

Response to TCFD Recommendations

Climate change is one of the most important environmental issues that will have an enormous impact not only on the natural environment and ecosystems, but also on the economy and society. In October 2020, Hitachi Construction Machinery announced its support for the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD). We are working to promote activities in line with these recommendations, with the aim of developing sustainable and resilient businesses. We are also focusing on strengthening engagement with stakeholders through information disclosure based on the TCFD framework.

History of TCFD Initiatives

In July 2020, an internal task force consisting of division managers and key personnel from corporate and business divisions across the company was formed. A TCFD kick-off meeting was held. Through scenario analysis, we determined the likely financial impact of climate change, assuming a 2°C and 4°C rise in global temperatures. Then we considered needed response measures and strategies (see page 53). The results of the scenario analysis were reported by the Sustainability Promotion Committee in September. The board of directors expressed its support for the TCFD recommendations in October. Our response to climate change risks and opportunities was approved by the Executive Committee and reported to the Board of Directors in July 2021.



Roadmap for Addressing Climate Change

FY2005	● Publication of the 2005 Environmental Report
FY2008	● Registered the industry's first emission reduction methodology through electrification of construction machinery under the domestic credit system ● Launch of product-type carbon offset activities
FY2009	● Started responding to the CDP Climate Change Questionnaire ● Started carbon offsetting activities to contribute to local communities
FY2019	● Greenhouse Gas (GHG) Emission Reduction Target Receives SBT Certification ● Introduced internal carbon pricing system
FY2020	● Company-wide TCFD kick-off meeting held; TCFD scenario analysis conducted ● Expressed support for the TCFD recommendations ● Business environment and risks/opportunities under 2°C and 4°C scenarios disclosed at ESG briefings; Dialogues conducted with experts
FY2021	● Based on TCFD framework recommendations, disclosed information in the Integrated Report, conducted ESG briefings and held stakeholder dialogues.
FY2022 (planned)	● Further progress on the four disclosure requirements based on the TCFD recommendations ● Promote diverse stakeholder engagement

Governance

Discussed important matters related to climate change at the CSR Promotion Managers Meeting, the Environmental Promotion Managers Meeting and the Compliance and Risk Management Group Meeting. We also reported to the Sustainability Promotion Committee (held twice a year), which consists of executive officers and presidents of main Group companies. The President and CEO, who has the highest responsibility and authority for climate-related issues, chairs the Sustainability Promotion Committee. This committee deliberates and approves important management-related matters, including responses to climate change. In addition, important matters are approved by the Executive Committee and reported to the Board of Directors for appropriate monitoring and supervision.



Meeting Committee Structure	Chairman	Member	Main Agenda
Sustainability Promotion Committee	President and CEO	Executive Officer, President of Main Group Companies	Deliberation and approval of the Hitachi Construction Machinery Group's sustainability promotion policy, including climate change, priority measures and KPIs
Environment Promotion Managers Meeting	General Manager, Sustainability Promotion Group	President of domestic and overseas group companies	Initiatives to address environmental issues including climate change, KPI progress management, sharing of priority measures and requests for cooperation
CSR Promotion Managers Meeting	General Manager, Sustainability Promotion Group	General Manager of Corporate Group, General Manager of Business Group	Initiatives to promote sustainability in the Hitachi Construction Machinery Group, progress management of nonfinancial medium-term goals, sharing of priority measures and requests for cooperation

Strategy

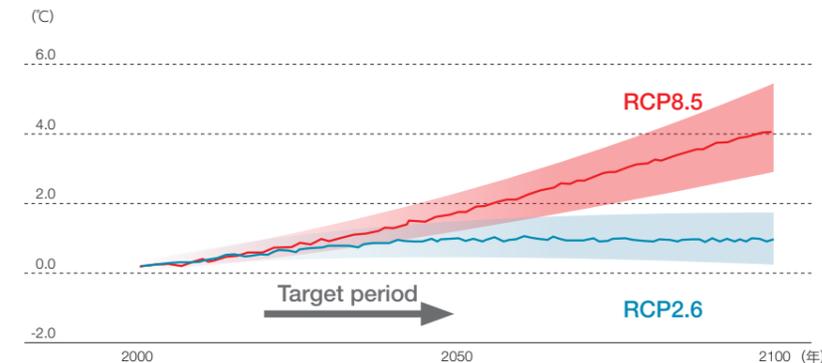
Hitachi Construction Machinery conducts scenario analysis of business risks and opportunities under an assumed 2°C and 4°C rise in global temperature from climate change. It then incorporates these into its business strategy targets. We recognize that selected risks and opportunities are important elements of our management strategy. Therefore, we will strive to enhance our corporate value through the acquisition of business opportunities and the resolution of social issues.

a list of climate change risks. We then selected items from that list with a high likelihood of occurring to become targets for evaluation. Based on scenarios corresponding to a temperature increase of 4°C and 2°C presented by the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA), as well as internal and external sources, we classified the issues into those that required risk minimization and those that can turn risk into opportunity. The financial impact was evaluated at three levels: Large, medium and small. Priority measures were identified for each category.

Scenario Selection

In line with the classification recommended by TCFD, we made

Projected Global Mean Surface Temperature Change



< Referenced External Information >
 ● International Energy Agency (IEA), 66% 2°C Scenario
 ● Intergovernmental Panel on Climate Change (IPCC), RCP2.6 Scenario and RCP8.5 Scenario in the Fifth Assessment Report.
 ● World Energy Outlook 2019, Current Policies Scenario and New Policies Scenario
 ● Council for Hydrogen and Fuel Cell Strategies, Roadmap for Hydrogen and Fuel Cell Strategies

4°C Scenario

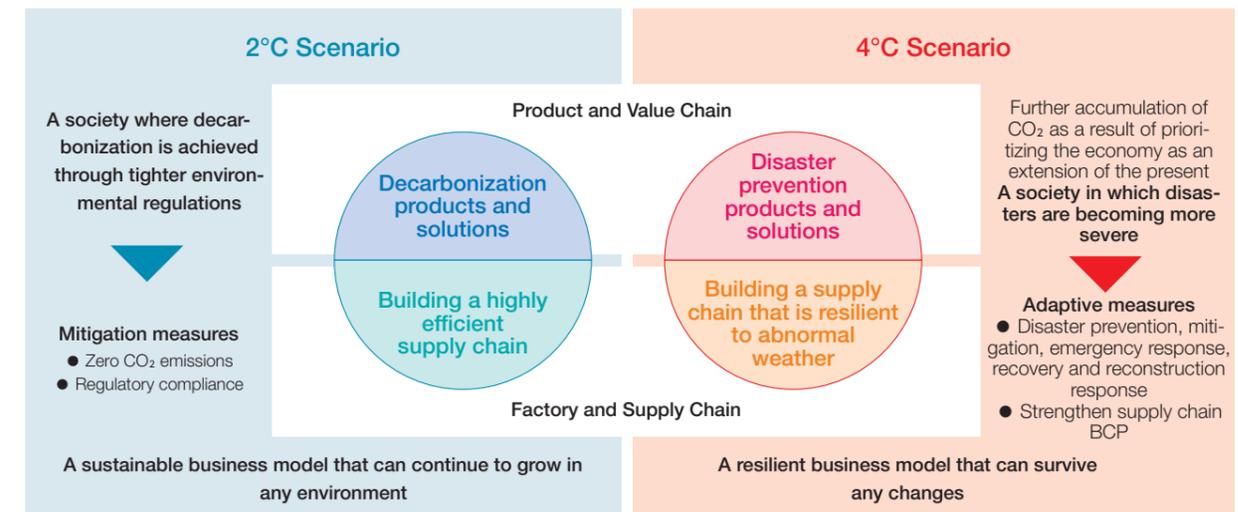
- The occurrence of natural disasters, such as abnormal weather caused by rising temperatures, dramatically increases.

2°C Scenario

- Regulations on greenhouse gas emissions will be strengthened, including further review of national policies.
- The ratio of non-fossil power sources such as renewable energy increases, investment in low-carbon technologies increases and new technologies get introduced.

* Based on the IPCC Fifth Assessment Report, Working Group II Report, Summary for Policymakers (translated by the Ministry of the Environment)

Areas for Identification of Priority Measures



Evaluation Results Based on Scenario Analysis

Building a Highly Efficient Supply Chain in the 2°C Scenario Decarbonization Products and Solutions for 2°C Scenarios
 Building a Supply Chain Resilient to Extreme Weather Events in the 4°C Scenario Disaster Preparedness Products and Solutions for 4°C Scenarios

Classification	Changes in the Business Environment	Impact on the Company	Evaluation	Duration	Financial Impact	Priority Measures	
2°C Scenario (Transition Risk)	Policy and Legal Risks	Increase in the price of CO ₂ emissions	● Increase in capital investment such as introduction of solar power generation equipment ● Increased carbon tax (including carbon border tax) burden if CO ₂ emissions are not controlled	Risk minimization	Medium to long term	Large	● Proactive introduction of renewable energy ● Secure stable production by introducing distributed power sources ● Promote optimization of global production procurement ● Systematic investment in high-efficiency equipment ● Introduction of internal carbon pricing
		Mandate / Regulate existing products and services	● Declining competitiveness due to delays in advancing decarbonization technologies	Risk → Opportunity	Medium to long term	Large	● Differentiation through increased development of decarbonization technologies, such as electrification and hydrogen engines
	Technical Risk	Replacement of existing products with low-carbon options	● Increase in research and development cost due to switching to decarbonization technologies for existing products and services ● Increase the scale of development for products adapted to each region	Risk → Opportunity	Medium to long term	Large	● Realizing decarbonized products through understanding potential market needs and accelerating product development ● Parts procurement in compliance with local regulations
	Market Risk	Transition to decarbonization technologies	● Increase in research and development cost of measures to ban internal combustion engines ● Increase in procurement costs associated with hydrogen engines and fuel cells	Risk → Opportunity	Medium to long term	Large	● Achieving differentiation through expanded development of hydrogen fuel technology ● Secure stable procurement
			● Increase in research and development cost of measures to ban internal combustion engines ● Increase in procurement costs associated with battery type	Risk → Opportunity	Medium to long term	Large	● Differentiating ourselves through further development of electrification technologies ● Secure stable procurement
		Uncertainty in market signals / Changes in customer behavior	● Changes in bidding conditions ● Tax reduction policies / Preferential interest rate policies ● Additional R&D costs due to changes in the construction environment	Risk → Opportunity	Medium to long term	Large	● Differentiating through increased development of decarbonization technologies, such as electrification and hydrogen engines
		Market changes / Rising raw material costs	● Decreased demand for coal due to decreased share of thermal power generation ● Increase in procurement costs due to higher raw material costs	Risk → Opportunity	Medium to long term	Large	● We will expand our machinery and parts service business for "hard rock" products in the Central Asian and South American markets. ● Expanding the development of decarbonization technologies and providing various measures to solve customers' on-site issues with the latest digital technologies ● Effective resource use by promoting product circular economy
Reputation Risk	Increasing stakeholder concerns	● Exchange rate fluctuations due to climate change-related disasters ● Raising investment and loans due to mistrust of climate change measures ● Boycotts and negative campaigns, in case of delayed transitioning to decarbonization	Risk → Opportunity	Medium to long term	Large	● Accurate and timely information dissemination in collaboration with customers ● Gain public support for decarbonizing technologies by acting early ● Promotion of ESG investment	
4°C Scenario (Physical Risk)	Acute Risk	Increasing severity of abnormal weather	● Production stagnation due to damage to factories or closure of main roads caused by wind, flood, heavy snow, etc. ● Harmful effects of heavy rain and flooding on employee commutes and business travel	Risk minimization	Short term to long term	Large	● Improving inventory accuracy and speeding management change through future use of DX ● Strengthening the BCP (Business Continuity Plan) to encompass the entire supply chain and improving the effectiveness of BCM (Business Continuity Management) systems ● Establishing a global production and procurement system to prepare for disasters
			● Increasing frequency and severity of disasters	Risk → Opportunity	Medium to long term	Large	● Prompt provisioning of optimal solutions for disaster prevention and mitigation, emergency response, and recovery and reconstruction ● Developing and delivering ICT, teleoperation, collaborative safety (hazard sensing), automation and robotization
		Extreme variations in precipitation patterns and weather patterns	● Suspension of operations at the company's plants due to increased precipitation ● Supply chain disruptions due to increased precipitation	Risk minimization	Long term	Large	● We will check for risks when building or relocating future factories or offices ● In the future, we will revise the BCP of the entire supply chain and improve the effectiveness of BCM
		Sea level rises, river flooding	● Operations suspended due to flooding at plants, equipment failure, etc. Increased costs for equipment countermeasures	Risk minimization	Long term	Large	● We will check for risks when building or relocating future factories or offices ● Identify areas of high water stress levels ● Establishing a global production and procurement system to prepare for disasters
	Chronic Risk	Rising average temperatures	● Deterioration of the working environment and decline in productivity due to the increase in extreme heat and extremely hot days	Risk minimization	Long term	Small to medium	● Achieve cost reduction through in-house power generation such as solar power ● Make systematic investment in high-efficiency equipment ● Accelerate the development of production technology to improve productivity (energy conservation)
Soaring fossil fuel prices		● Higher fuel costs and procurement delays due to difficulty in obtaining fuel	Risk minimization	Long term	Medium	● Switch to renewable energy sources instead of relying on fossil fuels ● Promote transport decarbonization	
Extreme variations in precipitation patterns and weather patterns		● Sales and service disruptions due to customer shutdowns and delays ● Metal supply shortages. Effects on mining industry due to flooding and production line stoppage due to difficulty in obtaining raw materials	Risk minimization	Long term	Small to medium	● Establish an appropriate response system based on market research ● Shift to future procurement from countries with low water risk	

【Time of manifestation】 Short-term: Medium-term management plan (2020-2022) Medium-term: Medium-term management plan by 2030 Long-term: beyond 2030 to 2050

【Financial impact】 Small: Less than or equal to 0.25% of net sales Medium: Over 0.25% to under 0.5% of net sales Large: 0.5% or more of net sales

Risk Management

The Hitachi Construction Machinery Group considers climate-related issues to be a risk that could have a significant impact on the business. The Sustainability Promotion Group appropriately manages that risk. As for other natural disasters, the Compliance and Risk Management Committee takes the lead in responding to such risks. In Japan, we introduced a safety confirmation system in fiscal 2017 and a crisis information management system in fiscal 2019. By centrally managing information on disasters, incidents, accidents and infrastructure failures, we are working to ensure the safety of our employees and to reduce the impact on our businesses. Overseas, we collect information from the Ministry of Foreign Affairs and specialized companies to

manage safety on a daily basis.

The financial impact of climate change, characterized as risks and opportunities, are quantified into three levels: Large, medium and small. Those with a high occurrence probability are measured. Strategies and KPIs are reported, discussed and approved by the President and other company executives at the Sustainability Promotion Committee. Management then minimizes risks and promotes strategies to maximize opportunities.

In the future, we will further strengthen our governance and risk management of climate change.

Indicators and Targets

The Hitachi Construction Machinery Group aims to reduce CO₂ emissions throughout the entire value chain. We promote activities aimed at decarbonization by setting two goals: reducing greenhouse gas emissions from business activities and reducing greenhouse gas emissions associated with the use of products and services. In May 2019, the Science Based Targets Initiative (SBTi) certified "science based" our long-term CO₂ emissions goals. In the future, we will accelerate our energy-saving and reduce carbon emissions. We will also set higher emissions targets to become carbon neutral.

Under the 2°C scenario, the Hitachi Construction Machinery Group plans to develop a sustainable business model that en-

ures company growth, even under a severe CO₂ reduction scenario. Under the 4°C scenario, we will be able to build a resilient business model that can survive any disaster or change. In order to survive and constantly develop as company in the future, our business needs to migrate and adapt to climate change. The Group of companies will actively work together to achieve these objectives.

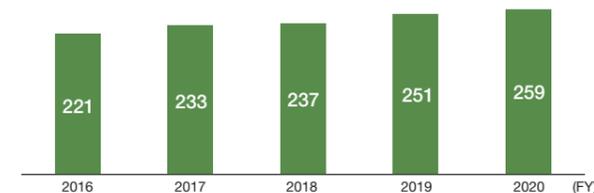


Initiatives for Environmental Conservation

Development of Environmentally Conscious Products

In fiscal 1999, the Hitachi Construction Machinery Group introduced an assessment based on the *Design for Environment Assessment*. This sets standards for development and design that take the environment into consideration. Currently, environmentally friendly products are products developed and designed based on a new assessment that complies with the global standard *IEC62430**. Our goal is to increase sales revenue ratio of environmentally conscious products. We also conduct Life Cycle Assessment of the environmental impact of our products. We quantitatively calculate the energy usage and CO₂ emissions related to materials, production, shipping, product use and disposal, also the amount of water use, fuel use, and materials use. In FY2020, eight models developed and designed based on the Design for Environment Assessment were added to our list of environmentally conscious registered models. The cumulative total now stands at 259 models.

Number of Environmentally Conscious Models (cumulative)



Reference ESG Databook 2021
 ⇒Environmentally conscious products (to be released at the end of September 2021)

* IEC62430: International Electrotechnical Commission "Design for Environment of Electrical and Electronic Products" (JIS C 9910)

Conservation of Water Resources

The Hitachi Construction Machinery Group has identified areas of high water stress levels through its operations. For this purpose, we use tools such as the *Aqueduct* published by the World Resources Institute. We then quantify the water stress levels at all of our domestic and overseas production sites. In particular, overseas operations such as Tata Hitachi Construction Machinery and Hitachi Construction Machinery Indonesia, and Japan based Hitachi Construction Machinery Tierra, located in the vicinity of Lake Biwa, are implementing advanced water conservation activities.

With regard to the effective use of water resources, we are recycling water and reducing the amount of water used overall in our business activities (including fresh water). To help do this, we are working to optimize robotization and coating conditions.

In FY2020, the Group's overall water consumption decreased by 36.8% compared to FY2010. This is due to water conservation measures such as extending the service life of water used in painting equipment and expanding the use of circulating water.



Reference ESG Databook 2021
 ⇒Effective use of water (to be released at the end of September 2021)

Waste Reduction

To contribute to the effective use of resources, the Hitachi Construction Machinery Group is promoting waste reduction from its business activities. We are actively promoting 3R (Reduce, Reuse, Recycle) activities mainly at our production sites. Through efforts to use resources effectively, we avoid or minimize the use of raw material resources extracted from nature, actively use recycled materials, and reuse products and parts. Through recycling activities, we are working to reduce waste (including hazardous waste). In FY2020, the recycling rate for the Group (in Japan) was 83.3%. Other than new machines sales, to reduce waste we are also focusing on areas such as servicing or renting

parts, used machines sales, and parts remanufacturing.



Reference ESG Databook 2021
 ⇒Waste Reduction (to be released at the end of September 2021)

Moving Towards the Realization of a Circular Economy

The circular economy is a business model that aims for new growth by changing the traditional one-way business model of mass production and mass sales of resources. It reduces resource waste by increasing the length of product use through recycling, sharing, and making products into services.

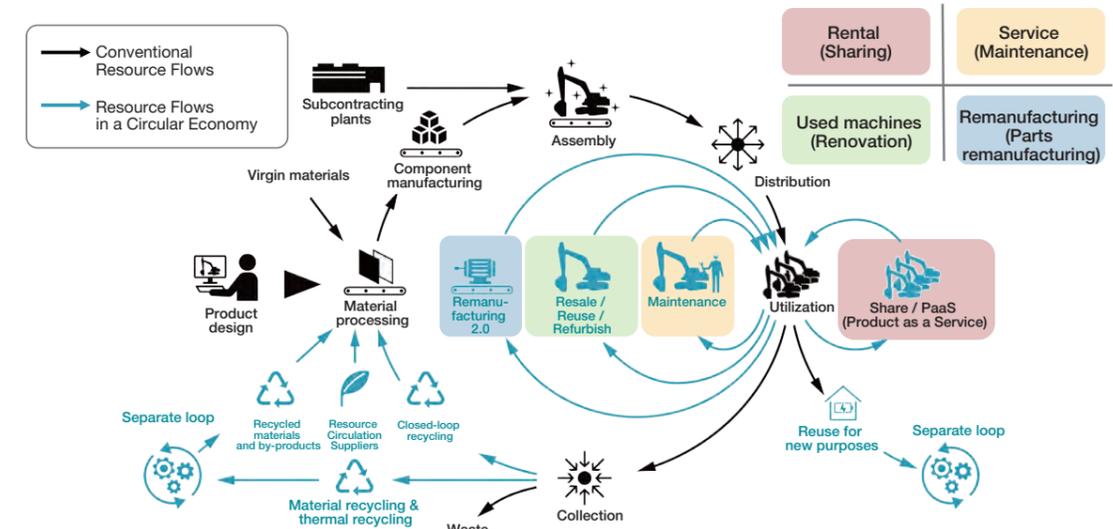
Hitachi Construction Machinery also believes that it is important to play a role in bringing the economy closer to a resource-recycling economy through various ideas. Such as extending the life of construction machinery through parts remanufacturing and maintenance, developing parts that are less likely to break down through data analysis of parts collected for repair, encouraging customers to use up their products by selling rented or renovated used machines, and supporting the independence and development of emerging countries through job creation.

In our company, each department in our company is engaged in four areas of resource recycling. These are: Reduce

(reduction of waste generation), Reuse (reuse), Recycle (reuse of resources), and Renewable (use of renewable resources). In FY2021, we will promote these as specific company-wide measures by setting KPIs. Most of the measures have been taken before, or are an extension of our previous efforts. However, we believe that by positioning them as important issues, we can differentiate ourselves from our competitors and gain a competitive advantage.

The circular economy has the potential to significantly change current business models. In some cases, we may need to consider collaborating with our competitors. Therefore, we see this as an issue to be addressed across the Group. We will support our customers' circular economy initiatives, not only with regards to factories, offices, and products, but also in cooperation with the sales divisions. By doing so, we aim to make further contributions to society.

The Circular Economy Model



Based on *What is the Circular Economy?* in "Ministry of Economy, Trade and Industry: Circular Economy Vision 2020 (Summary)".

Adapting to Natural Disasters

Construction work for disaster prevention and mitigation, emergency response to disasters, and reconstruction support involves civil engineering and building work using construction machinery. In recent years, abnormal weather such as heavy rains said to occur once every 100 years, and storms said to be among the largest ever recorded have been occurring more frequently in many parts of the world. As a company that develops, manufactures, sells, and services construction machinery in an integrated manner, we recognize that we have a large role to play.

Based on this concept, the Group has entered into agreements with local governments and industry organizations. It gives priority to the supply of machinery and materials for disaster response and recovery. We plan to continue to provide support in times of disaster, mainly through these agreements. In addition,

in product development, we will take on the challenge of developing products and solutions that contribute to adapting to natural disasters.

By FY2020, Hitachi Construction Machinery Japan has concluded 54 disaster agreements with local governments in Japan.

