Climate-related Information Disclosure (Based on TCFD Recommendations)

The Task Force on Climate-related Financial Disclosures (TCFD), established by the Financial Stability Board (FSB), published its final report on information disclosure in June 2017 noting that investors needed more clarity in corporate disclosures on climate-related risks and opportunities and governance measures. In June 2018, Hitachi announced its endorsement of the TCFD's recommendations.

The following contains key climate-related information in line with the TCFD's recommendations.

Governance

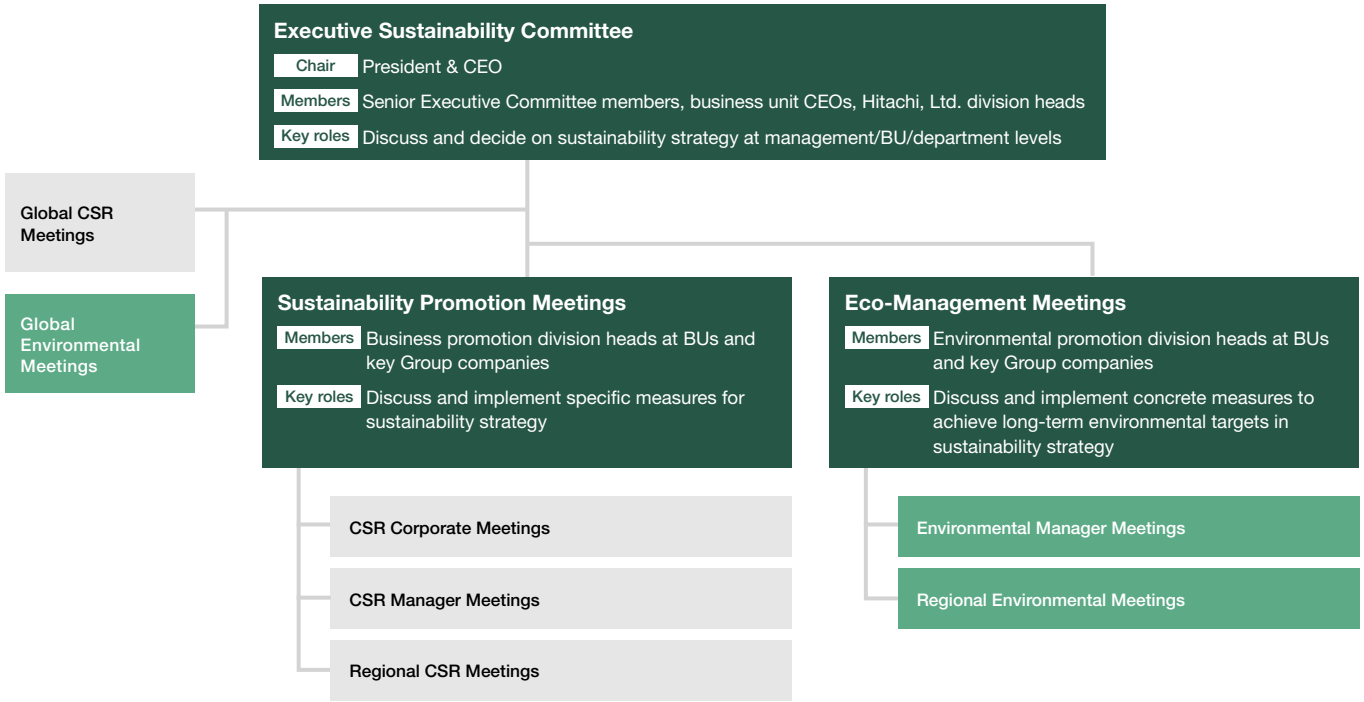
Hitachi sees climate change and other environmental issues as important management issues. In September 2016, after discussions at the Board of Directors, we established and announced long-term environmental targets called Hitachi Environmental Innovation 2050 containing CO_2 reduction targets for 2030 and 2050.

In April 2017, we established the Executive Sustainability Committee, chaired by the president and CEO and staffed by other top executives, as the highest-ranking body to discuss and reach decisions on the Group's sustainability strategy in accordance with our management and business strategies. Members meet twice a year to discuss material environment-related policies and measures, including those in response to climate change, to share progress reports and achievements, and to set the course for further improvements and new initiatives.

We have adopted a committee system to separate the responsibilities for management oversight from the execution of business operations. Under this system, the Audit Committee of independent directors conducts an audit of sustainability-related operations once a year. Reports on climate-related material issues are made to the committee by Hitachi executive officers.

Hitachi, Ltd. Vice President and Executive Officer Osamu Naito participated in the TCFD Study Group on Implementing TCFD Recommendations for Mobilizing Green Finance Through Proactive Corporate Disclosures, launched by the Ministry of Economy, Trade, and Industry in August 2018, and helped compile its December report. Hitachi also participates in the TCFD Consortium—launched in May 2019 with the participation of 164 companies and other organizations—as a member of its Steering Committee and contributes to discussions on approaches to effective corporate information disclosure and the use of such information by financial institutes and other entities to make appropriate investment decisions.

Sustainability Strategy Promotion Structure



Sustainability Strategy Promotion Structure
Enhancing Environmental Governance
Audit Committee

Strategy

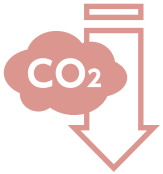
We established long-term environmental targets called Hitachi Environmental Innovation 2050 in September 2016 based on our Environmental Vision defining the goals of environmental management from a broader perspective. Wishing to fulfill our responsibilities as a global company in achieving a low-carbon society and taking note of the total CO_2 reductions required globally—as projected under the RCP 2.6*1 and RCP 8.5*2 scenarios in the *Fifth Assessment Report* of the Intergovernmental Panel on Climate Change (IPCC)—we have set long-term CO_2 reduction targets for our entire value chain of 50% by fiscal 2030 and 80% by fiscal 2050, compared to fiscal 2010.

Our 2021 Mid-term Management Plan announced in May 2019, meanwhile, calls for reducing CO_2 emissions throughout the value chain by more than 20% by fiscal 2021, compared to fiscal 2010.

*1 A Representative Concentration Pathway (RCP) scenario under which, at the end of the 21st century, the increase in global temperatures from preindustrial levels is kept below 2°C.
*2 An RCP scenario that assumes that emissions continue to rise, resulting in an approximately 4°C rise in global temperatures compared to preindustrial levels.

Climate Change Mitigation/Adaptation

For a low-carbon society



Throughout the value chain
CO_2 emissions

- **FY 2030** 50% reduction
- **FY 2050** 80% reduction

(compared to FY 2010)

The Environmental Vision and Hitachi Environmental Innovation 2050

Efforts to Achieve a Low-Carbon Society

Identification and Assessment of Climate-related Risks and Opportunities

Climate-related Risks

As for climate-related business risks, we have followed the TCFD's classification in considering (1) risks related to the transition to a low-carbon economy in the 2°C scenario and (2) risks related to the physical impacts of climate change in the 4°C scenario, which assumes that efforts to reduce global CO_2 emissions have failed. Risks are categorized into short term, medium term, and long term, defined as follows:

Short term: Over the next three years from fiscal 2019 to 2021 (corresponding to the three-year management period covered by the 2021 Environmental Action Plan, in line with the 2021 Mid-term Management Plan)
Medium term: Through fiscal 2030 (time span of our fiscal 2030 long-term environmental targets)
Long term: Through fiscal 2050 (time span of our fiscal 2050 long-term environmental targets)

(1) Risks related to the transition to a low-carbon economy (applying mostly to the 2°C scenario)

Category	Major risks	Time span	Main initiatives
Policy and legal	Increased business costs from the introduction of carbon taxes, fuel/energy consumption taxes, emissions trading systems, and other measures	Short to long term	• Avoid or mitigate increases in business costs, such as from carbon taxes, by further enhancing production and transport efficiency and promoting the use of non- or low-carbon energy sources
Technology	Loss of sales opportunities due to delays in technology development for products and services	Medium to long term	• Contribute to reducing CO_2 emissions by developing and marketing innovative products and services that lead to the achievement of long-term environmental targets and expanding the decarbonization business • Promote the development of low-carbon products by implementing Environmentally Conscious Design Assessments when designing products and services
Market and Reputation	Impact on sales due to changes in market values or assessment of our approach to climate issues	Medium to long term	• In the light of rising investor and market interest in climate change and growing expectations of the business sector, clearly identify the reduction of CO_2 emissions in our management and business strategy by incorporating reduction targets for fiscal 2021 in the 2021 Mid-term Management Plan in line with our long-term environmental targets

(2) Risks related to the physical impacts of climate change (4°C scenario)			
Category	**Major risks**	**Time span**	**Main initiatives**
Acute and chronic	Climate-related risks to business continuity, including increased severity of typhoons, floods, and droughts (acute risks) as well as rising sea level and chronic heat waves (chronic risks)	Short to long term	• Take into account the possibility of flood damage when deciding on the location or equipment layout of a new plant. Measures tailored to the water risks of each manufacturing site will be strengthened in the future based on the results of a water risk assessment now being conducted

Initiatives to Build a Water Efficient Society

Climate-related opportunities		
Category	**Major opportunities**	**Main initiatives**
Products/services and markets	Increased market value and revenue from expanded sales of products and services with innovative technology that can contribute to the mitigation and adaptation of climate change	• Expand the decarbonization business, develop and market products and services that contribute to a low-carbon society, and promote the development of innovative devices and materials that contribute to reducing the environmental burden
Resilience	Provision of solutions to address climate-related natural disasters	• Provide disaster-mitigation solutions, such as high-performance fire-fighting command systems

Contributing to a Low-Carbon Society Through the Decarbonization Business

Climate-related Opportunities

CO_2 emissions during the use of our products and services by our customers account for approximately 90% of total emissions in our value chain. To achieve the CO_2 reduction targets set forth in our long-term environmental targets and 2021 Medium-term Management Plan, it is therefore essential that we reduce emissions associated with the use of our sold products and services. Developing and providing products and services that emit zero or very little CO_2 during their use can satisfy customer needs and help meet society's demands for reduced emissions. This represents a business opportunity for us in the short, medium, and long term and constitutes a major pillar of the Social Innovation Business that we are promoting as a management strategy.

We believe that our business opportunities will expand over the long term as we leverage the strengths of our operational technology (OT), IT, and products, as well as our expertise in R&D, to create such specific solutions as high-efficiency, energy-saving products; high-efficiency production systems using digital technology; power generation systems using non-fossil energy that do not emit CO_2; environment-friendly mobility; and the building of smart, environmental cities.

Society's need to adapt to climate change also presents business opportunities, as we can tap our technological capabilities to provide solutions in preventing and responding to natural disasters.

Responding to Business Risks and Opportunities of Climate Scenarios

To identify specific climate-related risks and opportunities, we examined the business impact of and responses to the 2°C and 4°C scenarios for five businesses that have a relatively high likelihood of being affected by climate change, namely, railway systems, automotive systems, water systems, power generation and power grids, and IT systems. These businesses contribute to improving people's quality of life and enhancing value for our business customers and thus play an important role in our Social Innovation Business. Across all of these businesses, technologies that fuse our strengths in IT and OT, along with energy-related technologies, in particular, are deemed helpful in creating social and environmental value for our customers and society and in adding great value to climate change responses.

Upon examination of the five areas of the Social Innovation Business, we believe that by paying close attention to market trends and developing our business flexibly and strategically, we have high climate resilience in the medium to long term under either the 2°C or 4°C scenario.

Strategies for the 2°C and 4°C Scenarios

Target businesses	Railway systems	Automotive systems	Water systems	Power generation and power grids	IT systems
The business environment under the 2°C scenario	• Demand for railways, which run on electricity and emit less CO_2, will grow as regulations for CO_2 emissions are strengthened globally • Shift to energy-saving railcars will further accelerate, including on existing routes	• Electric vehicles will rapidly spread as tighter laws and regulations on fossil fuels push up fuel prices and discourage ownership of internal combustion engine vehicles. Markets for alternative, non-fossil technologies like hydrogen and biofuel vehicles will expand • The number of countries and regions with near zero sales of internal combustion engine vehicles will increase	• Need for efficient water treatment systems that emit less CO_2 will expand as tighter regulations on CO_2 emissions in each country and region lead to stringent energy regulations on pumps used in water treatment	• Power generation facilities for CO_2-free renewable energy, nuclear power, and other non-fossil sources, as well as high-efficiency power generation facilities that contribute to CO_2 reduction will expand with tighter CO_2 emission regulations in each country and region • Demand will expand for construction of power networks enabling the mass introduction of renewable energy with large output fluctuations • Innovations in energy-saving technologies will further expand demand for energy-saving equipment and services	• Climate change will lead to tighter CO_2 emission regulations in each country and region and changes in the market environment, prompting shifts in customers' business portfolios and IT investments • The development of and demand for energy-saving, high-efficiency IT and data analysis technologies will further expand • Demand will increase for high-efficiency IT systems utilizing CO_2-free non-fossil energy • Investments and loans for low-carbon businesses, green bond issues, and other financial businesses will expand
The business environment under the 4°C scenario	• Transport-related energy regulations will remain weak, discouraging a shift to railways, and conventional modes of transportation like automobiles and motorcycles will persist in some areas • The risk of flood damage to railways and related facilities will increase due to a rise in such natural disasters as typhoons and floods	• Fuel efficiency laws and regulations will remain lax globally, and internal combustion engine vehicles will remain a major mode of transport; the modal shift will be slow, as conventional automobiles and motorcycles will remain predominant • The risk of damage to vehicles will increase due to a rise in such natural disasters as typhoons and floods in various areas	• Demand for clean water will increase due to an increase in abnormal weather phenomena like floods, intense heat, and drought • Rising temperatures will cause a rise in the volume of required cooling water, the growth of bacteria and algae, and a deterioration in water quality due to floods • The risk of damage to water-related equipment from such natural disasters as typhoons and floods will increase	• The cost competitiveness of non-fossil energy will increase and demand for renewable, nuclear, and other non-fossil energy will increase as the expansion of energy consumption pushes up the price of fossil fuels • The risk of damage to power plants and networks will increase due to such natural disasters as typhoons and floods	• Demand for new, high-efficiency technology will expand as damage to information equipment from such natural disasters as typhoons and floods increases and as energy demand for multiplex IT systems in response to BCP increases • Investment in social and public systems to reduce damage from more frequent natural disasters will increase
Non-environmental factors (neither the 2°C nor 4°C scenario) and market conditions	• Economic growth, urbanization, and population growth will drive the railway business globally as an efficient form of public transport for large numbers of passengers, regardless of whether CO_2 regulations are tight; market size in Japan will remain flat, but other markets in Asia and elsewhere will expand • Major railway manufacturers will expand their business to meet global demand	• Economic growth, urbanization, population growth, and infrastructure development like road construction will expand the global market for automobiles as a flexible and personal means of transport • Carmakers will have varying degrees of enthusiasm in promoting electrification • Non-environmental factors like safety, security, and comfort will drive competitiveness, as demand increases for new functions like autonomous driving and advanced safety features, and new mobility services like car sharing grow	• Economic growth, urbanization, and population growth will push up demand for water in some areas • In Japan, local governments and other entities will accelerate wide-area collaboration and privatization in building water systems and improving the efficiency of their management • Replacement demand for aging water treatment facilities will increase in developed countries	• Economic growth, urbanization, and population growth will push up demand for energy, especially electricity, mainly in developing countries • Energy source will be chosen from the perspective of not just CO_2 emissions but also environmental burden, economic performance, safety, and supply stability • Stability and efficiency of the power supply will increase through the use of digital technology • Both companies and individuals will seek to diversify their energy supply and demand	• Further digitization will exponentially increase the volume of data circulated, accumulated, and analyzed • New services and businesses utilizing big data, IoT, AI, and other digital technology will expand rapidly
Responses to future business risks and opportunities	**Response to 2°C or 4°C scenario** • Continue to strengthen the railway business, as global demand for railways will increase under either scenario • Promote R&D of new products and services that improve efficiency of railway services through digital utilization, such as dynamic headway (flexible operation in response to passenger demand), thereby offering customers increased value	**Response to 2°C scenario** • Promote R&D of electrification technology and other alternative technologies to enhance response to new markets, such as for electric vehicles **Response to 4°C scenario** • Promote R&D and product development in existing technologies, including internal combustion engines, to not only improve energy efficiency but increase such non-environmental value as safety, security, and comfort	**Response to 2°C or 4°C scenario** • Strengthen provision of seawater desalination facilities and other water generation systems in response to increased water demand from global economic growth, urbanization, and population growth under either scenario	**Response to 2°C or 4°C scenario** • Continue to enhance response to relevant markets in view of expected higher demand for non-fossil energy under either scenario • Strengthen the grid solution business in response to increased use of renewable energy with large output fluctuations and diversification of energy suppliers • Promote digital service solutions business for diversifying needs of power customers	**Response to 2°C or 4°C scenario** • Continue to develop innovative digital technologies and enhance digital service solutions that generate new value in view of expected growth in society's demand and markets for digital services under either scenario
Financial information (sales volume of each target sector)	Impact on part of 616.5 billion yen in Railway Systems Business Unit sales (FY 2018)	Impact on part of 971 billion yen in automotive system business sales (FY 2018)	Impact on part of 169.1 billion yen in Water & Environment Business Unit sales (FY 2018)	Impact on part of 456.6 billion yen in Energy Sector sales (FY 2018)	Impact on part of 2,121.6 billion yen in IT Sector sales (FY 2018)

We believe that by paying close attention to market trends and developing our business flexibly and strategically, we have high climate resilience in the medium to long term under either the 2°C or 4°C scenario

Note: The above scenario analyses are not future projections but attempts to examine our resilience. How the future unfolds may be quite different from any of these scenarios.

Risk Management

The Hitachi Group is engaged in many different businesses around the world, with each having its own set of risks and opportunities. Climate-related risks are evaluated and monitored for each business unit and Group company as part of a process of assessing risks and opportunities in accordance with the Environmental Action Plan, updated every three years. The results are tabulated by the Sustainability Promotion Division of Hitachi, Ltd., and their importance is checked at Sustainability Promotion Meetings. Those risks and opportunities perceived as being particularly important for the Group as a whole are deliberated by the Executive Sustainability Committee, chaired by the president and CEO of Hitachi, Ltd.

Metrics and Targets

Our environmental activities are managed through the Environmental Action Plan, whose indicators and targets are updated every three years, including those to measure and manage climate-related risks and opportunities.

Under the 2021 Environmental Action Plan (covering fiscal 2019–2021), each business unit and Group company established their respective CO_2 reduction targets in line with the 2021 Mid-term Management Plan, announced in May 2019, calling for a reduction of at least 20% in CO_2 emissions across our value chain by fiscal 2021 compared to fiscal 2010, and environmental activities are being advanced to achieve those targets. To enable the setting of targets and monitoring of progress across our many Group businesses and services throughout the value chain, we use the reduction rate of CO_2 emissions compared to fiscal 2010 as an indicator.

Total greenhouse gas emissions (Scope1, Scope2, and Scope3) across our consolidated value chain are calculated based on GHG Protocol standards and have been published since fiscal 2013. Total CO_2 emissions can fluctuate greatly due to the restructuring of our operations, but given the nature of our business, some 90% of our emissions come from the use of sold products in Scope 3. Among our products and services featuring equivalent value, therefore, we give priority to providing customers and society with those that emit less CO_2. At the same time, we will seek to further reduce CO_2 emissions during production.

Environmental Action Plan for 2021 (Fiscal 2019–2021)

Environmental Load Through the Value Chain