

Initiatives on Climate Change

(Disclosure in accordance with the framework of
TCFD recommendations)



Arisawa Mfg. Co., Ltd.
June 30, 2023

We consistently improve our environmental protection activities by promoting the reduction, etc. of electricity and gas consumption, hazardous chemical substance, and industrial waste in accordance with the Environmental Policy, as the Environmental Protection and Management Committee deliberates on the activities.

Under the philosophy that the solution of environmental issues leads to value creation for society as well as the reduction of business risks, we publicized “Carbon Neutral Initiatives” on our website on June, 2021 because we especially recognize climate change as a pressing issue.

This document describes our initiatives related to climate change based on the framework of the TCFD recommendations, dividing into Governance, Strategy, Risk Management, and Metrics and Goals.

Contents

I . Governance	3 - 4
II . Strategy	5 - 8
III . Risk Management	9 - 10
IV . Metrics and Goals	11 - 13

I . Governance



We established the ESG Committee in December 2021 in order to take the lead in addressing climate change issues. At the committee, directors and senior operating officers serve as chairpersons, and operating officers and general managers of each division serve as members, promoting the initiatives.

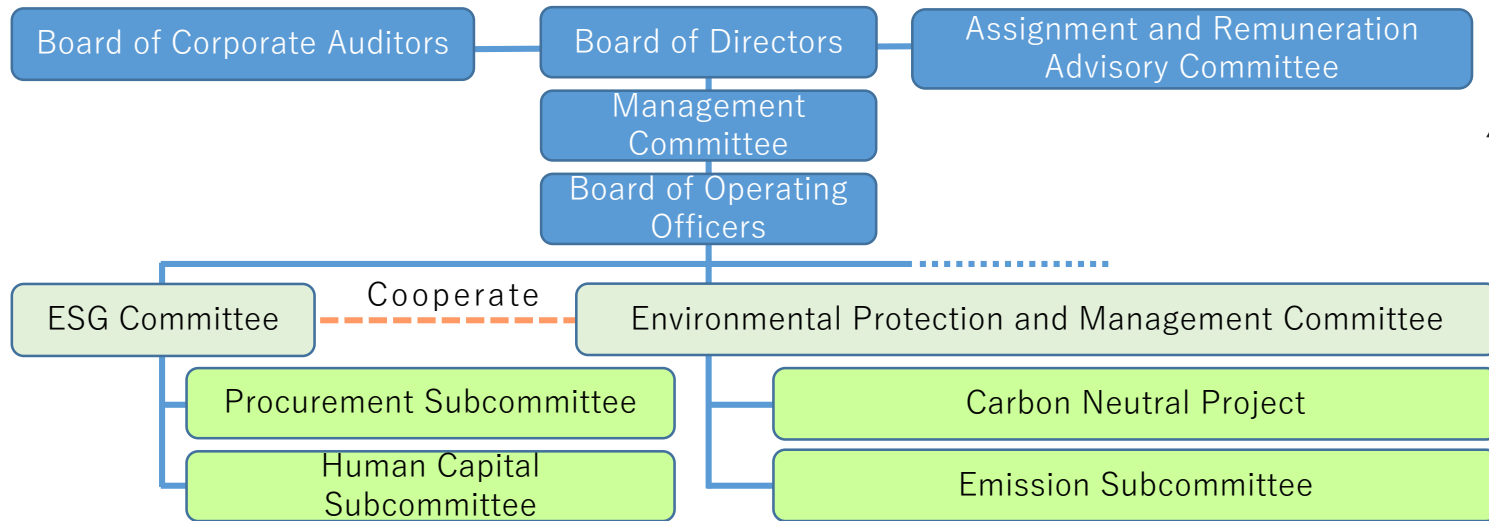
(Our ESG Policy: In all aspects of our business activities, Arisawa promotes environmental conservation and contributes to solving social and environmental issues, aiming to achieve sustainable growth.)

The ESG Committee deliberates four times a year on themes such as responding to climate change, realizing a decarbonized society, respecting for human rights, considering for working environment, and having fair and appropriate transactions with business partners, in addition to enlightening and promoting sustainability-conscious management. The Procurement Subcommittee establishes the CSR procurement policies based on supply chain management and promotes CSR activities together with suppliers. In addition, the Environmental Protection and Management Committee, the Carbon Neutrality Project, and the Emission Subcommittee, which work in cooperation with the ESG Committee, deliberate on the progress of environmental conservation activities in order to strive for continuous improvement.

Important matters to be deliberated and the status of the activities, etc. are regularly reported by each committee to the Board of Operating Officers, the Management Committee and the Board of Directors, and the Board of Directors makes the final decision.

The Board of Directors checks the progress of the publicized medium-term management plan and discusses issues and the implementation of countermeasures based on periodic reports, and the results are reflected in management strategies and risk management and evaluation. The Board of Directors supervises proposals related to climate change (target setting, progress of initiatives, etc.).

ESG Organization Chart



Board of Directors	•Supervise sustainability in general
ESG Committee	•Promote company-wide activities to overcome sustainability-related issues such as policy development on sustainability in general, the coordination of department goal setting and the management of progress
Procurement Subcommittee	•Procure environment-friendly products and provide guidance to suppliers on human rights, labor, safety and health, corporate ethics, etc. in order to establish supply chain free from social problems in accordance with the CSR Procurement Policy
Human Capital Subcommittee	•Link management strategies with personnel strategies to foster and develop human resources that put the CIC into practice •Develop future leader candidates based on the realization of diversity and equal opportunity
Environmental Protection and Management Committee	•Control budget of and coordinate company-wide improvement activities with regard to environmental load reduction such as the carbon neutrality project, the coordination of department goal setting and the management of progress of the Emission Subcommittee
Carbon Neutrality Project	•Make capital investment and promote technological innovation to achieve carbon neutrality by 2030 •Draft and promote the implementation of measures on the use of renewable energy and the improvement of energy use efficiency
Emission Subcommittee	•Lead the reduction, elimination and recycle of emissions and wastes generated by operations •Conduct survey about technological trends toward achieving zero emissions by 2050

Contents

I . Governance	3 - 4
II . Strategy	5 - 8
III . Risk Management	9 - 10
IV . Metrics and Goals	11 - 13

II . Strategy



Upon scenario analysis, the ESG Committee identifies significant risks and opportunities related to climate change and assesses the amount of financial impacts that those might have.

The scenario analysis we conducted analyzed and examined the effects as of 2030 by using two scenarios, the 4°C scenario* and the 1.5°C scenario**, targeting at our whole supply chain from purchase, development, production to sales of products and services.

***4°C scenario:** a scenario where climate change measures do not make any progress from the current situation and the global average temperature rises by approximately 4°C by the end of the century compared with pre-industrial levels. It is assumed that, while physical risks increase such as an increased severity of extreme weather events and rising sea levels, regulations on corporate and consumption activities do not become stricter than the existing ones.

****1.5°C scenario:** a scenario where initiatives to realize carbon neutrality are more active and the rise of the global average temperature is limited to 1.5°C by the end of the century compared with pre-industrial levels. It is assumed that, while the increase of physical risks is limited, the tightening of corporate and consumption activities in the form of tax system and legal regulations is strengthened.

Source: The Ministry of the Environment “Practical Guide for Scenario Analysis in line with TCFD Recommendations 3rd edition”

【The risks and opportunities presented by climate change】

We believe that it is important to contribute to movements for limiting temperature increase because global warming due to climate change has a huge impact on society.

We also believe that climate change is likely to cause risks such as damage to us and our supply chain due to flood damage of typhoon, heavy rain, etc. and the increase of expenses such as the introduction of carbon taxes, credit purchase, the replacement of facilities, the purchase of renewable energy, etc. associated with the tightening of regulations.

On the other hand, we see the provision of products accommodating the increased environmental awareness of customers as an opportunity for our business. In particular, not only do we respond to climate change by supplying materials for FCV and EV, solar power generation, seawater desalination treatment, aircraft (weight reduction), and a decarbonized new energy development project, but we also contribute to the improvement of living environment by supplying materials for automated driving assist, medical devices, etc.

【 II -1. Risks】

	Factors	Timeframes	Financial Impacts	Assessment	Responses
Transition	Carbon price (carbon taxes)	Medium-Long	• Increase in operating costs due to the implementation of carbon taxes	【1.5°C】 Large	• Set targets for energy saving and CO₂ emissions reduction in the company-wide environmental targets. • Set targets for achieving carbon neutrality by 2030. • Energy saving, purchase renewable energy. • Set targets for a recycling rate and reduce energy consumption by productivity improvement. • Consider renewing with energy-saving equipment in compliance with regulations. • Promote capital investment by introducing ICP.
	Emissions trading	Medium-Long	• Additional costs incurred for credit purchases, etc.	【1.5°C】 Large	
	Response to GHG emissions regulations	Medium-Long	• Increase in costs for renewing equipment fixtures with high efficiency • Regulations on the use of chlorofluorocarbon	【1.5°C】 Large	
	Plastic regulations	Medium-Long	• Increase in costs due to regulations on plastic packaging materials and products	【1.5°C】 Medium	• Reduce usage. • Consider replacements.
	Renewable energy policy	Medium-Long	• Increase in energy costs due to higher renewable energy prices	【1.5°C】 Large	• Set targets for energy saving and CO₂ emissions reduction in the company-wide environmental targets. • Promote investment in energy saving. • Reduce energy consumption by productivity improvement. • Set targets for achieving carbon neutrality by 2030.
	Change in raw material costs	Medium-Long	• Increase in procurement costs due to carbon taxes and other regulations • Increase in raw material costs due to soaring crude oil and copper prices	【1.5°C】 Large	• Reduce the usage of raw materials by improving yield. • Select suppliers based on risk assessment.
	Change in customer reputation	Short-Long	• Decrease in sales due to suspension in trading and market share loss when environmental friendliness cannot be addressed	【1.5°C】 Large	• Introduce our initiatives by externally delivering the Environmental Policy and issuing environmental reports. • Publicize initiatives for ESG, TCFD, and carbon neutrality. • Issue integrated reports.
	Change in investor reputation	Short-Long	• Avoidance of investment and loan from financial institutions and investors when disclosing climate change-related information is delayed	【1.5°C】 Large	

【 II -1. Risks】

	Factors	Timeframes	Financial Impacts	Assessment	Responses
Physical	Increased severity of extreme weather events	Short-Long	• Increase in costs to deal with the suspension of operations and logistics functions • Delivery delay of procured materials • Increase in procurement (transportation) costs	【1.5°C】 Medium 【4°C】 Large	• Store inventory of four months' worth of raw materials whose replacements are not available in raw material procurement. • Require suppliers of BCP measures. • Dual vendor system. • Increase productive capacity with capital investment. • Renew aged buildings.
	Rise in average temperature	Short-Long	• Increase in energy costs with increase in the frequency of the use of air-conditioners	【1.5°C】 Small 【4°C】 Medium	• Set targets for energy saving and CO₂ emissions reduction in the company-wide environmental targets. • Promote investment in energy saving. • Paste heat-insulation sheets on windows directly exposed to sunlight.

Transition risks: the impact of transition to a decarbonized society;

Physical risks: the impact of natural disasters including floods and storms;

Timeframes: short (-3 years), medium (3-10 years), long (Over 10 years);

Assessment (small, medium, large): analyzing quantitatively and qualitatively, and assessing relative impacts.

【 II -2. Opportunities 】

	Factors	Timeframes	Financial Impacts	Assessment	Responses
Transition	Emissions trading	Medium-Long	Additional revenue when emission allowances are excess	【1.5°C】 Large	- Set targets for energy saving and CO₂ emissions reduction in the company-wide environmental targets. - Set targets for achieving carbon neutrality by 2030. - Save energy and purchase renewable energy. - Set targets for a recycling rate. - Reduce energy consumption by productivity improvement. - Consider renewing with energy-saving equipment in compliance with regulations. - Promote capital investment by introducing ICP.
	Progress of low-carbon technologies	Short-Long	- Increase in sales of materials for electronic parts due to the increased demand for EV - Increase in sales of materials for fuel cell due to the increased demand for fuel-cell vehicles - Increase in sales of materials for hydrogen generation devices due to the increased demand for hydrogen energy - Increase in sales of carbon cloth prepreps and honeycomb materials due to the increased demand for the weight reduction of vehicles and aircrafts	【1.5°C】 Large	Develop and promote sales of high heat-resistant FPC materials for EV and high heat-dissipation/insulation adhesive sheets.
	Change in customer reputation	Short-Long	Increase in market share by receiving a high reputation in markets when environmental friendliness can be addressed	【1.5°C】 Large	- Introduce our initiatives by externally delivering the Environmental Policy and issuing environmental reports. - Publicize initiatives for ESG, TCFD, and carbon neutrality. - Issue integrated reports.
	Change in investor reputation	Short-Long	Easiness to obtain investment and loan from financial institutions and investors when climate change-related information is disclosed more than other companies	【1.5°C】 Large	
Physical	Increased severity of extreme weather events	Short-Long	- Increase in sales of seawater desalination treatment devices due to the impact of water stress - Increase in demand for and sales of electronic devices due to lower human mobility	【1.5°C】 Medium 【4°C】 Large	Promote sales in the electronic materials field and of filament winding products.

Contents

I . Governance	3 - 4
II . Strategy	5 - 8
III . Risk Management	9 - 10
IV . Metrics and Goals	11 - 13

III. Risk Management



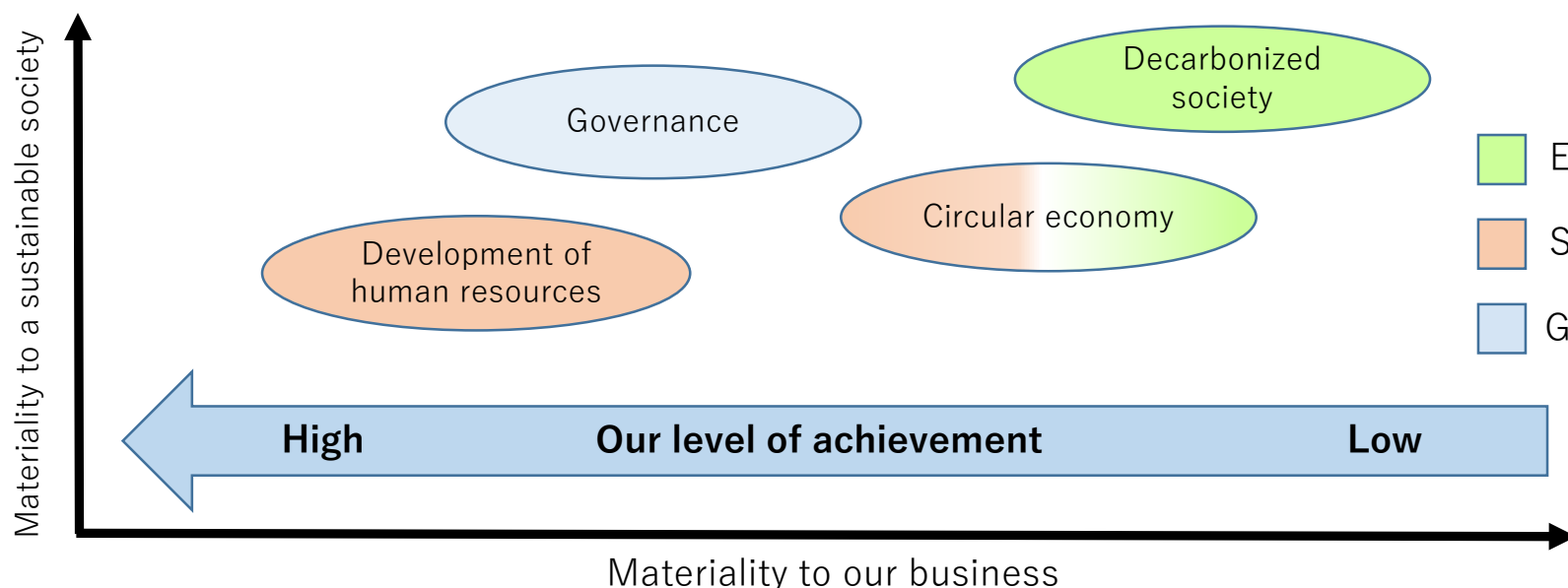
ARISAWA

We recognize that climate change-related risks are important management issues. Therefore, the ESG Committee identifies and assesses the climate change-related risks, and reports to the Board of Operating Officers and the Board of Directors, thereby defining key issues. We improve our risk management system by managing these risks.

As for assessing the climate change-related risks, upon identifying climate change factors in businesses, we understand changes such as future regulations, societal, technological and climate conditions, etc. for each 1.5°C and 4°C scenarios.

We have also considered responding to the changes of external environments associated with environmental issues and contributing to international sustainable development goals, or SDGs. As a result, we have identified four items as key issues (materiality) to be addressed in the medium-term management plan, i.e. “Contribution to a decarbonized society”, “Development of diverse human resources and enhancement of descent work”, “Promotion of a circular economy”, and “Enhancement of governance”. We will address the issues for their resolution as a whole company.

As for identifying materiality, the ESG Committee narrowed down to four items from a perspective of materiality to a sustainable society and our business, and the items were approved by the Board of Directors.



【III-1. Materiality and KGI】

Materiality	KGI (Key Goal Indicator)	Global goals to be expected to advance
Contribution to a decarbonized society	- Accomplishment of carbon neutrality by FY2030 - Promotion of energy conservation and resource saving - Substitution of alternative energy - Provision of materials for environmental load reduction	 
Development of diverse human resources / Improvement of job satisfaction	- Development of next-generation human resources - Vigorous work environment for all employees	   
Promotion of a circular economy	- Reduction of emissions - Establishment of sustainable supply chain	       
Enhancement of governance	- Organization with high ethical standards - Organizational structure having good communication channels	  

Contents

I . Governance	3 - 4
II . Strategy	5 - 8
III . Risk Management	9 - 10
IV . Metrics and Goals	11 - 13

IV. Metrics and Goals



We have implemented various measures to improve energy use efficiency. From now on, we will not only expand the deployment of the measures, but also aim to achieve carbon neutrality in FY2030 (compared to CO₂ emissions in FY2020)* in terms of direct emissions (Scope1) and indirect emissions (Scope2) by using renewable energy and purchasing carbon neutral gas as well as promoting the development of low-carbon products.

Summary of initiatives on carbon neutrality

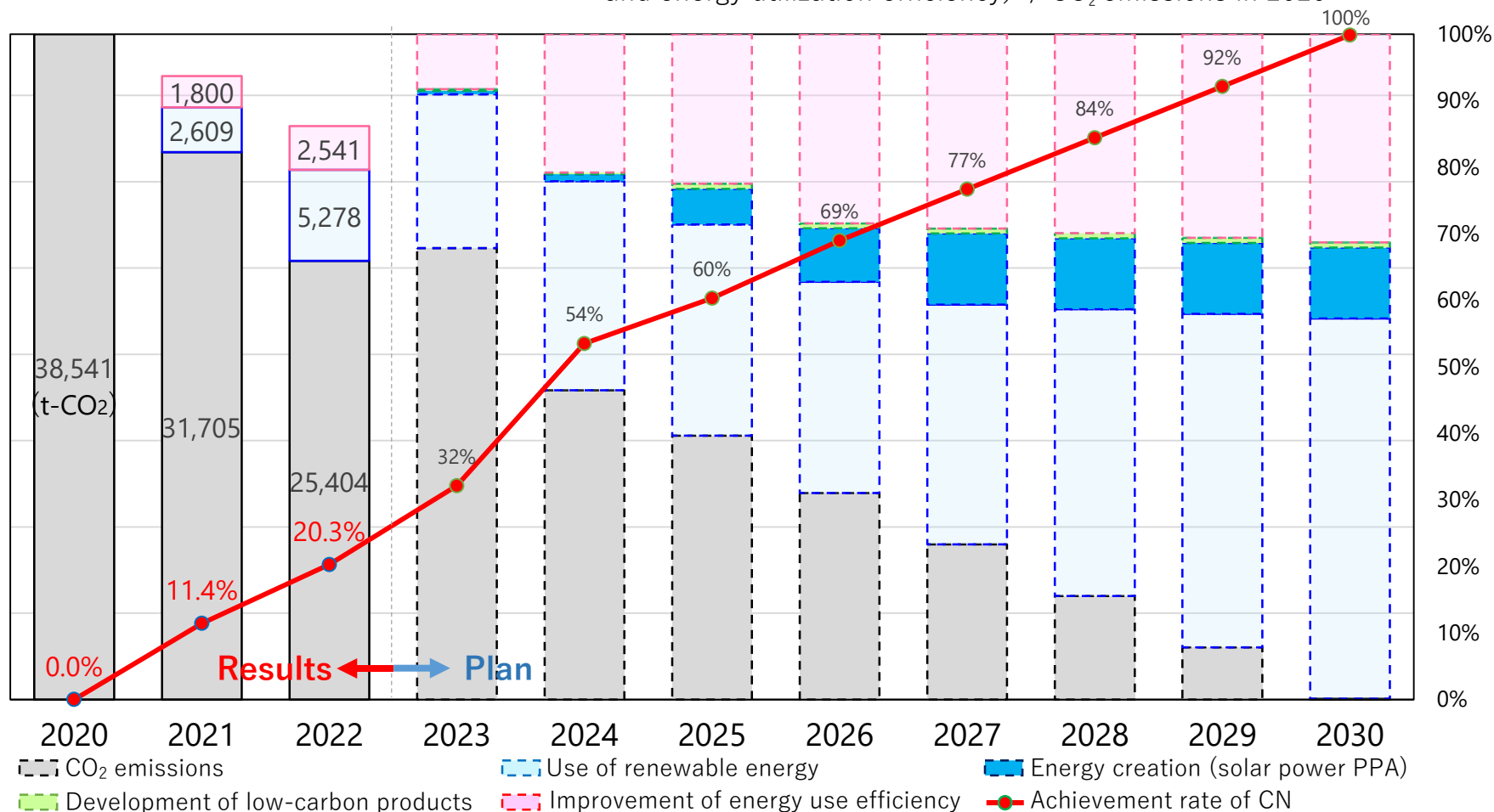
- Purchase of renewable energy electricity started (since July, 2021)
- Purchase of carbon neutral gas started (since July, 2021)
- Improvement of energy use efficiency
(e.g., waste heat recovery for production equipment, improvement of A/C and steam equipment)
- Introduction of solar power (onsite PPA) (expected to be operational from November, 2023)
- Development of low carbon materials
(e.g., reducing energy in production process, reducing consumption of organic solvents)

*Subject sites: Arisawa Mfg. Co., Ltd. and some of its domestic group companies (Minami-honcho Factory, Nakadahara Factory, Nakadahara-nishi Factory)

【IV-1. Plan for achieving carbon neutrality】

We will promote carbon neutrality by using renewable energy, creating energy (energy storage), developing low-carbon products, and improving energy use efficiency. The graph below is updated by adding the performance in FY2021 and FY2022 and the elements of low-carbon products and energy creation (energy storage) to the plan publicized on June, 2021.

Achievement rate of CN (carbon neutrality) = (Total of renewable energy, energy creation, low-carbon products, and energy utilization efficiency) / CO₂ emissions in 2020



【IV-2. CO₂ emissions of our domestic consolidated companies】



Subject sites: Arisawa Mfg., Co., Ltd. and its domestic consolidated subsidiaries

(A calculation of overseas consolidated subsidiaries will also be made for the entire Arisawa Group from FY 2022.)

			FY 2020		FY 2021	
Scope/Category			CO ₂ emissions (t-CO ₂)	Ratio	CO ₂ emissions (t-CO ₂)	Ratio
Scope1			17,779.3	8.6%	16,747.4	9.3%
Scope2			20,487.0	9.9%	15,816.8	8.7%
Scope3			168,109.7	81.5%	148,493.5	82.0%
Upstream	Category1	Purchased goods and services	149,410.3	88.9%	129,548.9	87.2%
	Category2	Capital goods	5,918.6	3.5%	6,193.2	4.2%
	Category3	Fuel- and energy-related activities not included in Scope 1 and 2	7,325.6	4.4%	6,883.7	4.6%
	Category4	Transportation and distribution (upstream)	2,803.9	1.7%	3,010.0	2.0%
	Category5	Waste generated in operations	1,488.2	0.9%	1,656.3	1.2%
	Category6	Business travel	56.9	0.0%	102.1	0.1%
	Category7	Employee commuting	892.1	0.5%	900.7	0.6%
Downstream	Category12	End-of-life treatment of sold products	214.1	0.1%	198.6	0.1%
Total			206,376.0	100.0%	181,057.7	100.0%

Scope 3 is calculated using GLIO B2_GHG, the Ministry of the Environment DB and other factors.

Note) The figures released on June 29, 2020 counting Arisawa Mfg., Co., Ltd. and its domestic consolidated subsidiaries were calculated by an outsourcing contractor. We have established a system for calculating in-house from this year, and go back to FY2020 and recalculate the data from then on, so the figures under FY2020 in this table are different from those released in 2022.