

Response to climate change

In May 2022, ISEKI Group announced its endorsement of the TCFD Recommendations, and since then, has disclosed information in line with the Recommendations.



Governance

Agriculture and the landscaping business, which benefit from nature, are closely connected to climate change. Given their 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.

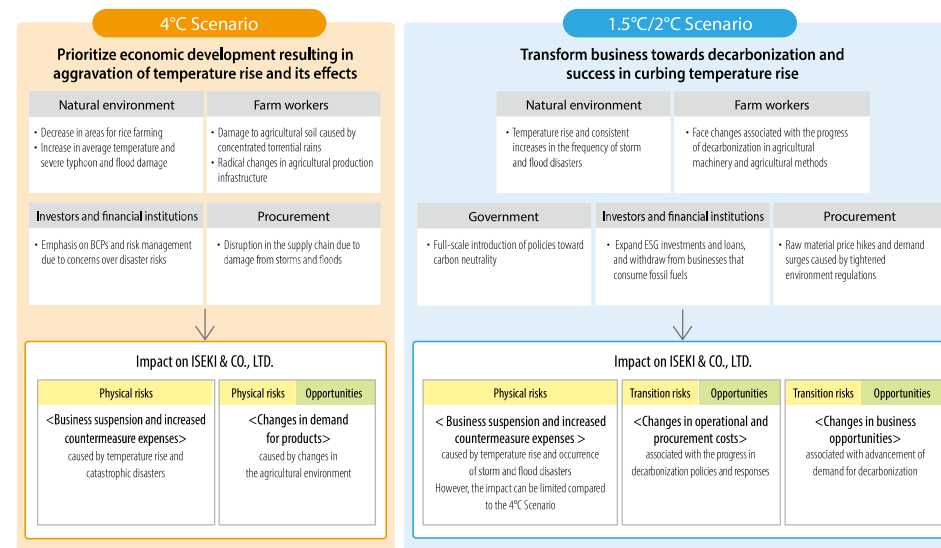
Climate change-related risks and opportunities are managed centrally by the ESG Committee. The Committee meets monthly in principle, examining and deliberating on climate change-related risks and opportunities four times a year. The results of deliberations at the Committee meetings are recommended to 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. 53 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 two scenarios, namely, the 1.5°C/2°C Scenario in reference to external scenarios and the 4°C Scenario, 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.

> World view of each scenario (envisaging 2030)



> Risks, opportunities, and countermeasures based on scenario analysis

Risk category	Details	1.5°C/2°C Scenario		4°C Scenario		Timescale for measures	Direction of strategies and 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 Provision of increasingly detailed TCFD information disclosures Comprehensive understanding of greenhouse gas emissions and stocktake of reduction plans 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 detailed flood risks to production and sales bases and supply chain Formulation of BCP that encompasses supply chain Rebuilding of product sales channels in line with changes and reduction of farmable areas Promotion of procurement of renewable electricity and energy conservation R&D of carbon-free agriculture R&D of agricultural machinery that supports agriculture adapted to natural disasters and rising temperatures Close monitoring of trends in subsidy schemes of national and local governments Deliberation of solutions that respond to farm producers' needs Establishment of sustainable infrastructure for agricultural production 	<ul style="list-style-type: none"> Sales of products featuring straight-travel assist systems (tractors, combine harvesters, and rice transplanters) Starting limited sales of electric riding lawn mowers (Dec. 2022) Starting sales of biofuels (HVO)-compatible products 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) Understanding of input of material and water resources Setting reduction targets for water consumption (global production bases) 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 Fuel switching and introduction of cogeneration facilities Establishment of energy conservation targets (global production bases) Recognition as risks Preparation of draft decarbonization plan at each production site Creation of a decarbonization roadmap for the entire Group Sales of products featuring straight-travel assist systems (tractors, combine harvesters, and rice transplanters) Starting limited sales of electric riding lawn mowers (Dec. 2022) Starting sales of biofuels (HVO)-compatible products Innovation in environmentally sound agriculture based on collaboration with companies and local governments Business alliance with Faeger Co. Ltd. related to J-Credit Sales of tractors and rice transplanters that are compatible with a farming management system (variable fertilizing map) that utilizes AI 	<ul style="list-style-type: none"> Enhancing lineup of automatic steering-enabled & robotic agricultural machinery R&D of electric agricultural machinery R&D of agricultural machinery adapted to natural disasters and rising temperatures Regular revision of climate change risks and opportunities and reflection in management plans Understanding of greenhouse gas emissions, including sales bases, and revision of scope of reduction targets Consideration of the introduction of ICP Reducing weight of parts using iron, reducing processing waste Recycling of cooling water, use of reclaimed water (stormwater, etc.) Understanding of detailed flood risk of the entire supply chain, including overseas bases Formulation of BCP that encompasses global supply chain Setting targets for renewable energy ratio to energy consumption Establishment of renewable energy power generation facilities Energy consumption efficiency improvement through production optimization Detailed survey of long-term changes in farmable areas Enhancing lineup of automatic steering-enabled & robotic agricultural machinery R&D of electric agricultural machinery R&D of agricultural machinery adapted to natural disasters and rising temperatures Formulation of business plans as for-profit business Demonstration of model cases, nationwide rollout of business
	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 Basic for calculation of financial impact <input checked="" type="checkbox"/> Supplementary information on P51	Medium (1.1 billion yen/1 year of increased cost burden)	Medium	Small (0.35 billion yen/1 year of increased cost burden)	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 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 Basic for calculation of financial impact <input checked="" type="checkbox"/> Supplementary information on P51	Medium (4.8 billion yen/1 year reduction in sales)	Medium	Medium (6.8 billion yen/1 year reduction in sales)	Medium	Short term			
	Decline in value of existing products	Medium	Small	Large	Medium	Long term			
	Chronic Increase in energy price caused by rise in temperature Rebuilding of product sales channels in line with changes and reduction of farmable areas due to progression of climate change	Small	Large	Small	Large	Long term			
Opportunities	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)

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Management of risks and opportunities

Risks and opportunities identified in the scenario analyses are categorized and assessed on two axes (four quadrants); one is the magnitude of financial impact and the other is the degree of the potential of such financial impact. This helps us determine the timescale for measures to address the risks and opportunities. The ESG Committee has established a system for categorization, assessment, and follow-up of risks and opportunities. It will continue to review the system on a yearly basis, including examining and deliberating on strategies and confirming new risks in line with environmental changes. Management of risks that may affect business activities in the short term is integrated into management by the Risk Management Working Group (WG). In doing so, we strive to prevent risks from materializing and minimize losses, to contribute to smooth business operations and preserve assets within our operational processes in accordance with risk management regulations. (Please refer to [P79-80](#) 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 the results with certain importance in the development planning with the approvals of the Directors' Operation Committee and the Board of Directors.

Indicators and targets

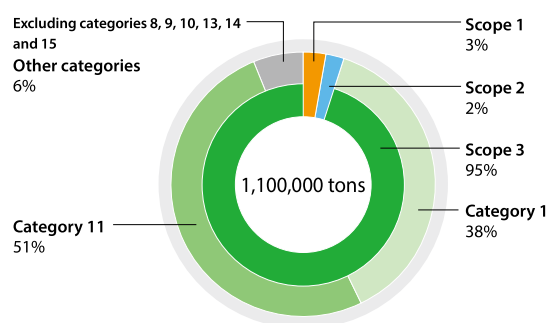
ISEKI Group strives to contribute to the creation of a carbon-neutral and sustainable society by 2050 through "providing innovative products and higher quality of services to the customers."

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 [P61](#) for progress in achieving mid- to long-term environmental targets in 2023. Information about the eco-product certification system and past results are posted on the Company's website.

CO₂ emissions from value chain



2023 Results	
Total of Scope 1, 2 & 3	1,100,000 tons
Scope 1	28,000 tons
Scope 2	27,000 tons
Scope 3	1,050,000 tons
Category 1	420,000 tons
Category 11	560,000 tons
Other categories	67,000 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.

Supplementary information

► External scenario mainly referenced in the scenario analysis

1.5°C/2°C Scenario	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 Scenario	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)

► Basis for calculation of financial impact

Increase in operation cost due to introduction of carbon tax and emissions trading scheme	
<ul style="list-style-type: none"> 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]). 	
Suspension of product and service provision systems due to damage suffered by the Company/supply chain caused by severe typhoon and flood damage	
<ul style="list-style-type: none"> 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). 	