

Response to climate change

In May 2022, ISEKI Group announced its endorsement of the TCFD Recommendations.

TCFD: The Task Force on Climate-related Financial Disclosures set up by the Financial Stability Board (TCFD:Task Force on Climate-related Financial Disclosures)



Governance

Agriculture, which benefits from nature, is closely connected to climate change. Given its potential for a major impact on the business activities of ISEKI Group, an integrated manufacturer specializing in agricultural machinery, we have positioned taking measures for climate change as one of our priority management issues and are practicing environmental management.

Climate change-related risks and opportunities are managed centrally by the ESG Committee. The Committee meets monthly in principle, examining and deliberating on climate change-related risks and opportunities four times a year. The results of deliberations at the Committee meetings are recommended to the Board of Directors, and important matters are deliberated and determined by the Board of Directors. This framework enables the management team to strengthen their involvement. (Please refer to p. 59 for information about the ESG Committee)

Strategy

In 2021, ISEKI Group conducted a trial analysis on climate change scenarios to understand the impact of climate change on our business, manage associated risks and opportunities, and factor these into our management decisions.

Based on the 1.5°C/2°C scenarios, which see society-wide transformation towards decarbonization and success in curbing temperature rise, and the 4°C scenario, in which the prioritization of economic development causes the continued aggravation of global warming and its effects, we analyzed the entire value chain of the agricultural machinery business, the core business of ISEKI Group, both in Japan and overseas, and identified risks and opportunities as of 2050. Collection and analysis of data were conducted across the whole ISEKI Group (domestic sales, overseas sales, product planning, finance, procurement, quality, and environment-related departments), with the Strategic Planning Section of the Corporate Planning Department playing a central role. Year 2030 is envisaged in qualitative and quantitative evaluations. (Please refer to p. 55)

Scenario	Summary of scenario analysis	Directions of strategies for risks and opportunities
1.5°C/2°C	<ul style="list-style-type: none"> ● Increase in operation costs due to stricter regulations imposed by the government, etc. to achieve decarbonization ● Increase in procurement costs due to the progress in decarbonization ● Loss of business opportunities due to failure to meet the demand associated with decarbonization 	<ul style="list-style-type: none"> ● Mitigate the impacts by reducing energy consumption and utilizing renewable energy ● Respond to the changes in agricultural machinery and farming methods to achieve decarbonization <ul style="list-style-type: none"> ● Introduction of robotic and smart agricultural machinery to contribute to electrification of agricultural machinery, efficient agricultural work, and optimal fertilizing. ● Increased demand for solutions in terms of farming methods that contribute to the reduction of methane emissions from rice paddies
4°C	<ul style="list-style-type: none"> ● Impacts of damage to production and sales bases, including supply chains, due to intensifying typhoon and flood damage ● Decrease in demand for agricultural machinery for rice farming, in response to decline in the area of land available for rice production and deterioration in rice quality due to rising average temperatures 	<ul style="list-style-type: none"> ● Mitigate the impacts by regularly reviewing BCP, product lineup, and sales channels, etc. ● Respond to the changes in the natural environment <ul style="list-style-type: none"> ● Technology to replace agricultural work with robotic agricultural machinery and autonomous work performed by AI, from the collection and analysis of weather data and growth data to decision-making based on that data ● Increased demand for solutions contributing to the construction of a sustainable agricultural production foundation

*Main referenced external scenarios

1.5°C/2°C: IPCC AR6 SSP1-1.9, SSP1-2.6 (Climate policy scenario in which post-industrial temperature increase can be curbed to less than 1.5°C/2°C), IEA's NZE scenario, and APS scenario

4°C: IPCC AR6 SSP3-7.0, SSP5-8.5 (Scenario in which no climate policy is introduced due to regional conflicts and dependence on fossil fuels)

Management of risks and opportunities

Risks and opportunities identified in the scenario analyses are categorized and assessed on two axes (four quadrants), one for the magnitude of the financial impact and the other for the degree of the potential of that financial impact, and the timescale for measures to address the risks and opportunities is determined. The ESG Committee has established a system for the categorization, assessment, and follow-up of risks and opportunities. It will continue to revise that system, including examining and deliberating on strategies and confirming new risks in line with environmental changes, on an annual basis. Management of risks that may affect business activities in the short term is integrated under the Risk Management Working Group (WG). In doing so, we strive to prevent risks from materializing and to minimize losses, to contribute to smooth business operations, and to preserve assets within our operational processes in accordance with risk management regulations. (Please refer to p. 77 for information about the Risk Management WG)

Meeting bodies that discuss future directions of product planning, development themes, and other issues, such as the Product Development Strategy Committee and the Advanced Technology Strategic Committee, evaluate and deliberate opportunities for climate change-related products and solutions and incorporate their results with certain importance in the development planning with the approvals of the Directors' Operation Committee and the Board of Directors.

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Risks and opportunities based on scenario analysis

Category	Details	1.5°C/2°C Scenario		4°C Scenario		Timescale for measures	Direction of measures	Existing initiatives	Future initiatives		
		Financial impact	Potential	Financial impact	Potential						
Transition risk	Technology	Decline in competitiveness caused by delays in technological development				Medium	Medium	Medium	Medium	Short term	<ul style="list-style-type: none"> R&D of carbon-free agriculture R&D of agricultural machinery that supports agriculture adapted to natural disasters and rising temperatures Sales of products featuring straight-travel assist systems (tractors, combine harvesters, and rice transplanters) Starting limited sales of electric riding lawn mowers (Dec. 2022) Identification of climate change risks and opportunities, scenario analysis Understanding and disclosure of greenhouse gas emissions (Scope 1, 2 & 3) Introduction of International Renewable Energy Certificate (I-REC) at overseas business bases (from 2022) Close monitoring of global material prices caused by climate change and improvement of material input efficiency Close monitoring of status of water resources with respect to climate change Understanding of input of material and water resources Reducing weight of parts using iron, reducing processing waste Formulation of BCP (offices, production, and sales sites in Japan) Mapping of domestic suppliers, formulation of diversification plan Recognition as risks Preparation of draft decarbonization plan at each production site Sales of products featuring straight-travel assist systems (tractors, combine harvesters, and rice transplanters) Starting limited sales of electric riding lawn mowers (Dec. 2022) Innovation in environmentally sound agriculture based on collaboration with companies and local governments (nine partnership agreements signed in Japan between March 2020 and April 2023)
	Market	Decline in sales due to decline in demand caused by needs and social infrastructure status				Large	Small	Medium	Small	Short term	
	Policy	Increase in operation cost due to introduction of carbon tax and emissions trading scheme Further details (1)				Medium	Medium	Small	Medium	Mid term	
	Reputation	Deterioration of reputation among shareholders and other stakeholders, divestment, or plummeting share price				Small	Medium	Small	Medium	Mid term	
	Market	Changes in supply chain caused by climate change result in higher product manufacturing costs, making it difficult to provide products				Small	Medium	Small	Medium	Long term	
Physical risk	Acute	Suspension of product and service provision systems due to damage suffered by the Company/supply chain caused by severe typhoon and flood damage Further details (2) <small>*Assessment of financial impact has been amended since last fiscal year's analysis</small>				Medium	Medium	Medium	Medium	Short term	
	Chronic	Risks of decline in value of existing products				Medium	Small	Large	Medium	Long term	
		Increase in energy price caused by rise in temperature				Small	Large	Small	Large	Long term	
Opportunities	Products and services	Rebuilding of product sales channels in line with changes and reduction of farmable areas due to progression of climate change				Small	Small	Small	Small	Long term	
		Increase in demand for agricultural machinery that contributes to energy conservation and greenhouse gas reduction				Large	Small	Medium	Small	Short term	
		Increase in sales of products and services that accommodate changes in the agricultural environment caused by climate change				Large	Medium	Large	Medium	Short term	
		Increase in demand for solutions that contribute to reducing greenhouse gas emissions from farming soil				Medium	Medium	Small	Medium	Mid term	

Potential: Large (short term: within 3 years); Medium (mid term: 3 to 5 years), Small (long term: 5 years or longer)

Financial impact (as of 2030)

In FY2022, we quantified the financial impacts of two of the risks and opportunities identified in FY2021: carbon tax and the effects of severe typhoon and flood damage, which were both assessed as having a high potential to occur despite their medium financial impact. Going forward, we will continue quantifying and analyzing the financial impacts of risks and opportunities as a means to devise new solutions that reduce the impacts of risks, and facilitate new opportunities.

[Further details \(1\)](#) Increase in operation cost due to introduction of carbon tax

We assumed that governments around the world had strengthened their climate change-related policies and introduced high carbon taxes and emissions trading schemes. Accordingly, taxes would be levied on ISEKI according to the volumes of both our direct greenhouse gas (GHG) emissions and our emissions from energy consumption, and as a result our operation cost would increase.

1.5°C/2°C Scenario	1.1 billion yen/year of increased tax burden
4°C Scenario	350 million yen/year of increased tax burden

Basis for calculation Increased tax burdens associated with ISEKI Group's total GHG emissions in 2030 were calculated by multiplying ISEKI Group's emissions volume in FY2020 (64,000 tons/year [Scope 1 & 2]) by the relevant carbon price (1 U.S. dollar = 140 yen). For the 1.5°C/2°C Scenario, the carbon price used was 130 U.S. dollars/ton in 2030 (the carbon price for advanced economies in Net Zero by 2050: A Roadmap for the Global Energy Sector, published by the International Energy Agency [IEA]). For the 4°C Scenario, the carbon price used was 39 U.S. dollars/ton in 2030 (an assumption based on the carbon price for Europe in the IEA World Energy Outlook 2020's Stated Policies Scenario [STEPS]).

[Further details \(2\)](#) Risk of interruption of production and sales or cessation of business due to severe typhoon and flood damage

We assumed that, as a result of advancing climate change, damage caused by events such as typhoons and floods would become more severe, impacting ISEKI's own production bases, as well as its supply chains including sources of raw materials and parts, leading to interrupted production or cessation of business.

1.5°C/2°C Scenario	4.8 billion yen/year reduction in sales
4°C Scenario	6.8 billion yen/year reduction in sales

Basis for calculation The financial impact of flooding was calculated for ISEKI's production bases, and for the production bases of suppliers from which we purchase 100 million yen or more of raw materials or parts per year. The impact on our own production bases was surmised by prorating average net sales from 2020 to 2021; the impact on suppliers was surmised by prorating the value of supplies purchased in 2021 from the aforementioned suppliers. Flood risk was determined by creating a risks and hazards map for each base using the World Wildlife Fund Water Risk Filter. As ISEKI has a business continuity plan (BCP), our calculation assumed that the time required to recommence sales or business would be 20 days (from data provided by the Small and Medium Enterprise Agency).

Indicators and targets

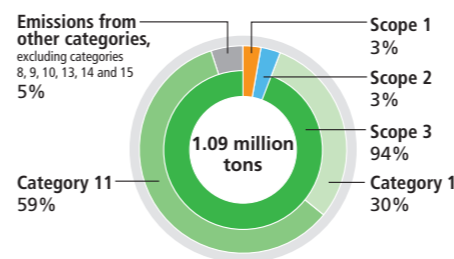
ISEKI Group strives to contribute to the creation of a carbon-neutral and sustainable society by 2050 through "providing innovative products and higher quality of services to the customers."

Indicators	Targets (mid- to long-term environmental targets)
CO ₂ emissions for entire ISEKI Group (Scope 1 & 2)	2030 46% reduction compared with 2014 (Total)
Eco-product ratio in domestic sales	2025 65% ratio in domestic sales

Initiatives throughout the entire value chain	
Scope 3 Category 1	In April 2022, we asked suppliers to establish their own voluntary CO ₂ reduction targets. We aim to formulate CO ₂ reduction targets in collaboration with suppliers that account for 70% of transaction amount.
Scope 3 Category 11	We are conducting R&D on electrification of agricultural machinery and agricultural machinery that uses alternative energy sources such as hydrogen.
Other	We participate in decarbonization demonstration projects in the agricultural industry in collaboration with local governments and other partners. Such projects include the promotion and expansion of environmentally sound agriculture.

*Please refer to p. 57 for information about the eco-product certification system, and p. 62 for progress in achieving mid- to long-term environmental targets in 2022. Past results are posted on the Company's website.

CO₂ emissions from value chain



2022 Results	
Total of Scope 1, 2 & 3	1.09 million tons
Scope 1	30,000 tons
Scope 2	30,000 tons
Scope 3	1.03 million tons
Category 1	330,000 tons
Category 11	640,000 tons
Other categories	60,000 tons

Scope of calculations: Consolidated companies of ISEKI Group (including overseas sites)

*These figures are calculated with reference to the Basic Guidelines on Accounting for Greenhouse Gas Emissions Throughout the Supply Chain of the Ministry of the Environment and Ministry of Economy, Trade and Industry.

*Category 11 includes future emissions based on the assumption that the products sold in the respective years will be used for their useful lives.

*Category 12 includes future emissions during the disposal of products sold in the respective years.

*Scope 3 emissions of overseas sites are calculated based on the emission intensity database for Japan.

*For details of emissions in each category, please refer to the Company's website.