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 CO2 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.
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 CO₂ reductions required globally—as projected under the RCP 2.6¹¹ and RCP 8.5¹² scenarios in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC)—we have set long-term CO₂ 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 CO₂ emissions throughout the value chain by more than 20% by fiscal 2021, compared to fiscal 2010.

¹¹ 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.

¹² An RCP scenario that assumes that emissions continue to rise, resulting in an approximately 4°C rise in global temperatures compared to preindustrial levels.

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 CO₂ 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)

### Climate Change Mitigation/Adaptation

#### For a low-carbon society

<table>
<thead>
<tr>
<th>Category</th>
<th>Major risks</th>
<th>Time span</th>
<th>Main initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy and legal</strong></td>
<td>Increased business costs from the introduction of carbon taxes, fuel/energy consumption taxes, emissions trading systems, and other measures</td>
<td>Short to long term</td>
<td><em>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</em></td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>Loss of sales opportunities due to delays in technology development for products and services</td>
<td>Medium to long term</td>
<td><em>Contribute to reducing CO₂ emissions by developing and marketing innovative products and services that lead to the achievement of long-term environmental targets and expanding the decarbonization business</em></td>
</tr>
<tr>
<td><strong>Market and Reputation</strong></td>
<td>Impact on sales due to changes in market values or assessment of our approach to climate issues</td>
<td>Medium to long term</td>
<td><em>In the light of rising investor and market interest in climate change and growing expectations of the business sector, clearly identify the reduction of CO₂ 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</em></td>
</tr>
</tbody>
</table>

The Environmental Vision and Hitachi Environmental Innovation 2050

Efforts to Achieve a Low-Carbon Society
Climate-related Opportunities

CO₂ 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 CO₂ 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 CO₂ 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 CO₂; 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

<table>
<thead>
<tr>
<th>Target businesses</th>
<th>Railway systems</th>
<th>Automotive systems</th>
<th>Water systems</th>
<th>Power generation and power grids</th>
<th>IT systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demand for railways, which run on electricity and emit less CO₂, will grow as regulations for CO₂ emissions are strengthened globally.</td>
<td>• 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 biokidal vehicles will expand.</td>
<td>• Need for efficient water treatment systems that emit less CO₂ will expand as tighter regulations on CO₂ emissions in each country and region lead to stringent energy regulations on pumps used in water treatment.</td>
<td>• Power generation facilities for CO₂-free renewable energy, nuclear power, and other non-fossil sources, as well as high-efficiency power generating facilities that contribute to CO₂ reduction will expand with tighter CO₂ emission regulations in each country and region.</td>
<td>• Climate change will lead to tighter CO₂ emission regulations in each country and region and changes in the market environment, prompting shifts in customers’ business portfolios and IT investments.</td>
<td></td>
</tr>
<tr>
<td>The business environment under the 2°C scenario</td>
<td>• The number of countries and regions with near zero sales of internal combustion engine vehicles will increase.</td>
<td>• Electric vehicles will emit less CO₂, will grow as regulations for CO₂ emissions are strengthened globally.</td>
<td>• Demand for clean water will increase due to an increase in abnormal weather phenomena like floods, intense heat, and drought. Raising 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.</td>
<td>• 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.</td>
<td></td>
</tr>
<tr>
<td>The business environment under the 4°C scenario</td>
<td>• 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.</td>
<td>• Demand for water-related equipment will increase due to a rise in such natural disasters as typhoons and floods in various areas.</td>
<td>• The risk of damage to vehicles will increase due to a rise in such natural disasters as typhoons and floods.</td>
<td>• The risk of damage to water-related equipment from such natural disasters as typhoons and floods will increase.</td>
<td></td>
</tr>
</tbody>
</table>

Non-environmental factors (whether the 2°C or 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 CO₂ regulations are tight; market size in Japan will remain flat, but other markets in Asia and elsewhere will expand. | Economic growth, urbanization, population growth, and infrastructure development lead to 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. | 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 water systems and improving the efficiency of their management. | Economic growth, urbanization, and population growth will push up demand for energy, especially electricity, mainly in developing countries. Energy sources will be chosen from the perspective of not just CO₂ emissions but also environmental burden, economic performance, and safety. | Economic growth, urbanization, and population growth will push up demand for energy, especially electricity, mainly in developing countries. |

Response to future business risks and opportunities

| Response to 2°C or 4°C scenario | Continue to strengthen the railway business, promoting R&D and new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | Promote R&D of new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | Promote R&D of new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | Further digitization will exponentially increase the volume of data circulated, accumulated, and analyzed. |
| Response to 2°C or 4°C scenario | Promote R&D of new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | Promote R&D of new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | Promote R&D of new products and services that improve efficiency of railway services through digitalization, such as dynamic handover of trains to passengers. | New services and businesses utilizing big data, IoT, AI, and other digital technologies will expand rapidly. |

Financial information (sales volume of each target sector)


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 CO2 reduction targets in line with the 2021 Mid-term Management Plan, announced in May 2019, calling for a reduction of at least 20% in CO2 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 CO2 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 CO2 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 CO2. At the same time, we will seek to further reduce CO2 emissions during production.