicles to reduce greenhouse gas emissions and maintain sustainability management. Rare-earth element is an important material for electric car, hybrid and hydrogen car motors, and prices of rare-earth have jumped as the demand for eco-friendly vehicles increases in worldwide. In addition to rare earths, iron ore, aluminum, copper and plastic, which are the main raw materials in the vehicle, have risen for the past three years. For instance, cobalt, one of the essential raw materials for EV battery, has been through price fluctuations by 20% in 2019. (25,000USD/ton ~35,000USD/ton as of 2019). If there is a problem in making core parts due to the surging prices of rare-earth element, it will not only increase the cost of producing eco-friendly vehicles but also affect the sales plan of electric vehicles due to supply problems. Therefore, the rise in price of raw material required for the production of eco-friendly vehicles affects the financial and production plans directly to our company, which is a big risk.

### **Time horizon**

Short-term

### **Likelihood**

Very likely

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

400000000000

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

<Not Applicable>

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

<Not Applicable>

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

Assuming that the limit of supply of rare-earth element will disrupt the supply of key parts, there could be as many as 10,000 unit losses with a financial impact of about 400 billion won(KRW). (Assuming production cost of one electric vehicle is 40 million won, and that about 30% of 30,000 electric vehicles (roughly 10,000 units) will be disrupted.)

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

133100000000

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

Hyundai Motor Company is monitoring changes in raw material prices in real time since it can causes major disruptions in production in the future if it does not have a supply system for battery core materials in advance. The company is continuously planning to complete the lineup of eco-friendly vehicles while monitoring R&D and price changes to efficiently resolve the existing risks of raw material prices increased. In case of the Company, it invested 133.1 billion won (KRW) to develop eco-friendly vehicles in 2019. We plans to expand our investment in core strategic areas such as autonomous driving/automation/electronic technology(connectivity)/future new technology as well as eco-friendly cars. In the mid- to long-term, the company will increase its investment amount to 4,699.6 billion won by 2020.

### **Comment**

## **C2.4**

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

Yes

## **C2.4a**

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

### **Identifier**

Opp1

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

Downstream

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

Moving with the global trend, South Korea is also tightening its regulations on CO2 emissions, in order to accelerate the development of green/low-carbon vehicles, by limiting the GHG emissions standards to 97g/km, while increasing the fuel efficiency standard to 24.3km/l The Korean government's regulations can serve as an element of opportunity to HMC due to its outstanding technologies to produce green vehicles. HMC was the first company in the world to mass-produce FCEVs in 2013. Starting with releasing IONIQ in 2016, eco-friendly vehicles, KONA EV/PHEV/HEV and NEXO, have been continuously launched since 2018. These models also demonstrated their superb technical prowess with recording global sales of 180,000 units in 2019. It is forecasted to raise the number of sales as a result of gaining its competitive edge for fuel efficiency in comparison to its rivals by improving fuel efficiency of all models to meet the average fuel efficiency regulation of companies.

### **Time horizon**

Medium-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

700000000000000

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

<Not Applicable>

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

<Not Applicable>

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

In accordance with the Stated Policies Scenario, the International Energy Agency (IEA) assumes that all current national/regional government green vehicle supply plans by 2030 through the Global EV Outlook 2020 report will be realized. The number of electric vehicles sold is close to 140 million, which is predicted to account for 7% of global transportation. Assuming that Hyundai Motor's electric vehicle market share in 2030 is 10.0% and the price per electric vehicle is 50 million KRW (KONA EV price), HMC's sales opportunity is estimated to be approximately 700 trillion KRW (140 million units \* 10% \* 50 million KRW).

### **Cost to realize opportunity**

133100000000

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

HMC, previously in 2008, announced its eco-friendly brand “Blue Drive” at the International Auto Show held in Los Angeles, United States. After that, the Company, through the “Blue Drive” strategy, is continuously improving the fuel efficiency of automobiles. The “Blue Drive” strategy is continuously improving fuel efficiency via maximizing fuel efficiency of the internal-combustion engine, minimizing energy loss, and utilizing renewable energies. At the same time, in order to respond to various geographical markets, HMC is developing biofuel cars such as Flexible Fuel Vehicle (mixture of gasoline and ethanol), ethanol, Biodiesel, CNG, etc. In 2013, FCEV was mass-produced for the first time in the world, and then succeeded in securing a power performance as well as modularizing key components, developing low-cost materials, and developing means of mass-production, empowered by a sustainable technological development. In order to further strengthen the competitiveness of eco-friendly vehicles, the company plans to launch improved models of existing hybrid or electric vehicle models in 2020. In the case of our company, we invested 133.1 billion KRW to improve fuel economy and develop eco-friendly cars in 2019, and plan to increase the investment amount to 4,699 billion KRW by 2022.

### **Comment**

### **Identifier**

Opp2

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

Downstream

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

Globally, air pollution standards and related regulations are being strengthened. In particular, exhaust gases and air pollutants inevitably created during the production and usage of automobiles has had considerable impact on air quality. In the United States, the government is toughening air quality standards by lowering the limit of the ozone concentration to 70ppb; Korea has been seeking for alternatives to reduce particulate matters by temporarily shutting down thermal power generation plants, and increasing the price of diesel. In the case of Hyundai, which has workplaces throughout the globe, operated primarily with closely monitoring the air pollution regulation matters of each respective country. In the case of Hyundai, which has workplaces throughout the globe, operated primarily with closely monitoring the air pollution regulation matters of each respective country. HMC has conducted business activities focused on developing products that prioritized regulatory compliance. Recognizing regulatory trends and developing proactive countermeasures can provide HMC with comparative advantages amongst its competitors. For vehicles which are sold in Korea, all diesel vehicles have been made to meet Euro-6 standards same as Europe since September 2015. Since September 2017, new certified vehicles have conducted Real Driving Emissions (RDE), testing emissions over on-road conditions, so we are developing an emission reduction system for it. Gasoline/LPG vehicles are developed to satisfy LEV-III criteria same as U.S. that have been certified since 2016. (optional)

### **Time horizon**

Medium-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

Medium-high

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

Yes, a single figure estimate

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

2200000000000

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

<Not Applicable>

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

<Not Applicable>

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

Various national standards on vehicle fuel efficiencies have been strengthening to prevent atmospheric pollution, targeting the year 2020. Particularly, in Europe’s case, CO2 regulation of the corporate average fuel economy standard will be enhanced to 95g/ km. For every excess of 1g, the penalty is (€ 95) \* (number of European sales). Failing to comply entails serious financial risks and, at the same time, it can adversely affect the brand image. Hyundai Motor is constantly developing eco-friendly vehicles to meet the fuel efficiency regulations, and HMC's European market share can be increased. Assuming that the market share of Europe, U.S. and China in 2021 is 5 percent, Hyundai Motor's global sales are estimated at USD 40 billion \* KRW 0.05 billion = USD 2 billion. (USD 1 =KRW 1,100, KRW 2,200,000,000,000)

### **Cost to realize opportunity**

187900000000

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

Compliance with local regulations regarding emission standards is most important in HMC’s doing business. For example, all the HMC's passenger cars sold in Europe have met Euro-6 emissions standards from 2015. Euro-6 is much stricter than Euro-5 as focusing on hazardous materials (carbon monoxide, nitrogen oxides, hydrocarbons), particulate matter(PM), particle count (PN), and nitrogen oxides(to be reduced more than 55% of Euro-5) in diesel vehicles. Also, since 2017, our newly certified vehicles have been tested for the emissions of nitrogen oxides and particles (PN) on the actual road (RED). The automobiles for North America market, have been designed to meet the emissions Tier-3, LEV-III standard since 2015. Compared to Tier-2, LEV-III requires to reduce more smog and related hydrocarbons and oxides by 80%, and PM by 70%. Thus, HMC has thoroughly tested vehicles during test-drives in the lab, focusing on actual gas emissions over on-road emission. To comply with all these regulations, we have now developed an emission reduction system. In recent years, verification of real roads has been strengthened, and vehicles are being developed by thoroughly designing and verifying to ensure that there are no problems with exhaust gases generated on the road other than exhaust gases generated when driving in the test center. For vehicles sold in Korea, diesel vehicles are manufactured to satisfy the same Euro-6 standard as in Europe for all vehicles after September 2015, and new certified vehicles after September 2017 will be tested for nitrogen oxide emissions on actual roads. RDE), and HMC is developing an emission reduction device for this. Gasoline/LPG vehicles are being developed to satisfy the same LEV-III standards as in the US for new certified vehicles (optional application) since 2016. HMC can reduce unnecessary penalty costs by minimizing these risks by improving the competitiveness of HEV, which have a high average fuel economy improvement effect and ability to secure super credits by 2020. In addition, HMC invested a total of KRW 187.8 billion in 2019 to improve vehicle fuel efficiency, develop environmental vehicle products, and invest in environmental vehicle technology/facilities.

### **Comment**

### **Identifier**

Opp3

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

Downstream

### **Opportunity type**

Products and services

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

Development and/or expansion of low emission goods and services

### **Primary potential financial impact**

Increased revenues resulting from increased demand for products and services

### **Company-specific description**

Following the new climatic deal made in COP21, The IEA has predicted that new energy market worth 12.3 trillion KRW will be generated in the next 15 years. In 2015, the Korean government presented ‘Mid-to-Long Term 2030 New Energy Industry Diffusion Strategy” in order to response to GHG reduction regulations following the new climatic system and utilize climate change as a growth opportunity. The government plans to expand environmentally-friendly electric vehicle market, switch energy industry system to low-carbon operation site and Smarty Factory, develop relevant infrastructures and support businesses by 2030. Government’s new energy industry development policy would not only overturn climate change-related risks to opportunities, but give HMC opportunities for new industries.

### **Time horizon**

Short-term

### **Likelihood**

Virtually certain

### **Magnitude of impact**

High

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

Yes, a single figure estimate

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

7500000000000

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

<Not Applicable>

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

<Not Applicable>

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

The government announced that it will create 250,000 electric vehicle market by 2020 in 2017 special measures plan for micro dust management. HMC's domestic electric vehicle market share is about 60% (as of 2019, based on sales figures). Assuming that the market share continues to be maintained until 2020, the market share can be estimated at 250,000 units \* 60% = 150,000. This provides about KRW 7.5 trillion worth of financial value (estimated at KRW 50,000,000 per electric car).

### **Cost to realize opportunity**

187900000000

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

According to the “Mid-to-Long-term Innovation Plan 2025 Strategy” announced in 2019, HMC has largely converted into two business structures, intelligent mobility device and intelligent mobility service, to achieve high profitability for internal combustion engines, top-tier electric vehicle leadership, and platform business foundation. Three strategic directions will be promoted. The company plans to have a total of 44 electrified vehicles including 11 exclusive electric vehicle models by 2025, and the company also plans to launch the first exclusive model in 2021 based on the electric vehicle platform 'E-GMP' and core component competitiveness for electric vehicles. Accordingly, in 2016 and 2017, it completed the establishment of a full line-up of three types of eco-friendly cars of IONIQ, and in 2018, the SUV-type KONA EV was launched. In addition, in 2019, along with the release of three improved models of existing HEVs (Sonata DN8 Hybrid, KONA Hybrid, and Granger Hybrid), the Porter Electric Vehicle, the first small commercial electric vehicle in Korea, was launched. In the sales performance of eco-friendly cars, the company recorded good results. Specifically, in 2019 alone, 180,000 units were sold in the lineup of eco-friendly cars such as electric cars and hydrogen electric cars. HMC plans to strengthen its position in the eco-friendly car market by expanding its lineup of new electric vehicles and hydrogen electric vehicles in the future. In addition, HMC is expanding the scope of global cooperation to realize a hydrogen society. In June 2018, Hyundai Motor Group agreed to share patents and major parts of hydrogen electric vehicles with Audi of Volkswagen Group in Germany and expand technical cooperation in the future to secure the leadership in the hydrogen electric vehicle market. In 2019, Hyundai Motor Company invested 187.8 billion KRW to improve fuel efficiency and develop eco-friendly cars.

### **Comment**

## **C3. Business Strategy**

## **C3.1**

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

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

## **C3.1a**

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

Yes, qualitative and quantitative

## **C3.1b**

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

|  |  |
| --- | --- |
| **Climate-related scenarios and models applied** | **Details** |
| 2DS  Nationally determined contributions (NDCs) | The Paris Agreement aims to limit the average global temperature rise within 1.5 ℃ based on keeping the average global temperature rise significantly lower than 2 ℃ compared to industrialization beforehand. In order to reach this goal, the Paris Agreement mandated that each nation is determined its own Intended Nationally Determined Contributions (INDC) by itself, and nations are required to submit their upward reduction target every 5 years (Common or differentiated liability principles remain the same, so different national capabilities are still considered). Furthermore, the Paris Agreement enacts to implement mandatory establishing national GHG inventory, reporting on the progress of goal attainment for reduction, and so on. The company uses the computer system for analyzing scenario. Preferentially, the company has established a business strategy related to climate change through scenario of a linear regression analysis by establishing an organizational boundary as all business sites. HMC has set a target of reducing GHG emissions(absolute quantity) by 2050 through linear regression analysis considering its 2030 GHG reduction roadmap. In addition, factors affecting energy usage, such as production volume, production schedule, and time for facility operation, are applied to estimate energy usage through linear regression analysis. Compared to actual energy usage, energy savings are calculated, and energy usage in mid- and long-term (2020-2035) is estimated and considered when establishing strategies. Through this process, the product lineup which is optimized to energy for each production region was established, and the company is doing computer monitoring in real time for the achievement of the regulations on fuel efficiency on global sales vehicles. Further, it is establishing mid- to long-term business plans by considering optimized lineup and supply of eco-friendly vehicles through scenario analysis using computer system. A total of 44 models dedicated to eco-friendly vehicles (electric vehicles), one and more models each year, will be launched and 1.67 million units will be sold annually by 2025. We also established countermeasures responding to climate change and blackout for domestic production plants, laboratory and business partners by 2030. In particular, in order to realize a hydrogen fuel-based eco-friendly society, about 20 trillion KRW has been invested by 2030 to enhance and popularize the competitiveness of hydrogen electric vehicle technology. In 2018, the Company released KONA HEV/PHEV/EV and NEXO (FCEV) and expanded its lineup of environmental cars, exceeding 1.35 million units of global green car sales, and KONA EV recorded the longest mileage among global electric vehicles. |

## **C3.1d**

### **(C3.1d) Describe where and how climate-related risks and opportunities have influenced your strategy.**

|  |  |  |
| --- | --- | --- |
|  | **Have climate-related risks and opportunities influenced your strategy in this area?** | **Description of influence** |
| Products and services | Yes | Due to environmental issues such as climate change and air pollution, demand and interest in eco-friendly cars have increased worldwide, and accordingly, risks such as fuel economy improvement regulations, eco-friendly car technology, and consumer reputation are directly affecting HMC. The company is actively responding to climate change regulations (e.g. fuel economy) for products and services and is increasing investment to improve fuel economy. In addition, the company is actively investing in eco-friendly car technology, turning risks into opportunities, and investing in new business development. Although the development cost of electric vehicles is 50 billion KRW per unit, Hyundai Motor Company is constantly striving to increase the proportion of electric vehicles. As of 2019, out of the 68 lines of HMC's total car models, 14 eco-friendly cars are operated, which is about 20%, and we plan to continuously expand eco-friendly car lines focusing on hydrogen cars in the future. -Intensity of Influence: Among all vehicle models, the number of vehicles affected by climate change issues is a total of 68 lines, which account for 100% of sales, and the intensity of impact is evaluated as above. |
| Supply chain and/or value chain | Yes | As the global demand for eco-friendly vehicles increases, HMC is continuously increasing the production and development of electric vehicles. Our expected battery purchases are expected to increase to 16GW in 2020 and up to 96GW in 2030. Currently, HHMC is procuring batteries by signing long-term supply contracts with global battery companies, and the company is considering investing in production lines in the future. However, there is an increasing risk of an increase in battery prices for electric vehicles, as the prices of raw materials such as cobalt, lithium, and nickel, which are essential to make batteries, are rising rapidly. In particular, the supply shortage of cobalt, a core material used in electric vehicle batteries, is becoming more severe worldwide, and it is becoming the biggest concern in the electric vehicle and battery industry. Cobalt is a core metal that accounts for about 10 to 20% of the cost of mid- to large-sized batteries, and it plays a role in enhancing the energy density and stability, which is the most important in electric vehicle batteries. Cobalt prices skyrocketed up to four times in 2016-2018 due to the surge in global electric vehicle demand, and then stabilized in 2019. It is also expected that prices could rise again within a few years due to the effect of a decrease in supply resulting from the discontinuation of new cobalt projects, such as announcing that the operation of the Mutanda mine in the Republic will be suspended by 2021. Accordingly, Hyundai Motor Company is monitoring raw material price fluctuations in real time in order to dominate the global electric vehicle market and efficiently respond to fluctuations in raw material prices. Is doing. -Intensity of the impact: HMC is currently evaluating the strength of the impact as severely injured because the battery supply and demand must be smooth in order to achieve the goal of development and production to continuously increase electric vehicle production. |
| Investment in R&D | Yes | In order to solve the climate change/energy problem, a policy to strengthen fuel economy regulations is being promoted worldwide. In Korea, according to the current regulations under the Framework Act on Low Carbon Green Growth, the GHG emission standard for vans with 10 passengers or less is set at 97g/km. The GHG emission standards are expected to be further strengthened as the emission standards are revised in 2021-2030. Accordingly, HMC is promoting the development of electric vehicles, hybrid electric vehicles, and hydrogen fuel cell vehicles in parallel, focusing on improving fuel efficiency through high efficiency of internal combustion engine vehicles. In particular, development of fuel efficiency technologies centered on three directions: CO2 reduction through high efficiency of existing internal combustion engine vehicles, maximization of fuel efficiency for the powertrain that generates and transmits power to promote fuel economy improvement, minimization of energy loss, and utilization of renewable energy. Based on this technology, HMC plan to significantly increase investment in R&D in the mid- to long-term to actively respond to fuel economy regulations in each country and the supply of eco-friendly vehicles, such as the launch of electric vehicles with a mileage of 400 km or more per charge in the future. It plans to invest 100 billion KRW. -Intensity of Influence: The amount of R&D investment of our company can be seen as an investment to respond to climate change and fuel economy regulation policies, so the intensity of the impact is evaluated as an award. |
| Operations | Yes | For HMC, environmental regulations related to climate change in each country, which are becoming more diversified and complex worldwide, are affecting the sales volume of our products. For the integrated management of climate change regulations and preemptive compliance risk management, the 'Environmental Regulations/Regulations Communication System' has been established and operated, and information on climate change-related policies and regulations and legal trends by major regions is collected and analyzed from time to time through each regional office. By developing eco-friendly vehicles in accordance with the relevant regulations, we are managing to improve sales at domestic and overseas business sites due to climate change and to minimize the suppression of sales due to non-compliance with regulations. Our business sites are carrying out various projects and activities to reduce greenhouse gas emissions. In 2019, Hyundai Motor Company is carrying out various reduction activities in its headquarters, Asan Plant, Ulsan Plant, Jeonju Plant, and research facilities, thereby realizing approximately 100,000 tons of greenhouse gas reduction while improving production efficiency. |

## **C3.1e**

### **(C3.1e) Describe where and how climate-related risks and opportunities have influenced your financial planning.**

|  |  |  |
| --- | --- | --- |
|  | **Financial planning elements that have been influenced** | **Description of influence** |
| Row 1 | Revenues | As countries around the world have implemented various policies to reduce GHG emissions from the transportation sector, HMC is putting large investment in developing new energy vehicles (electric vehicles, hydrogen vehicles, fuel cells, etc.) to improve the fuel efficiency of existing internal combustion vehicles. All of HMC’s vehicles are affected by various regulations cased by climate change, such as strengthening the EU and US fuel economy regulations, the introduction of the emission trading system, and the Chinese eco-friendly car tax support. Failure to comply with the regulations directly leads to sales such as ban on sales. The company has completed mass production of IONIQ's hybrid, electric vehicle and plug-in hybrid that applied three powertrains based on the world's first eco-friendly vehicle platform, and additionally launched KONA EV (SUV) and Nexo (fuel cell-based hydrogen electric vehicle) in 2018. In 2019, sales of 710,000 units were recorded in the U.S. market, including the IONIQ electric car, KONA, and Nexo, and about 570,000 units were also sold in the European market in 2019. The engine was selected as one of the top 10 engines in the world 8 times in the past 10 years. It has been promoting the development of the next-generation powertrain 'Smartstream' by mobilizing the technology that has made them. HMC will continue to strengthen our powertrain competitiveness to improve fuel economy and output in the future. -Intensity of Influence: Since all of our products (internal combustion engines and eco-friendly vehicles) affect sales, the intensity of the impact is evaluated as a prize. |

## **C3.1f**

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

## **C4. Targets and performance**

## **C4.1**

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

Absolute target

## **C4.1a**

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

### **Target reference number**

Abs 1

### **Year target was set**

2017

### **Target coverage**

Company-wide

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

Scope 1+2 (location-based)

### **Base year**

2016

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

2854927

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

100

### **Target year**

2030

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

26

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

2112645.98

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

2709093

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

19.6467370269012

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

Underway

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

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

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

To respond to the new climate change system (Post 2020), the government established the "2030 Framework Roadmap for reducing national GHG emissions," and announced Korea's mid- to long-term climate change strategies and specific action plans. Considering the capacity to reduce greenhouse gases by industry sector, the reduction rate (%) of the greenhouse gas by industry sector by 2030 was announced, and the reduction rate of the car industry is 20.5%, based on BAU. HMC sets its absolute target to reduce greenhouse gas emissions by 26% by 2030 for Scope 1 and 2, not based on the BAU. The 51% of long-term reduction target by 2050 has been established. (To be explained more as reducing more.)

### **Target reference number**

Abs 2

### **Year target was set**

2017

### **Target coverage**

Company-wide

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

Scope 1+2 (location-based)

### **Base year**

2016

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

2854927

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

100

### **Target year**

2050

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

51

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

1398914.23

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

2709093

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

10.0159835823418

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

Underway

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

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

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

On November 4th, 2016, Paris Agreement, a new climate change system, took effect at the 21st Conference of Parties of the Climatic Change Convention(COP21). Accordingly, the Korean government proposed a 37% reduction in greenhouse gases by 2030 and concluded and announced the "2030 National Framework Roadmap for GHG Reduction" as part of its implementation strategy to accomplish (December 2016). According to the roadmap, the reduction target for the domestic sector was 219 million tons by 30 years with a reduction target rate of 20.5 % for the car industry. Hyundai Motor Company has re-settled its stated goal to reduce greenhouse gas emissions in order to accomplish the goal of GHG reduction by government mentioned and the goal of the Paris Agreement as representative automobile corporation of Korea. The reference year was established in 2016 to set well-defined target for reducing greenhouse gases, and the target for reducing greenhouse gases was set up to reflect all overseas operations in the scope of management of HMC. HMC plans to actively reduce greenhouse gas emissions by setting a target of 51 percent of reduction (absolute quantity) by 2050 compared to 2016. Based on 2016 emissions (2,668,670 tCO2), it will reduce total 1,371,770 tCO2 by 2050.

## **C4.2**

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

No other climate-related targets

## **C4.3**

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

Yes

## **C4.3a**

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

|  |  |  |
| --- | --- | --- |
|  | **Number of initiatives** | **Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked \*)** |
| Under investigation | 1 | 0 |
| To be implemented\* | 1 | 490 |
| Implementation commenced\* | 1 | 74 |
| Implemented\* | 46 | 113395 |
| Not to be implemented | 0 | 0 |

## **C4.3b**

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

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

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

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

810

### **Scope(s)**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

5812925211

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

1010000000

### **Payback period**

<1 year

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

6-10 years

### **Comment**

energy efficient LED lighting replacement

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

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

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

5129

### **Scope(s)**

Scope 1

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

1344821495

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

8500000000

### **Payback period**

4-10 years

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

16-20 years

### **Comment**

GHG emissions reduction from energy efficient generation - co-generation plant

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

|  |  |
| --- | --- |
| Energy efficiency in production processes | Machine/equipment replacement |

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

19545

### **Scope(s)**

Scope 1

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

6382665067

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

28765799000

### **Payback period**

4-10 years

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

3-5 years

### **Comment**

obsolete equipment replacement with energy efficient ones

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

|  |  |
| --- | --- |
| Low-carbon energy consumption | Solar PV |

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

46383

### **Scope(s)**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

7759487989

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

1066000000

### **Payback period**

<1 year

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

<1 year

### **Comment**

Hyundai Motor Company's facility in India uses about 20% of its electricity generated from renewable energy, 56,499 MWh per year, which saved about 46,843 tCo2e.

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

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

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

313

### **Scope(s)**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

80520000

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

1066000000

### **Payback period**

11-15 years

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

11-15 years

### **Comment**

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

|  |  |
| --- | --- |
| Energy efficiency in production processes | Other, please specify ( Installation of high-efficiency motors for each production line, improvement of operation circuits, operation of power saving mode) |

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

31711

### **Scope(s)**

Scope 1

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

7984369640

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

39700000000

### **Payback period**

4-10 years

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

6-10 years

### **Comment**

Hyundai Motor Company achieved a reduction of 31,711 tons of greenhouse gas emissions in 2019, through the installation of high-efficiency motors for each production line in each business site, improvement of operation circuits, and operation of power saving mode. Those activities were mainly implemented in engine factories and transmission factories.

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

|  |  |
| --- | --- |
| Company policy or behavioral change | Other, please specify (Energy Saving Campaign) |

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

9505

### **Scope(s)**

Scope 2 (location-based)

### **Voluntary/Mandatory**

Voluntary

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

2492265511

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

0

### **Payback period**

1-3 years

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

6-10 years

### **Comment**

running a compnay-wide energy campaign

## **C4.3c**

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

|  |  |
| --- | --- |
| **Method** | **Comment** |
| Dedicated budget for low-carbon product R&D | HMC is organizing a budget for R&D for eco-friendly vehicles with regard to global vehicle regulations on greenhouse gas emissions. |
| Dedicated budget for energy efficiency | HMC is also required to set goals for reducing greenhouse gases and energy for its new building construction, headquarters, laboratory and business sites. Currently, the company conducts annual management reviews on its performance and reports to the management including the CEO, which is a means to promote investment in emission reduction activities from a regulatory perspective. |

## **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**

Product

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

Solar roof: HMC applied solar power generation technology for vehicles to reduce greenhouse gas emissions from vehicles. The 8th-generation Sonata Hybrid is equipped with a solar roof and can drive a distance of up to 1,300km per year without emission of greenhouse gases using sunlight. This technology allows to reduce the amount of greenhouse gases emitted by one vehicle by 100kg CO2eq each year. As such, HMC is actively working to protect the environment by using renewable energy, and the companies developing to apply the solar roof to other successors besides the 8th-generation Sonata Hybrid. In addition, in order to overcome the limitations of the performance of solar panels, we are taking steps to develop a true clean mobility, such as developing a solar cell made of a new material instead of the existing silicon material (Hyundai Motor Sustainability Report 2019).

### **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 (Refer to comment)

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

0.02

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

<Not Applicable>

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

<Not Applicable>

### **Comment**

Calculation method for total avoided emissions = 100kg CO2eq(unit avoided emissions per Sonata DN8 hybrid model equipped with solar roof)\* 738(sales unit of the model in 2019) = 73.8tCO2eq Calculation method for % revenue from low-carbon product(s) in the reporting year = (a) / (b) = 0.02% (a) Sonata DN8 hybrid (solar roof mounted) model sales: 738 units sold (the number of units shipped in 2019) \* 33 million won = 24,354 million won (b) Hyundai Motor Company's 2019 sales revenue: 105,746,422 million KRS

## **C5. Emissions methodology**

## **C5.1**

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

### **Scope 1**

### **Base year start**

January 1 2010

### **Base year end**

December 31 2010

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

542936

### **Comment**

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

### **Base year start**

January 1 2010

### **Base year end**

December 31 2010

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

998988

### **Comment**

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

### **Base year start**

January 1 2010

### **Base year end**

December 31 2010

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

### **Comment**

## **C5.2**

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

IPCC Guidelines for National Greenhouse Gas Inventories, 2006

Korea GHG and Energy Target Management System Operating Guidelines

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

## **C6. Emissions data**

## **C6.1**

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

### **Reporting year**

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

808139

### **Start date**

<Not Applicable>

### **End date**

<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 have no operations where we are able to access electricity supplier emission factors or residual emissions factors and are unable to report a Scope 2, market-based figure

### **Comment**

## **C6.3**

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

### **Reporting year**

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

1900954

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

<Not Applicable>

### **Start date**

<Not Applicable>

### **End date**

<Not Applicable>

### **Comment**

## **C6.4**

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

No

## **C6.5**

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

### **Purchased goods and services**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

1116672

### **Emissions calculation methodology**

□ Calculation formula: Number of production units of products certified with carbon report in 2019 \* GHG emission factor before manufacturing = 1,116,672 tCO2eq □ As of 2019, certified products with carbon score mark: Ioniq 1.6 Kappa Engine (DCT), Sonata Plug-in Hybrid Automatic 6-speed, Sonata Hybrid Automatic 6-speed, Aslan 3.0 Modern, Sonata 2.0 CVVL Style (Auto 6-speed), Genesis 3.3 GDi 2WD , Sonata Hybrid (Premier A/T), Santa Fe (2.0 Auto 2WD Premium), i40 (1.7 VGT Modern A/T), i30 (GL, 1.6, Auto), i40 Smart 2.0, Veloster (UNIQUE, Manual), Accent (1.4 VVT PREMIER, Manual), 5G Grandeur Luxury (2.4L), Avante MD (M16 GDi 2WD Luxury), Tucson ix (2.0 2WD X2D Luxury), Sonata YF (Grand, Manual) □ In 2019, total production of certified products with carbon report (domestic): 339,260 units

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

0

### **Please explain**

Our company has obtained and managed the carbon score mark certification for major products released, and in the case of eco-friendly vehicles that are not certified for the carbon score mark (eg. 2019 newly launched models), the fuel efficiency improvement rate is applied to the carbon score mark of similar models. Therefore, the adjusted emission factor is separately calculated and applied. The GHG emissions of purchased products and services were calculated by multiplying the number of production units of the products certified for the 2019 carbon report by the GHG emission factor before manufacturing.

### **Capital goods**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

251

### **Emissions calculation methodology**

□ After collecting the desktop body and monitor data paid for each business site in 2019, the emission was calculated by multiplying the value by the greenhouse gas emission factor. □ Total quantity: 9,257 units (5,309 desktops, 3,948 monitors) □ Calculation formula: Purchased quantity (9,257 units) \* (Emission factor before and during manufacturing of capital goods) □ Greenhouse gas emissions = (desktop body purchase amount \* desktop body emission factor) + (monitor purchase amount \* monitor emission factor) = 251.69 tCO2eq Desktop body emission factor: 35.39 kgCO2/unit (Carbon labeling certified product: Samsung Electronics personal computer (DB400T2Z) emission factor) Monitor emission factor: 16.16 kgCO2/unit (Carbon labeling certified product: Samsung Electronics computer monitor (S24C350HL) emission factor) The emission factor for capital goods production uses the emission factor in the national carbon report: http://www.epd.or.kr/information/dataView.do?bbsCode=6&mode=view&bbsClass=&searchKind=&pageIndex=1&bbsIdx=3072

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

0

### **Please explain**

Emissions from the purchase of electronic devices (desktops, monitors, laptops, etc.) used in offices were calculated.

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

97199

### **Emissions calculation methodology**

Greenhouse gas emissions were calculated using the national greenhouse gas production emission factor for the purchased fuel. Greenhouse gas emission = fuel purchase amount \* production emission factor by fuel

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

0

### **Please explain**

Hyundai Motor Company calculated the GHG emissions by using the GHG emission factor produced for the purchased fuel. Scope 1 and 2 applied the GHG emission factor at the stage of use of the purchased fuel.

### **Upstream transportation and distribution**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Hyundai Motor Company is calculating it by including it in the product and service emissions purchased in Category 1. When calculating the carbon report for each product, Hyundai Motors derives the carbon emission factor by reflecting the values ​​of upstream transportation and logistics.

### **Waste generated in operations**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

2053

### **Emissions calculation methodology**

Greenhouse gas emission was calculated using the national greenhouse gas emission factor according to the treatment method of generated waste. Greenhouse gas emission = amount generated by waste type and treatment method \* Emission coefficient by waste type and treatment method = 2,053.07 tCO2eq Carbon emission factor: Excerpted from the National Carbon Report LCI DB (http://www.epd.or.kr/lci/co204.asp)

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

0

### **Please explain**

Waste greenhouse gas emissions were calculated by collecting the amount of waste generated by the type of waste and treatment method generated at domestic business sites.

### **Business travel**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

24836

### **Emissions calculation methodology**

Calculation method = number of teams \* business trip distance of employees of the sampled team (travel distance by means of transportation (transportation-km) × emission factor by means of transportation (kg CO2e/transportation-km or kg CO2e/person-km)) Total greenhouse gas emissions = 13.77 tCO2 \* 2,897 teams = 24,836.10 tCO2eq Emission coefficient by means of transportation -Car: 210 gCO2/person\*km, Bus: 27.7 gCO2/person\*km, Subway: 1.53 gCO2/person\*km, KTX: 30 gCO2/person\*km, Air: 150 gCO2/person\*km -The emission factor of the low-carbon green event guideline of the Ministry of Environment was used.

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

0

### **Please explain**

Using the employee travel information of the team (technology management team) sampled in 2019, total employee GHG emissions from business trips by means of transportation were calculated. One team was sampled and the total team's GHG emissions were calculated using the distance-based calculation method.

### **Employee commuting**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

15093

### **Emissions calculation methodology**

Hyundai Motor Company operates 736 vehicles for employee commuting. Since most of them are diesel vehicles, it is assumed that they operate at an average speed of about 40km/h, taking into account the fuel economy (3.75km/L) of diesel vehicles, the average round-trip commute time (3 hours), and our buses that mainly run on highways. The annual fuel amount was estimated by multiplying the calculated daily fuel amount by the number of annual working days (245 days). Daily fuel consumption = Number of commuting buses (units) \* Running time (hr) \* Average speed (km) / Fuel economy (km/L) = 736\* 3\* 40 /3.75= 23,552L Greenhouse gas emission = fuel consumption \* calorific value \* emission factor \* annual working days = 23,552L \* 35.3 \*74.1 / 1000000 \*245= 15,093 tCO2eq Diesel calorific value: 35.3MJ/L (Basic Energy Act) Diesel emission factor: 74.1tCO2/TJ (IPCC)

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

100

### **Please explain**

The company received information on the distance traveled from the commuter bus operating company.

### **Upstream leased assets**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Since the Company does not have leased assets upstream, the item is considered irrelevant.

### **Downstream transportation and distribution**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

954579

### **Emissions calculation methodology**

Hyundai Glovis is a subsidiary in charge of logistics services of Hyundai Motors, and uses Hyundai Glovis' CO2e emission data for finished vehicle transport when calculating downstream transport and distribution emissions (land transport and ship parts) = 33,499 + 921,081 = 954,580 tCO2eq

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

100

### **Please explain**

Since more than 70% of Hyundai Motor's products are transported through Hyundai Glovis, the amount of CO2 consumption for logistics was requested from Glovis, and GHG emissions from land transport and ships were collected and calculated.

### **Processing of sold products**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

As a finished vehicle OEM company with a B2C business model, Hyundai Motor Company does not undergo subsequent processing. Our main business is to receive, manufacture, and process raw materials for vehicle production, and emissions from the processing stage fall within our scope 1 and 2. Therefore, the processing category of the products sold is considered unrelated to us.

### **Use of sold products**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

4399090

### **Emissions calculation methodology**

Calculation formula: Number of sales of products certified for carbon report in 2018 \* Greenhouse gas emission factor when used = 4,399,090 tCO2eq As of 2019, certified products with carbon score mark: Ioniq 1.6 Kappa Engine (DCT), Sonata Plug-in Hybrid Automatic 6-speed, Sonata Hybrid Automatic 6-speed, Aslan 3.0 Modern, Sonata 2.0 CVVL Style (Auto 6-speed), Genesis 3.3 GDi 2WD , Sonata Hybrid (Premier A/T), Santa Fe (2.0 Auto 2WD Premium), i40 (1.7 VGT Modern A/T), i30 (GL, 1.6, Auto), i40 Smart 2.0, Veloster (UNIQUE, Manual), Accent (1.4 VVT PREMIER, Manual), 5G Grandeur Luxury (2.4L), Avante MD (M16 GDi 2WD Luxury), Tucson ix (2.0 2WD X2D Luxury), Sonata YF (Grand, Manual) In 2019, total production of certified products with carbon labeling (domestic): 339,260 units

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

0

### **Please explain**

Our company has obtained and managed the carbon score mark certification for major products released, and in the case of eco-friendly vehicles that are not certified for the carbon score mark (ex. 2019 newly launched models), the fuel efficiency improvement rate is applied to the carbon score mark of similar models. Therefore, the adjusted emission factor is separately calculated and applied. Greenhouse gas emissions were calculated when the product was used by multiplying the number of production units of the products certified for the 2019 carbon report by the greenhouse gas emission factor at the stage of use.

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

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

8455

### **Emissions calculation methodology**

Calculation formula: Number of production units of products certified for the carbon report in 2019 \* Greenhouse gas emission factor at disposal = 8,455 tCO2eq As of 2019, certified products with carbon score mark: Ioniq 1.6 Kappa Engine (DCT), Sonata Plug-in Hybrid Automatic 6-speed, Sonata Hybrid Automatic 6-speed, Aslan 3.0 Modern, Sonata 2.0 CVVL Style (Auto 6-speed), Genesis 3.3 GDi 2WD , Sonata Hybrid (Premier A/T), Santa Fe (2.0 Auto 2WD Premium), i40 (1.7 VGT Modern A/T), i30 (GL, 1.6, Auto), i40 Smart 2.0, Veloster (UNIQUE, Manual), Accent (1.4 VVT PREMIER, Manual), 5G Grandeur Luxury (2.4L), Avante MD (M16 GDi 2WD Luxury), Tucson ix (2.0 2WD X2D Luxury), Sonata YF (Grand, Manual) In 2019, total production of certified products with carbon report (domestic): 339,260 units

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

0

### **Please explain**

Our company has obtained and managed the carbon score mark certification for major products released, and in the case of eco-friendly vehicles that are not certified for the carbon score mark (ex. 2019 newly launched models), the fuel efficiency improvement rate is applied to the carbon score mark of similar models. Therefore, the adjusted emission factor is separately calculated and applied. The GHG emissions at the time of product disposal were calculated by multiplying the number of production units of the products certified for the 2019 Carbon Report by the GHG emission factor at the time of disposal.

### **Downstream leased assets**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

4126

### **Emissions calculation methodology**

Based on the information on greenhouse gas emissions reported by Kia Motors and Hyundai Motors, it was calculated by multiplying the rental area ratio. Kia Motors' rental area (=exclusive+public)/total area (=exclusive+public)\* total greenhouse gas consumption of the building= 1,484.59 tco2eq Hyundai E&C's rental area (=exclusive+public)/total area (=exclusive+public)\* total greenhouse gas consumption of the building= 2,641.48 tco2eq Grand Total: 4,126 tco2eq

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

100

### **Please explain**

Hyundai Motor Company is leasing its headquarters building to Kia Motors, and Hyundai E&C is also leasing a part of its office building in Gye-dong, Seoul. It was calculated based on the greenhouse gas emissions of Kia Motors and Hyundai Motors.

### **Franchises**

### **Evaluation status**

Not relevant, explanation provided

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

Hyundai Motor Company manages greenhouse gas emissions from service centers and branches in scopes 1 and 2.

### **Investments**

### **Evaluation status**

Relevant, calculated

### **Metric tonnes CO2e**

394946

### **Emissions calculation methodology**

Calculation formula: GHG emissions of investment companies \* As of the end of 2019, Hyundai Motor Company's investment share (%) = 394,946tCO2eq The reflecting companies in the GHG calculation were calculated for companies that manage GHG emissions among companies that Hyundai Motors owns 25% or more. Target companies: Kia Motors, Hyundai Wia, Hyundai Trensys, Hyundai Rotem, and Hyundai Autoever

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

100

### **Please explain**

Hyundai Motor Company is a shareholder who can exercise the decision-making power of the five companies it owns. And collected, and calculated the GHG emissions in the investment sector. The investment share is based on the data specified in Hyundai Motor Company's IR report as of the end of December 2019.

### **Other (upstream)**

### **Evaluation status**

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

### **Other (downstream)**

### **Evaluation status**

### **Metric tonnes CO2e**

<Not Applicable>

### **Emissions calculation methodology**

<Not Applicable>

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

<Not Applicable>

### **Please explain**

## **C6.7**

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

No

## **C6.10**

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

### **Intensity figure**

0.026

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

2709093

### **Metric denominator**

Other, please specify (Revenue Total (per million))

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

105746422

### **Scope 2 figure used**

Location-based

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

11.8

### **Direction of change**

Decreased

### **Reason for change**

Reason for change: As Hyundai Motor Company is a large company with glboal operations, research facilities, and headquarters building, it is difficult to accurately determine the cause of the change in scope 1, 2 emissions. However, various emission reduction activities such as the application of high-efficiency motors for business facilities, energy inverter replacement, remote controlling of air conditioning facilities, and LED lighting replacement have been undertaken, and those activities made Scope 1 emissions in 2019 decreased by 7.6% compared to 2018. Also, in 2019, a 4MW solar power generation system was built in the Ulsan plant and the amount of new renewable energy installed was expanded, reducing Scope 2 emissions by about 2%. Furthermore, sales revenue increased in 2019, resulting in decrease of intensity. Notes: The ORS system only allows to type limited to six decimal, we choose the denominator of intenstify figurase as "other, please specify: revenue total(per million)"

## **C7. Emissions breakdowns**

## **C7.1**

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

Yes

## **C7.1a**

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

|  |  |  |
| --- | --- | --- |
| **Greenhouse gas** | **Scope 1 emissions (metric tons of CO2e)** | **GWP Reference** |
| CO2 | 806851 | IPCC Second Assessment Report (SAR - 100 year) |
| CH4 | 481 | IPCC Second Assessment Report (SAR - 100 year) |
| N2O | 810 | IPCC Second Assessment Report (SAR - 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)** |
| Republic of Korea | 501388 |
| United States of America | 33635 |
| China | 139270 |
| India | 29450 |
| Turkey | 24947 |
| Czechia | 36209 |
| Russian Federation | 35655 |
| Brazil | 7585 |

## **C7.3**

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

By facility

## **C7.3b**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Facility** | **Scope 1 emissions (metric tons CO2e)** | **Latitude** | **Longitude** |
| Ulsan plant | 331364 | 35.538617 | 129.385986 |
| Asan plant | 42953 | 36.847105 | 126.868464 |
| Jeonju plant | 45917 | 35.948515 | 127.136278 |
| Research facility | 63285 | 37.15864 | 126.818919 |
| Headquarters private building | 8624 | 37.464503 | 127.043076 |
| Service center | 6423 | 37.53219 | 126.951892 |
| Sales private building | 2821 | 37.577916 | 126.987533 |
| USA production plant | 33635 | 32.279691 | -86.330261 |
| China/Beijing production plant | 82609 | 40.12175 | 116.64783 |
| China/Szechuan Hyundai production plant | 3368 | 30.12108 | 104.64811 |
| India production plant | 29450 | 12.964047 | 79.949547 |
| Turkey production plant | 24947 | 40.77573 | 30.03881 |
| Czech production plant | 36209 | 49.676134 | 18.437415 |
| Russia production plant | 35655 | 60.061117 | 30.130185 |
| Brazil production plant | 7585 | -22.682605 | -47.603858 |
| China/Changzou, Chóngqìng plant | 53293 | 38.283326 | 116.869079 |

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

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gross Scope 1 emissions, metric tons CO2e** | **Net Scope 1 emissions , metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Electric utility activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 808139 | <Not Applicable> | Total of activities related to vehicle production in gross GHG Scope 1 emissions |
| Transport services activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |

## **C7.5**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Country/Region** | **Scope 2, location-based (metric tons CO2e)** | **Scope 2, market-based (metric tons CO2e)** | **Purchased and consumed electricity, heat, steam or cooling (MWh)** | **Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)** |
| Republic of Korea | 1080556 | 1080556 | 2311550 | 671 |
| United States of America | 157085 | 157085 | 287624 | 0 |
| China | 285956 | 285956 | 472695 | 0 |
| India | 240908 | 240908 | 293451 | 56499 |
| Turkey | 24619 | 24619 | 52905 | 0 |
| Czechia | 78365 | 78365 | 132185 | 0 |
| Russian Federation | 28505 | 28505 | 71096 | 0 |
| Brazil | 4960 | 4960 | 65319 | 0 |

## **C7.6**

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

By facility

## **C7.6b**

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

|  |  |  |
| --- | --- | --- |
| **Facility** | **Scope 2, location-based (metric tons CO2e)** | **Scope 2, market-based (metric tons CO2e)** |
| Ulsan plant | 635033 | 635033 |
| Asan plant | 110698 | 110698 |
| Jeonju plant | 83211 | 83211 |
| Research facility | 201645 | 201645 |
| Headquarters private building | 20681 | 20681 |
| Service center | 13434 | 13434 |
| Sales private building | 15854 | 15854 |
| USA production plant | 157085 | 157085 |
| China/Beijing production plant | 164774 | 164774 |
| China/Szechuan Hyundai production plant | 10936 | 10936 |
| India production plant | 240908 | 240908 |
| Turkey production plant | 24619 | 24619 |
| Czech production plant | 78365 | 78365 |
| Russia production plant | 28505 | 28505 |
| Brazil production plant | 4960 | 4960 |
| China/Changzou, Chóngqìng plant | 110246 | 110246 |

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

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Scope 2, location-based, metric tons CO2e** | **Scope 2, market-based (if applicable), metric tons CO2e** | **Comment** |
| Cement production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Chemicals production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Coal production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Metals and mining production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (upstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (midstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Oil and gas production activities (downstream) | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Steel production activities | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Transport OEM activities | 1649339 | 1649339 | Emissions from activities related to automobile production among the total Scope 2 emissions. We excluded research facilities, headquarters building, service center, and seller building |
| 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**

0.000043222

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

4399090

### **Metric denominator**

p.km

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

101778000000

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

-33.46

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

339260

### **Vehicle lifetime in years**

10

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

12000

### **Load factor**

Average passenger: 2.5

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

Explanation of the rate of change: In 2019 (domestic) sales increased by 154,916 units compared to 2018, but the original unit decreased to 33.16%. For reference, the scope of the sales model as the standard here is only for products that have obtained carbon labeling certification from the relevant Korean government agencies, which are included in the calculation of Scope 3 Category 11. The decrease in Scope 3 emissions compared to the increase in the number of units sold shows that Hyundai Motor Company is focusing on the production and development of eco-friendly vehicles, and is effective in reducing the basic unit.

## **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 | 46696 | Decreased | 1.66 | Hyundai Motor Company is making great efforts to save energy with the goal of building an eco-friendly production plant. 310 tCO2 was reduced through the research institute's solar power plant. In addition, about 20% of the electricity consumption in India is used as electricity generated through renewable energy, and it consumes 56,499 MWh per year, which saved about 46,843 tCo2e. Emissions change rate (%) = reduction in carbon emissions due to reduction activities/ 2018 carbon emissions (47,153/2,751,306 tCO2)\*100 = 1.71% |
| Other emissions reduction activities | 66699 | Decreased | 2.37 | Hyundai Motor Company continued to establish and operate a GHG response council at business sites, and to improve power saving/process efficiency. Specifically, the introduction of high-efficiency lighting, process optimization, replacement of old facilities, and changes in operating methods were carried out, and through this, we achieved a reduction in N tCO2e emissions compared to 2018. [Emissions fluctuation rate (%)] = (N/2,811,899)\*100= 1.00% |
| Divestment |  | <Not Applicable> |  |  |
| Acquisitions |  | <Not Applicable> |  |  |
| Mergers |  | <Not Applicable> |  |  |
| Change in output |  | <Not Applicable> |  |  |
| Change in methodology |  | <Not Applicable> |  |  |
| Change in boundary |  | <Not Applicable> |  |  |
| Change in physical operating conditions |  | <Not Applicable> |  |  |
| Unidentified |  | <Not Applicable> |  |  |
| Other |  | <Not Applicable> |  |  |

## **C7.9b**

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

Location-based

## **C8. Energy**

## **C8.1**

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

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

## **C8.2**

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

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

## **C8.2a**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Heating value** | **MWh from renewable sources** | **MWh from non-renewable sources** | **Total (renewable and non-renewable) MWh** |
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 0 | 4169024.76 | 4169024.76 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 56499 | 3630323.66 | 3686822.66 |
| Consumption of purchased or acquired heat | <Not Applicable> | 0 | 14300.28 | 14300.28 |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 90271.11 | 90271.11 |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 671 | <Not Applicable> | 671 |
| Total energy consumption | <Not Applicable> | 57170 | 7903919.82 | 7961089.82 |

## **C8.2b**

### **(C8.2b) Select the applications of your organization’s consumption of fuel.**

|  |  |
| --- | --- |
|  | **Indicate whether your organization undertakes this fuel application** |
| Consumption of fuel for the generation of electricity | Yes |
| Consumption of fuel for the generation of heat | Yes |
| Consumption of fuel for the generation of steam | Yes |
| Consumption of fuel for the generation of cooling | Yes |
| Consumption of fuel for co-generation or tri-generation | Yes |

## **C8.2c**

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

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

Diesel

### **Heating value**

HHV (higher heating value)

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

76606

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

21

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

76585

### **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

### **Emission factor**

0.0754

### **Unit**

metric tons CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Liquefied Natural Gas (LNG)

### **Heating value**

HHV (higher heating value)

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

3984673

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

0

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

3063260

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

841167

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

30839

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

49406

### **Emission factor**

0.0562

### **Unit**

metric tons CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Butane

### **Heating value**

HHV (higher heating value)

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

2421

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

0

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

2421

### **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

### **Emission factor**

0.0645

### **Unit**

metric tons CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Kerosene

### **Heating value**

HHV (higher heating value)

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

4271

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

0

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

4271

### **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

### **Emission factor**

0.0719

### **Unit**

metric tons CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Jet Kerosene

### **Heating value**

HHV (higher heating value)

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

741

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

0

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

741

### **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

### **Emission factor**

0.0717

### **Unit**

kg CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Propane Gas

### **Heating value**

HHV (higher heating value)

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

496

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

0

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

184

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

312

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

0

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

0

### **Emission factor**

0.0632

### **Unit**

kg CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

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

Petrol

### **Heating value**

HHV (higher heating value)

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

99817

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

0

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

99817

### **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

### **Emission factor**

0.0723

### **Unit**

kg CO2e per GJ

### **Emissions factor source**

National Guidelines on GHG emissions/energy target management which uses the IPCC Fourth AssessmentReport (SAR - 100 year)

### **Comment**

## **C8.2d**

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total Gross generation (MWh)** | **Generation that is consumed by the organization (MWh)** | **Gross generation from renewable sources (MWh)** | **Generation from renewable sources that is consumed by the organization (MWh)** |
| Electricity | 24836 | 11671 | 13836 | 671 |
| Heat | 3247279.88 | 3247279.88 | 0 | 0 |
| Steam | 778944 | 778944 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 0 |

## **C-TO8.5**

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

### **Activity**

Light Duty Vehicles (LDV)

### **Metric figure**

1.5167

### **Metric numerator**

tCO2e

### **Metric denominator**

Production: Vehicle

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

2709093

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

1786131

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

-5.72

### **Please explain**

Note 1) Hyundai Motor vehicle production (including large buses and trucks of 5T or more): 1,786,131 units (2019), 1,747,837 units (2018), 1,651,710 units (2017) Note 2) Hyundai Motor vehicle production in 2017 (including large buses and 5T or more trucks): 1,651,710 units Note 3) Molecular value at the time of recalculation of Scope 1+2 in 2017: 2,718,503 tCO2e (significant as 4% reduction in per-unit emissions)

## **C9. Additional metrics**

## **C9.1**

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

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

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

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Plug-in hybrid vehicle (PHEV)

### **Metric figure**

0.4

### **Metric unit**

% of total sales

### **Explanation**

In 2019, Hyundai Motor Company's eco-friendly vehicle sales totaled 183,000 units, of which Ionic 0.8, a PHEV model, sold 10,000 units. The sales performance of Ionic 0.8 corresponds to 0.4% of the total sales.

### **Activity**

Light Duty Vehicles (LDV)

### **Metric**

Sales

### **Technology**

Other, please specify (Battery electric vehicle (BEV)/Fuel cell electric vehicle (FCEV))

### **Metric figure**

3.7

### **Metric unit**

% of total sales

### **Explanation**

In 2019, Hyundai Motor Company's BEV/FCEV sales model totaled three, IONIC 1.5 (EV), KONA 4.5 (EV), and NEXO 0.5 (FE). Global sales of these three models total 66,000 units, which is 3.7% of total sales.

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

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

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

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

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

### **Activity**

Light Duty Vehicles (LDV)

### **Technology area**

Infrastructure

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

Small scale commercial deployment

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

≤20%

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

2644000000

### **Comment**

In 2018, Hyundai Motor Company signed a business agreement (MOU) with SK Networks to create a'Mobility Lifestyle Charging Station' for electric vehicles. Following the agreement, the two companies plan to convert the existing gas station exclusively for internal combustion engines into charging stations exclusively for electric vehicles. Hyundai Motor Company plans to significantly shorten the charging time by developing a new 350kW super-fast charger, and increase customer convenience by launching an application exclusively for electric vehicles. The first'Mobility Lifestyle Charging Station' will be promoted at a gas station directly managed by SK Networks located in Gil-dong, Gangdong-gu, Seoul within 2019, and a total of 10 new high-speed chargers will be installed.

### **Activity**

Light Duty Vehicles (LDV)

### **Technology area**

Electrification

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

Large scale commercial deployment

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

41-60%

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

13100000

### **Comment**

According to Hyundai Motor Company's mid- to long-term innovation plan 2025 strategy, Hyundai Motor Company is largely transformed into two business structures, intelligent mobility device and intelligent mobility service, to achieve high profitability for internal combustion engines, top-tier leadership in electric vehicles, and three strategic directions for building a platform business base Is promoting. Accordingly, Hyundai Motor Group intends to realize green growth with a total of 44 electrified vehicles including 11 electric vehicle models by 2025. In the case of electric vehicles, in particular, it is planning to launch the first dedicated model in 2021 based on the electric vehicle platform'E-GMP' and core component competitiveness. The company plans to invest KRW 31.6 trillion won in R&D investment by 2025, of which it plans to execute a budget of KRW 1.3 trillion in eco-friendly cars and smart cars. \*Notes: due to range limitation, our R&D investment figures is presented per million KRW (R&D investment figure in the reporting year: 13,100,000,000,000 KRW)

## **C10. Verification**

## **C10.1**

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

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

## **C10.1a**

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

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

Annual process

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

Complete

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

Reasonable assurance

### **Attach the statement**

[HMC GHG Emissions Assurnace Reoprt\_domestic.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/EFrd8i1urEudlBzI3bEuag/HMCGHGEmissionsAssurnaceReoprtdomestic.pdf)

[HMC GHG emissions assurance report\_global operations.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/5mMAIJdutE2N56Xl_k7l-g/HMCGHGemissionsassurancereportglobaloperations.pdf)

### **Page/ section reference**

Domestic: page 2 Overseas: page 1

### **Relevant standard**

Korean GHG and energy target management system

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

100

## **C10.1b**

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

### **Scope 2 approach**

Scope 2 location-based

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

Annual process

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

Complete

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

Reasonable assurance

### **Attach the statement**

[HMC GHG Emissions Assurnace Reoprt\_domestic.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/EFrd8i1urEudlBzI3bEuag/HMCGHGEmissionsAssurnaceReoprtdomestic.pdf)

[HMC GHG emissions assurance report\_global operations.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/5mMAIJdutE2N56Xl_k7l-g/HMCGHGemissionsassurancereportglobaloperations.pdf)

### **Page/ section reference**

Domestic: page 2 Overseas: page 1

### **Relevant standard**

Korean GHG and energy target management system

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

100

## **C10.1c**

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

### **Scope 3 category**

Scope 3 (upstream & downstream)

### **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**

[Hyundai Motor Company\_Assurance for Scope 3 Emissions\_Eng.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/9E_Gu7pYYUqXuZIgV80MMw/HyundaiMotorCompanyAssuranceforScope3EmissionsEng.pdf)

### **Page/section reference**

1-2

### **Relevant standard**

ISAE3000

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

100

## **C10.2**

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

Yes

## **C10.2a**

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Disclosure module verification relates to** | **Data verified** | **Verification standard** | **Please explain** |
| C4. Targets and performance | Emissions reduction activities | 1. ISO14064-3 2. AA1000 Assurance Standard(2008) 3. CDP Response Verification Guideline | Emission reduction activities and emission reductions are initiated through our sustainability report verified by a third party.  [ASt for CDP response\_HMC\_eng\_draft 2.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Nzavxg_e40W0U6ZqjUj_UQ/AStforCDPresponseHMCengdraft2.pdf) |
| C2. Risks and opportunities | Other, please specify (climate-related risks and opportunities) | 1. ISO14064-3 2. AA1000 Assurance Standard(2008) 3. CDP Response Verification Guideline | CDP verification confirmed the accuracy of the item.  [ASt for CDP response\_HMC\_eng\_draft 2.pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/Nzavxg_e40W0U6ZqjUj_UQ/AStforCDPresponseHMCengdraft2.pdf) |

## **C11. Carbon pricing**

## **C11.1**

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

Yes

## **C11.1a**

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

China national ETS

EU ETS

Korea ETS

## **C11.1b**

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

### **China national ETS**

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

10.2

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

15

### **Period start date**

January 1 2019

### **Period end date**

December 31 2019

### **Allowances allocated**

293462

### **Allowances purchased**

29992

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

71262

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

164516

### **Details of ownership**

Facilities we own and operate

### **Comment**

### **EU ETS**

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

3.1

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

4.1

### **Period start date**

January 1 2019

### **Period end date**

December 31 2019

### **Allowances allocated**

43446

### **Allowances purchased**

0

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

31444

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

78365

### **Details of ownership**

Facilities we own and operate

### **Comment**

### **Korea ETS**

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

62

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

56.8

### **Period start date**

January 1 2019

### **Period end date**

December 31 2019

### **Allowances allocated**

1484924

### **Allowances purchased**

31992

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

501388

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

1080556

### **Details of ownership**

Facilities we own and operate

### **Comment**

## **C11.1d**

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

HMC implemented the GHG target management system from 2011 to 2014, and the company has been participating in the emission trading system since 2015 to participate in the national GHG reduction policy. In the short-term, HMC established a strategy to strengthen GHG reduction activities through energy conservation, loss removal, and efficient use of the workplace, and in the mid- to long-term, the company established a strategy to respond to the effective emission trading system by reviewing the application of various new technologies such as small cogeneration, solar power, and energy storage devices. In addition, the “Greenhouse Gas Response Council” has been formed to conduct active GHG reduction efforts through planning and inspection of GHG emissions at business sites, and GHG reduction performance analysis from a financial perspective. The GHG response council is a council organized across all fields such as business sites, buildings, and production technology, and strengthens energy inspection/promotion activities, consumes energy, improves process use efficiency, expands investments in energy reduction, and introduces new energy technologies and shares reduction technologies. In addition, we are holding a session to introduce major issues in the emission trading system market so that partners can fully understand the emission trading system and respond efficiently.

## **C11.2**

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

No

## **C11.3**

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

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

Drive low-carbon investment

Identify and seize low-carbon opportunities

### **GHG Scope**

Scope 1

Scope 2

### **Application**

HMC is making efforts to save energy with the goal of an eco-friendly factory. To reduce GHGs emissions, to induce low-carbon investment in the mid- to long-term, and to take advantage of related reduction opportunities, internal carbon prices have been utilized since 2017 through a phased review in 2016. In particular, Korea, Czech Republic, and Chinese workplaces are interconnected with the emission trading system, and they monitor the emission trading price to satisfy the quota and establish and apply the internal carbon price through internal decision-making. HMC is conducting investment reviews using internal carbon prices to reduce greenhouse gas emissions at the workplace. The internal carbon price is reflected in the investment review of new and renewable energy and investment items in order to achieve the mid- to long-term reduction target and is used when selecting the primary item by comparing the internal price corresponding to the reduction amount to the investment cost.

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

32500

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

HMC adopts internal carbon price same as average KAU19 price;KRW 32,500. The price was decided through internal decision-making, as it was determined that regulations on the price of permits and carbon emission would be strengthened in the mid to long-term. Internal carbon prices are currently applied in stages to domestic, Indian, Chinese, and Czech business sites, and they are applied at the same price. In the future, we plan to establish a mechanism for determining the internal carbon price by applying various factors (market, price, investment will, time, and etc.) that are reflected in the internal carbon price through a more systematic analysis.

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

Shadow price

Internal fee

### **Impact & implication**

HMC is reviewing various GHG reduction opportunities through internal carbon prices. First, the feasibility of promoting eco-friendly purchases (purchase of low-carbon energy products) was given, and as a result, the cost of green purchases as of 2019 was about KRW 12.1 billion. In addition, it is under consideration to increase the penetration rate of new and renewable energy when purchasing power at the business site, and a major investment decision was to secure the penetration rate of new and renewable energy at 15.7% when building a new office building in Samseong-dong, Seoul, Korea. Most of the new and renewable energy (solar power generation facilities, geothermal heat pumps, fuel cells, energy storage devices) that can be applied to the new office building in Samseong-dong will be introduced, and the waste heat recovery system and high-efficiency energy equipment are being used for construction. The introduction of new and renewable energy facilities for the construction of the new office building increased the investment cost in the short-term, but the final decision was made based on the judgment that the benefits of the introduction would be greater in the mid- to long-term as a result of examining using internal carbon prices. The construction of the new building is expected to be completed in 2023.

## **C12. Engagement**

## **C12.1**

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

Yes, our suppliers

Yes, our customers

## **C12.1a**

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

### **Type of engagement**

Innovation & collaboration (changing markets)

### **Details of engagement**

Other, please specify (Climate change is integrated into supplier evaluation processes)

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

20

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

60

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

15.91

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

Suppliers' engagement activity HMC is meaning are designed to foster global competitiveness of suppliers, strengthen the foundation for sustainable growth and build a foundation for shared growth. To achieve the goals of these three activities, the company has strengthened the existing cooperation programs and steadily explored new systems and programs, thereby it is continuously expanding its activities to encourage suppliers to grow and establish a virtuous cycle in which it will return to the growth of HMC. HMC not only supports the development of the quality and technology competitiveness of its suppliers, but also helps to strengthen the foundation for its suppliers to grow into a stable and sustainable company. The target company of engagement is expanded its target range into tier 1 suppliers which have financial correlation with HMC. In particular, technology 5 star which has implemented since 2003 is R&D technical skills evaluation system of tier 1 suppliers with quality/payment 5 star, and it sets a goal of voluntary securement of technology competitiveness for the partners as diagnosis of R&D technical skills level and improvement of system. In 2017, the entire assessment sheet was revised for actual technical skills diagnosis of suppliers. The evaluation of R&D investment ratio was increased from 4.0 to 8.0 and the increase evaluation of R&D investment ratio was newly allocated. By doing so, suppliers encourage to develop eco-friendly car technologies and supports them develop Cleaner Production systems and technologies that meet changed environmental standards. In addition, Our Quality and Technology Volunteer Group and Supplier Support Group are organized and reside on the corresponding company to support free consulting for R&D of eco-friendly vehicles, production technologies(fuel efficiency, etc.) and quality for 3 to 12 months.

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

HMC has been supporting its suppliers with production technology as well as R&D for a long period of time, with the conviction that expanding their capabilities will increase the competitiveness of the local automobiles parts industry. If suppliers and HMC jointly advance to foreign countries, the company is expecting that the barriers for overseas expansion of its suppliers can be lowered significantly through business cooperation in the early stages of its advance. In particular, the side of reinforcement of eco-friendly vehicles(parts) technical skills and Cleaner Production can increase the competitiveness of the suppliers as well as response of climate change, and it can increase the competitiveness of Korea auto industry in advance. Compared to the 2001s, the sales volume of business partners increased 3.8 times in 2019, and the number of overseas partners expanded to about 700. As a result, Hyundai Motor was selected as the best company in the Shared Growth Index, which was evaluated by the Commission for Shared Growth in 2019. According to Article 20 of the Act on Promotion of Win-Win Cooperation between Large and Small Businesses," the Win-Win Growth Index will be selected among the top companies in Korea with great ripple effects." The best honorary company will receive incentives at the government level, which Hyundai Motor is striving to further strengthen the competitiveness of the eco-friendly car industry in the future by investing the incentives back in supporting its partners.

### **Comment**

### **Type of engagement**

Engagement & incentivization (changing supplier behavior)

### **Details of engagement**

Run an engagement campaign to educate suppliers about climate change

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

20

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

42

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

35.14

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

Hyundai Motor believes that the growth of parts suppliers is a source of competitiveness for finished vehicles and is giving full support to its suppliers to secure competitiveness. In 2018, it provided 139.7 billion KRW to some 220 component companies to establish a win-win cooperation system with their tier 2 and tier 3 suppliers that possess basic R&D capabilities. As part of its industrial innovation movement, it has been supporting small companies to convert their processes into smart factories since 2015. Defects in components and problems in products are prevented beforehand by applying ICT to production system and implementing systematic system, and the effects, such as computerization of process, reduction of disuse cost, increase of deadline compliance rate, safety, improvement of climate change(environment) of suppliers are represented through consulting and facility investment.

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

HMC has been working together to reduce energy costs of general industry and reduce greenhouse gases through energy saving have been supported for g technology guidance to small business by participating in a policy of large-medium-small shared green growth. For example, Hyundai Motor supported about 740 companies from 2016 to 2019, and as a result of these cooperative growth programs, its sales increased by 3.8 times compared to 2001.

### **Comment**

## **C12.1b**

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

### **Type of engagement**

Education/information sharing

### **Details of engagement**

Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services

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

100

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

62.7

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

<Not Applicable>

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

Basically, the customer of HMC is defined as individual who purchases the Company’s vehicles. Hyundai Motor Company is not only developing and introducing relevant products into the market to maximize the eco-friendly of its vehicles, but also ensuring that its customers take eco-friendly as an important competitive advantage for the vehicles and selecting eco-friendly vehicles as purchasing alternative prior to other models, thereby the company knows its importance of reducing the psychological barrier for uncommon product, 'eco-friendly vehicles’. Therefore, the company organized the project of hydrogen electric house to provide an opportunity to experience intuitively for the benefits of eco-friendly energy and eco-friendly car products so that customers can consider more conveniently purchasing eco-friendly products, such as hydrogen electric cars and electric cars. The target of engagement considered not only customers of HMC but also adults and family visitors so that many general customers could more easily consider purchasing eco-friendly vehicles. It introduced hydrogen electric house in the Hangang Park in Yeouido, reflecting its ease of location for the sake of engagement target and allowed visitors to experience AR, Zero Emission, and hydrogen principle vehicles.

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

In line with the introduction of next-generation hydrogen electric vehicles, the company was first shown the promotion space, 'hydrogen electric house,' in Hangang park, Yeouido, Seoul to introduce the convenience and eco-friendly of hydro electric, and principle of operation and safely of hydrogen electric vehicles actively and to raise interest to customers. Visitors who visited hydrogen electricity house were able to experience how hydrogen energy was eco-friendly by using Augmented Reality(AR) equipment and were able to easily see the principles of operation for hydrogen electric vehicles visually. In 'Zero EMISSION Vehicle Experience,' AR equipment was used to let people experience not only the benefits of hydrogen electric vehicles which are producing clean water and electricity, but also air cleaning function that absorbs and filters fine dust. Beginning with August 2017 in Yeouido, 'Hydrogen Electric House Season 1' were held in Gwangju, Ulsan, and Changwon and attracted the high interest and response from visitors. In 2019, the company has taken a step closer to realizing an eco-friendly future society by expanding its lineup of environmental vehicles, applying next-generation systems, and generating achievements such as cumulative sales of global environmental vehicles exceeding 1.35 million units.

### **Type of engagement**

Collaboration & innovation

### **Details of engagement**

Run a campaign to encourage innovation to reduce climate change impacts

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

100

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

62.7

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

<Not Applicable>

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

HMC establishes CSV strategy system and manage mid- to long-term CSV portfolio for conducting social contribution. Among the five CSV areas, the area of "eco-friendly" promotes development of eco-friendly products, recycling of resources, and other activities to reduce environmental pollution. (IONIQ Forest) HMC has been carrying out the IONIQ Forest project with Tree Planet and Sudokwon Landfill Site Management Corp, planting trees to reduce fine dust at the Incheon metropolitan landfill site. The goal of the IONIQ Forest project is to build ‘fine dust-preventing forests’ through planting over 30,000 trees by 2020 with forest-building experts, IONIQ customers, and participants of the IONIQ Longest Run. In April 2018, volunteers planted 1,000 trees. Moreover, volunteers, including 200 customers participated in the IONIQ Longest Run, planted 2,000 zelkovas and pine trees. (The Hyundai Green Zone Project) The Hyundai Green Zone Project is a global ecological restoration project that Hyundai Motor Group has been carrying out since 2008. The first Hyundai Green Zone Project was conducted from 2008 to 2013, and covered 50 million m2 in Chakanor, Apakachi, Inner Mongolia, a major source of yellow dust in China. As a result, we successfully converted an alkaline salt desert into grasslands with abundant grass. Since 2014, we have been engaging in activities to restore about 40 million m2 of the Baoshaodainao Nur, Zhenglan Qi and Haginor regions into an ecology that is suitable for the climate environment of Inner Mongolia. In addition, the Hyundai Motor Group’s Happy Move Global Youth Volunteers, college student volunteers in Beijing, employees and their family members of Hyundai and BHMC, and others constantly participated in the project to prevent desertification. The Company has conducted a variety of social contribution activities, as well as the Hyundai Green Zone Project which we have been carrying out for over 10 years. Hyundai Motor Group has been engaged in various social contributions in China, including a decade-long Hyundai Green Zone project, and in recognition of its contributions to Chinese society, it was ranked No. 1 in the automotive enterprise category for the fourth consecutive year in the CSR Research Center of the Chinese Academy of Social Sciences. It also ranked fourth in China's overall corporate ranking, up one notch from last year.

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

To awaken the importance of the environment and the need to respond to climate change, and to induce change in perception and interest is judged to be a success. The goal is to raise issues on the environment and climate change, and to set the stage for communication so that ordinary consumers can pursue changes in their perception of eco-friendly cars and the need to respond to climate change. Through this, each media company believes that communication with consumers in response to the environment and climate change is a success. Hyundai Motor signed an agreement with the Seoul Metropolitan Landfill Management Corporation (SL Corporation) in September 2016 to create forests that prevent fine dust. As a result, the 'Dream Park-Ioniq Forest' was created in the Incheon metropolitan landfill based on donations made through the Ioniq Longistrun. In December 2016, Dream Park-Ioniq Forest No. 1 was created based on 191,000km with 14,000 Ioniq Longest Runners, and 15,250 trees have been drinking water so far. By 2020, 30,000 trees will be planted, and the project will turn landfills into forests, creating changes that will return to citizens. Once the Ioniq forest is created, it will also serve as an oxygen tank that supplies fresh air to the metropolitan area. In addition, we will grow into a corporate citizen who actively participates in the resolution of environmental problems and communicates with customers through the forest by producing promotional videos of Ioniq Forest and developing apps that can check the status of trees and forests through mobile phone applications and the Internet.

## **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

## **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 (2020 EU vehicle CO2 emissions regulation) | Support | HMC monitored CO2 emissions regulations on vehicles through European Technology Institute and local branches and presented various opinions to the European Union. Also through establishing the fuel efficiency monitoring system, HMC established response system in response to compliance issues. In order to improve fuel efficiency and exhaustion technology, HMC has formed the active partnership with key global parts manufacturers and pushed forward for the establishment of stronger R&D process. | To respond to regulations on emissions, the Company has strengthened Super Credit system and suggested solutions, such as time extension of establishing regulations on CO2 emissions after 2025 and delay of the period of introducing new emission measurement test cycles. |
| Cap and trade | Support with minor exceptions | With the launch of GHG Emission Trading Scheme, HMC attended public hearings, meetings, and consultative groups and presented opinions as a company subject to the GHG Emission Trading Scheme. In addition, HMC participated as a legislative advisor for the trading scheme. In particular, in 2019, the government established a third-term allocation plan for the emission trading system or exchanged information on the current status of industries related to supply and demand trends in the emission market, and conducted activities to find ways to stabilize the emission trading system, and to develop the system. | HMC partially supports the regulations of the government partially through analyzing potential reductions for setting reduction target for national Post-2020 and suggesting experts from the industry. |

## **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?**

For HMC, Business Strategy Planning Division under CEO is in charge of a role and is in charge of all-inclusive business of climate change response. All issues related to climate change are identified through Business Strategy Planning Division, and the enterprise-wide risk management team in the Business Strategy Planning Division reviews the internal and external risk factors related to sustainability and reports to the board of directors if needed in the case of issues which have critical effects into management activities as putting together the major risk items by business sites. For the direct engagement activities with external organizations and industry association, the company sets the objects to establish measures to minimize financial losses, negative corporate image and create new business opportunities-related. If the response-related is needed, the company responds to establish the enterprise-wide response strategies.

## **C12.4**

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

### **Publication**

In mainstream reports

### **Status**

Complete

### **Attach the document**

[Hyundai Motor Company\_Annual report(2020.03.30).pdf](https://www.cdp.net/en/formatted_responses/files?file_path=k9me76vz7u2sozvqoi2gbw-cdp-credit360-com/_J2g81NeakKU1o4J-T0BJw/HyundaiMotorCompanyAnnualreport2020.03.30.pdf)

### **Page/Section reference**

page 377-378

### **Content elements**

Emissions figures

Emission targets

Other metrics

Other, please specify (Carbon Report Product, Low Carbon Product Certification Product Status)

### **Comment**

Hyundai Motor Company reports its annual GHG emissions, energy consumption, and climate-related low carbon products on annual report.

## **C15. Signoff**

## **C-FI**

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

## **C15.1**

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

|  |  |  |
| --- | --- | --- |
|  | **Job title** | **Corresponding job category** |
| Row 1 | President | Chief Executive Officer (CEO) |