



Asahi Kasei Corporation

2024 CDP Corporate Questionnaire 2024

Word version

Important: this export excludes unanswered questions

This document is an export of your organization's CDP questionnaire response. It contains all data points for questions that are answered or in progress. There may be questions or data points that you have been requested to provide, which are missing from this document because they are currently unanswered. Please note that it is your responsibility to verify that your questionnaire response is complete prior to submission. CDP will not be liable for any failure to do so.

[Terms of disclosure for corporate questionnaire 2024 - CDP](#)

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C1. Introduction

(1.1) In which language are you submitting your response?

Select from:

English

(1.2) Select the currency used for all financial information disclosed throughout your response.

Select from:

JPY

(1.3) Provide an overview and introduction to your organization.

(1.3.2) Organization type

Select from:

Publicly traded organization

(1.3.3) Description of organization

The Asahi Kasei Group operates in the three business sectors of "Material", encompassing fibers & textiles, chemicals and electronic devices businesses, "Homes", covering homes and construction materials businesses, and "Health Care", including pharmaceuticals and medical devices businesses. With "contributing to life and living for people around the world" as our Group Mission, we strive to heighten resource and energy efficiency with outstanding production technology, providing products and services that meet customer needs.

[Fixed row]

(1.4) State the end date of the year for which you are reporting data. For emissions data, indicate whether you will be providing emissions data for past reporting years.

(1.4.1) End date of reporting year

03/31/2024

(1.4.2) Alignment of this reporting period with your financial reporting period

Select from:

Yes

(1.4.3) Indicate if you are providing emissions data for past reporting years

Select from:

Yes

(1.4.4) Number of past reporting years you will be providing Scope 1 emissions data for

Select from:

5 years

(1.4.5) Number of past reporting years you will be providing Scope 2 emissions data for

Select from:

5 years

(1.4.6) Number of past reporting years you will be providing Scope 3 emissions data for

Select from:

5 years

[Fixed row]

(1.4.1) What is your organization's annual revenue for the reporting period?

2784878000000

(1.5) Provide details on your reporting boundary.

	Is your reporting boundary for your CDP disclosure the same as that used in your financial statements?
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(1.6) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?

ISIN code - bond

(1.6.1) Does your organization use this unique identifier?

Select from:

Yes

(1.6.2) Provide your unique identifier

JP3111200006

ISIN code - equity

(1.6.1) Does your organization use this unique identifier?

Select from:

Yes

(1.6.2) Provide your unique identifier

JP3111200006

CUSIP number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

Ticker symbol

(1.6.1) Does your organization use this unique identifier?

Select from:

No

SEDOL code

(1.6.1) Does your organization use this unique identifier?

Select from:

No

LEI number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

D-U-N-S number

(1.6.1) Does your organization use this unique identifier?

Select from:

No

Other unique identifier

(1.6.1) Does your organization use this unique identifier?

Select from:

No

[Add row]

(1.7) Select the countries/areas in which you operate.

Select all that apply

- | | |
|--|---|
| <input checked="" type="checkbox"/> China | <input checked="" type="checkbox"/> Brazil |
| <input checked="" type="checkbox"/> India | <input checked="" type="checkbox"/> France |
| <input checked="" type="checkbox"/> Italy | <input checked="" type="checkbox"/> Mexico |
| <input checked="" type="checkbox"/> Japan | <input checked="" type="checkbox"/> Poland |
| <input checked="" type="checkbox"/> Spain | <input checked="" type="checkbox"/> Sweden |
| <input checked="" type="checkbox"/> Austria | <input checked="" type="checkbox"/> Thailand |
| <input checked="" type="checkbox"/> Czechia | <input checked="" type="checkbox"/> Viet Nam |
| <input checked="" type="checkbox"/> Germany | <input checked="" type="checkbox"/> Australia |
| <input checked="" type="checkbox"/> Morocco | <input checked="" type="checkbox"/> Singapore |
| <input checked="" type="checkbox"/> Romania | <input checked="" type="checkbox"/> Taiwan, China |
| <input checked="" type="checkbox"/> Republic of Korea | |
| <input checked="" type="checkbox"/> United States of America | |

(1.14) In which part of the chemicals value chain does your organization operate?

Bulk inorganic chemicals

- Chlorine and Sodium hydroxide
- Hydrogen
- Nitric acid

Bulk organic chemicals

- Adipic acid
- Aromatics
- Polymers

Other chemicals

- Specialty inorganic chemicals
- Specialty organic chemicals

(1.15) Which real estate and/or construction activities does your organization engage in?

Select all that apply

- New construction or major renovation of buildings
- Buildings management

(1.24) Has your organization mapped its value chain?

(1.24.1) Value chain mapped

Select from:

- Yes, we have mapped or are currently in the process of mapping our value chain

(1.24.2) Value chain stages covered in mapping

Select all that apply

- Upstream value chain

(1.24.3) Highest supplier tier mapped

Select from:

- Tier 1 suppliers

(1.24.4) Highest supplier tier known but not mapped

Select from:

- Tier 2 suppliers

(1.24.7) Description of mapping process and coverage

We are conducting a CSR procurement survey as a supplier-centric initiative for identifying potential risks related to CSR and sustainability. We use this survey to identify high-risk suppliers for encouragement, which is a priority initiative. Such suppliers are supported in their improvement activities through individual interviews. The survey covers Tier 1 suppliers and some Tier 2 suppliers, which account for more than 80% of purchase amounts by the Purchasing and Logistics Control Department. Supply Chain Risk Management (SCRM) is performed throughout the company as part of our product-centric initiatives. Risk categories are established for events contributing to procurement risk, and each procurement item is scrutinized to see if it meets the relevant criteria. With that, risk reduction initiatives are conducted for said items at risk.

[Fixed row]

C2. Identification, assessment, and management of dependencies, impacts, risks, and opportunities

(2.1) How does your organization define short-, medium-, and long-term time horizons in relation to the identification, assessment, and management of your environmental dependencies, impacts, risks, and opportunities?

Short-term

(2.1.1) From (years)

0

(2.1.3) To (years)

1

(2.1.4) How this time horizon is linked to strategic and/or financial planning

Short term is defined as the year.

Medium-term

(2.1.1) From (years)

1

(2.1.3) To (years)

5

(2.1.4) How this time horizon is linked to strategic and/or financial planning

The medium-term business plan should be prepared with terms of up to 5 years.

Long-term

(2.1.1) From (years)

5

(2.1.2) Is your long-term time horizon open ended?

Select from:

No

(2.1.3) To (years)

30

(2.1.4) How this time horizon is linked to strategic and/or financial planning

Long term is defined as more than 5 years.

[Fixed row]

(2.2) Does your organization have a process for identifying, assessing, and managing environmental dependencies and/or impacts?

	Process in place	Dependencies and/or impacts evaluated in this process
	Select from: <input checked="" type="checkbox"/> Yes	Select from: <input checked="" type="checkbox"/> Both dependencies and impacts

[Fixed row]

(2.2.1) Does your organization have a process for identifying, assessing, and managing environmental risks and/or opportunities?

	Process in place	Risks and/or opportunities evaluated in this process	Is this process informed by the dependencies and/or impacts process?
	Select from: <input checked="" type="checkbox"/> Yes	Select from: <input checked="" type="checkbox"/> Both risks and opportunities	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(2.2.2) Provide details of your organization's process for identifying, assessing, and managing environmental dependencies, impacts, risks, and/or opportunities.

Row 1

(2.2.2.1) Environmental issue

Select all that apply

Water

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

Impacts

Risks

- Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.7) Type of assessment

Select from:

- Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

- Annually

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term
- Medium-term
- Long-term

(2.2.2.10) Integration of risk management process

Select from:

- Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.12) Tools and methods used

Commercially/publicly available tools

- WRI Aqueduct

Databases

- Regional government databases

Other

- External consultants
- Internal company methods
- Other, please specify :Tsunami risk assessment

(2.2.2.13) Risk types and criteria considered

Acute physical

- Flood (coastal, fluvial, pluvial, ground water)

Chronic physical

- Water availability at a basin/catchment level
- Water stress
- Water quality at a basin/catchment level

Policy

- Limited or lack of river basin management
- Limited or lack of transboundary water management
- Mandatory water efficiency, conservation, recycling, or process standards
- Regulation of discharge quality/volumes
- Statutory water withdrawal limits/changes to water allocation

Market

- Inadequate access to water, sanitation, and hygiene services (WASH)

Reputation

- Stakeholder conflicts concerning water resources at a basin/catchment level

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- Customers
- Employees
- Suppliers
- Regulators
- Local communities
- Water utilities at a local level
- Other water users at the basin/catchment level

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

- No

(2.2.2.16) Further details of process

We first use WRI Aqueduct to obtain an overall picture of which facilities in the Asahi Kasei Group are potentially exposed to water risks. Now, we not only assess water risks with Aqueduct but also research projected changes in water stress in 2030 and 2040 with Aqueduct. We use WRI Aqueduct because it is an easy-to-use tool that can be used to assess various types of water risks associated with operations globally. Assessment results (risk levels) of Aqueduct are given in 5 levels: Low, Low to medium, Medium to high, High, and Extremely high, but we do not use the assessment results of Aqueduct as they are. We make adjustments with information obtained from individual plants to arrive at the final assessment results. As for water risks in our supply chain, we send out a CSR questionnaire to our major suppliers and ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. It is hard to conceive that any of the Asahi Kasei Group's plants will be severely hit by a drought in the foreseeable future, but if we should find ourselves in a situation in 2040 and beyond where a sufficient amount of good quality freshwater is no longer available where we operate, as a result of global population and economic growth, there could be a

possibility of us being forced to revise our business strategy. When such water risks become foreseeable, we will first discuss the issue within our Environment, Safety, Health and Quality Assurance (ESH&QA) Committee. If the Committee determines that the issue could affect the Asahi Kasei Group's business strategy, the Strategic Management Council will deliberate the issue, the results of which will then be reflected on our strategy, as necessary.

Row 2

(2.2.2.1) Environmental issue

Select all that apply

- Climate change

(2.2.2.2) Indicate which of dependencies, impacts, risks, and opportunities are covered by the process for this environmental issue

Select all that apply

- Impacts
- Risks
- Opportunities

(2.2.2.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(2.2.2.4) Coverage

Select from:

- Full

(2.2.2.7) Type of assessment

Select from:

- Qualitative and quantitative

(2.2.2.8) Frequency of assessment

Select from:

- Annually

(2.2.2.9) Time horizons covered

Select all that apply

- Short-term
- Medium-term
- Long-term

(2.2.2.10) Integration of risk management process

Select from:

- Integrated into multi-disciplinary organization-wide risk management process

(2.2.2.12) Tools and methods used

Enterprise Risk Management

- Internal company methods

International methodologies and standards

- Life Cycle Assessment

Other

- Desk-based research
- External consultants
- Internal company methods
- Materiality assessment
- Scenario analysis

(2.2.2.13) Risk types and criteria considered

Acute physical

- Flood (coastal, fluvial, pluvial, ground water)
- Heat waves
- Landslide
- Storm (including blizzards, dust, and sandstorms)
- Other acute physical risk, please specify :Earthquake

Chronic physical

- Heat stress
- Temperature variability

Policy

- Carbon pricing mechanisms
- Changes to national legislation
- Poor enforcement of environmental regulation

Market

- Availability and/or increased cost of certified sustainable material
- Availability and/or increased cost of raw materials
- Changing customer behavior

Reputation

- Increased partner and stakeholder concern and partner and stakeholder negative feedback

Technology

- Transition to lower emissions technology and products

(2.2.2.14) Partners and stakeholders considered

Select all that apply

- Customers
- Employees
- Investors
- Regulators
- Suppliers

(2.2.2.15) Has this process changed since the previous reporting year?

Select from:

- No

(2.2.2.16) Further details of process

We currently use the TCFD framework to determine the risks and opportunities of our company and how those could have substantive financial or strategic impact on us. We suppose two scenarios for the climate change and relevant social change, meaning 4°C scenario and 1.5°C scenario. In 4°C scenario, the temperature will rise sharply in accordance with the strengthening Typhoon of heavier rain and stronger wind. In 1.5°C scenario, the temperature will rise modestly with stricter regulations on CO2 emissions and promoting policy of more climate-friendly alternatives, such as electric vehicles. We have discussed the impact of both risks and opportunities and the members include those from our core three business units, Material, Houses and Healthcare and corporate division. After the discussion, we had more comprehensive discussion at the corporate strategy committee and the board meeting to determine the risks and opportunities.

[Add row]

(2.2.7) Are the interconnections between environmental dependencies, impacts, risks and/or opportunities assessed?

(2.2.7.1) Interconnections between environmental dependencies, impacts, risks and/or opportunities assessed

Select from:

- Yes

(2.2.7.2) Description of how interconnections are assessed

The Internal Executive Office, centered on the Sustainability Strategy Planning Department and the Corporate Planning Department, requests each business division to evaluate the interrelationships between environmental impacts, risks, and opportunities, with the evaluation results compiled by the Internal Executive Office. Also, after discussions with management in each business division and the corporate division, the evaluation results are compiled as a company-wide group. With that, the disclosure policy and details are proposed and reported to the management committee and board of directors for discussion.

[Fixed row]

(2.3) Have you identified priority locations across your value chain?

(2.3.1) Identification of priority locations

Select from:

- Yes, we have identified priority locations

(2.3.2) Value chain stages where priority locations have been identified

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(2.3.3) Types of priority locations identified

Sensitive locations

- Areas of limited water availability, flooding, and/or poor quality of water

Locations with substantive dependencies, impacts, risks, and/or opportunities

- Locations with substantive dependencies, impacts, risks, and/or opportunities relating to water

(2.3.4) Description of process to identify priority locations

Direct operations: Asahi Kasei has its Moriyama Manufacturing Plant as a large-scale base for direct operations. The Moriyama Manufacturing Plant is located about 5 kilometers from Lake Biwa, into which the Yasu River and waterways in the plant vicinity flow. Lake Biwa is an important area for conservation, being both designated as Important Bird and Biodiversity Areas and protected area (Animal Sanctuary, Quasi-National Park, and Ramsar Convention Wetland) and classified as IUCN category IV or V. Thus, Moriyama Manufacturing Plant is a high-risk location close to an area important for conservation. A map of this location is attached. Upstream value chain: Risk analyses are conducted for water damage to our company product warehouses. From there, risk reduction measures are prioritized for warehouses deemed to be at high risk from the results. Downstream value chain: In Asahi Kasei Homes, in light of intensifying flood damage in recent years, "areas significantly impacted by flood damage" has been set as a downstream priority area. For setting specific priority areas, a flood damage estimation system is being built using residential data, including location information for homes after supply. This system is used to pre-estimate flood risk. It identifies properties at risk of expected damage and sets them as flood damage priority zones based on the hazard map flood risk zones published by the local government and home location information supplied by our company. Preliminary flood measures are starting to be implemented in collaboration with the owner. In addition, in a disaster, the system estimates flood damage in real-time. In the event of a disaster, the system estimates flood damage by linking status images of flood estimate maps from a partner company that generates and distributes flood depths in real-time from social media posts, weather information, etc., to residential location data owned by our company to promote post-disaster response streamlining.

(2.3.5) Will you be disclosing a list/spatial map of priority locations?

Select from:

- Yes, we will be disclosing the list/geospatial map of priority locations

(2.3.6) Provide a list and/or spatial map of priority locations

Moriyama plant.pdf
[Fixed row]

(2.4) How does your organization define substantive effects on your organization?

Risks

(2.4.1) Type of definition

Select all that apply

- Qualitative
- Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- Revenue

(2.4.3) Change to indicator

Select from:

- Absolute decrease

(2.4.6) Metrics considered in definition

Select all that apply

- Time horizon over which the effect occurs
- Likelihood of effect occurring

(2.4.7) Application of definition

Our group has achieved stable business operations across a wide range of businesses, but these diverse businesses entail market risks, financial risks, and various other risks that can significantly impact financial health, business performance, and stakeholder relationships. For example, a natural disaster or other unforeseeable circumstances could disrupt the supply of product raw materials, putting a stop to production for a period of months. Or an accident at a plant or other unexpected occurrence could prevent us from supplying our products, thereby seriously impacting key customers and consumers. Although it is difficult to quantify the severity of impacts, a disaster could lead to a massive drop in revenue of 10 to 20 billion yen due to a prolonged production shutdown. It could also cause loss of life, serious threat to human safety, and other human suffering, as well as loss of public trust and a decrease in brand value. Climate change risks include not only losses from damage to our own production facilities or supply chains due to a disaster, but also increases in manufacturing and raw material costs due to stricter regulations. To us, “substantive financial or strategic impact on our business” means any significant impact on our plants’ operations, financial performance or the relationship between us and our stakeholders. For example, if a severe drought or flood should hit an Asahi Kasei plant or any of our major suppliers, our operations could be disrupted, which might significantly affect our financial performance, and if any of our plants should release hazardous substances into rivers or the sea, affecting people’s health or the fishing industry, it could significantly damage our relationship with stakeholders. Therefore, the definition not only applies to impact resulting from our own operations but also impact resulting from suppliers’ operations. It is not always easy to estimate in advance the magnitude and probability of such adverse events, and it is almost impossible to quantify the impact of a decline in stakeholder trust. But because an issue with a potential loss of billions of yen would be discussed by the Board of Directors, this could be considered as a threshold that indicates substantive change.

Opportunities

(2.4.1) Type of definition

Select all that apply

- Qualitative
- Quantitative

(2.4.2) Indicator used to define substantive effect

Select from:

- Revenue

(2.4.3) Change to indicator

Select from:

- Absolute increase

(2.4.6) Metrics considered in definition

Select all that apply

- Time horizon over which the effect occurs
- Likelihood of effect occurring

(2.4.7) Application of definition

Over the past century since our founding, we have wrestled with changing social issues, expanding our business while reforming ourselves. As climate change forces the overhaul of entire social systems, our company is working to reach carbon neutrality and sustainably increase our corporate value by 2050 as we transform our business portfolio and continue to improve productivity. Our company is transforming our business portfolio to deliver value. In the three years to FY2024, our Medium-Term Management Plan aims to invest approximately 700 billion yen in GG10 (10 Growth Gears) businesses, which are growth-driven businesses that present climate change opportunities. In particular, we are focusing our management resources on energy storage and hydrogen, spheres in which we expect to invest up to 300 billion yen over the three years of the current Medium-Term Management Plan. For GG10 businesses, we target FY2024 operating profits of approximately 110 billion yen and 50% or more in operating profit. In addition, our company is committed to investing approximately 60 billion yen in the three years to FY2024 on decarbonization-related businesses. Furthermore, to incorporate and collaborate on new technologies centered on climate change response, we have set up a “Care for Earth” investment framework (100 million USD over the five-year period from FY2023 to FY2027) in our corporate VC activities and are investing in environmental sector startups. We recognize that the direction of our business development can offer a variety of products and services as business opportunities in climate change mitigation and adaptations.

[Add row]

(2.5) Does your organization identify and classify potential water pollutants associated with its activities that could have a detrimental impact on water ecosystems or human health?

(2.5.1) Identification and classification of potential water pollutants

Select from:

- Yes, we identify and classify our potential water pollutants

(2.5.2) How potential water pollutants are identified and classified

Asahi Kasei Group classifies chemicals, based on the type and scope of hazards, according to international standards, such as REACH and GHS. Regarding hazardous substances in water systems, in Japan, 28 substances with high toxicity to living organisms and the environment are regulated as hazardous substances in accordance with the Water Pollution Prevention Act. We recognize that the substances regulated by the Water Pollution Prevention Act need to be managed and reduced as the top priority substances for water pollution prevention worldwide. The Asahi Kasei Group takes great care in handling the chemical substances used in product manufacturing. In addition, in order to avoid any violations of laws and regulations, we manage the quality of our wastewater using independent standards to control quality more strictly than general local regulations and manufacturing facilities. Since we have taken thorough measures to completely prevent the outflow of chemical substances even in the event of an unexpected accident, no violations of laws and regulations have occurred for years.

[Fixed row]

(2.5.1) Describe how your organization minimizes the adverse impacts of potential water pollutants on water ecosystems or human health associated with your activities.

Row 1

(2.5.1.1) Water pollutant category

Select from:

- Other synthetic organic compounds

(2.5.1.2) Description of water pollutant and potential impacts

Our plants release potentially hazardous chemicals into the public water bodies, some of which are suspected to be carcinogenic and/or teratogenic. For example, if the Nobeoka plant accidentally released N,N-dimethylacetamide (DMAc)—suspected to be carcinogenic and teratogenic—into the sea, DMAc could cause cancer and deformities when humans are directly exposed to the chemical, which we assume to be rare. In order to reduce adverse impacts to human health and aquatic ecosystems, we have been trying to minimize the release of DMAc into the environment.

(2.5.1.3) Value chain stage

Select all that apply

- Direct operations

(2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

- Industrial and chemical accidents prevention, preparedness, and response
- Water recycling

(2.5.1.5) Please explain

The Nobeoka plant collects the wastewater containing DMAc and separates DMAc from the water using three distillation towers; the water is then recovered and reused. The recovery rate is nearly 100% but some of the reflux liquid in the distillation towers has to be removed and released into the sea in order to prevent condensation. This is how we are trying to minimize the amount of DMAc that is released into the sea, thereby reducing its potential impact on aquatic ecosystems. We measure and evaluate the success of our efforts based on the amount of potentially hazardous chemicals released into the environment.

Row 3

(2.5.1.1) Water pollutant category

Select from:

- Microplastics and plastic particles

(2.5.1.2) Description of water pollutant and potential impacts

There is a growing concern that microplastics in the ocean attract persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs), are picked up by plankton, which are then eaten by fish, and finally end up in the human food chain and affect our health. It is feared that these POPs are carcinogenic and endocrine-disrupting, but the complexity of the behavior of microplastics in the environment and how POPs are accumulated in marine species makes it challenging to estimate the scale and magnitude of the impact. That said, if a lot of POP-contaminated microplastics end up in the human food chain, the impact on our health could be huge, given the high bio-accumulation potential of POPs. Microplastics could result from chemical plants and from inappropriate disposal of end-of-life plastic products. The Asahi Kasei Group is trying to tackle this issue as a producer of plastic products.

(2.5.1.3) Value chain stage

Select all that apply

- Direct operations

(2.5.1.4) Actions and procedures to minimize adverse impacts

Select all that apply

- Industrial and chemical accidents prevention, preparedness, and response

(2.5.1.5) Please explain

The generation of microplastics is at least partially attributed to the generation of plastic waste. Thus, recycling plastic as a resource instead of treating it as waste will help in reducing microplastic contamination. Asahi Kasei is working to implement BLUE Plastics, a platform for visualizing the recycling of plastics. Through repeated trials in the lead-up to platform implementation, we are promoting the recycling of plastics by visualizing the recycling chain and transforming consumer behavior. Given the particularly major role consumer behavior plays in recycling plastics, we are keeping tally of whether use of the platform has precipitated change in consumer behavior to assess the platform's contribution. In doing so, we are promoting resource recycling while working to further improve platform implementation. In the quest to curtail microplastic contamination, Asahi Kasei will continue to promote BLUE Plastics as an open platform that can be widely used by consumers and promote resource recycling.

[Add row]

C3. Disclosure of risks and opportunities

(3.1) Have you identified any environmental risks which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental risks identified
Climate change	Select from: <input checked="" type="checkbox"/> Yes, both in direct operations and upstream/downstream value chain
Water	Select from: <input checked="" type="checkbox"/> Yes, both in direct operations and upstream/downstream value chain

[Fixed row]

(3.1.1) Provide details of the environmental risks identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.1.1.1) Risk identifier

Select from:

Risk1

(3.1.1.3) Risk types and primary environmental risk driver

Policy

Carbon pricing mechanisms

(3.1.1.4) Value chain stage where the risk occurs

Select from:

Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

China

Japan

- Republic of Korea
- Singapore
- United States of America

(3.1.1.9) Organization-specific description of risk

In Japan, a “global warming countermeasures tax” came into effect in FY 2012 and the tax rate per quantity unit was set in a way that the tax burden equals 289 yen/t-CO₂ emissions. Also, the “GX Promotion Act” came into effect in FY2023, establishing a surcharge on fossil fuel supply from FY2028 and cap-and-trade auctioning of permits for emissions trading for power generation businesses from FY2033. While at this point, the system details are not designed and the extent of the burden of this policy on our company remains unclear, it is highly likely that it will increase our cost burden in the medium to long term. Our company is considering the Net Zero Emissions (NZE) scenario, which is the IEA’s strongest scenario, targeting a 1.5 °C increase as one scenario, with the specific risk costs as given in (3.1.16). We note here that our GHG emissions in FY2023 were 3.18 million t-CO₂e, approximately 13% lower than in FY2022.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Increased indirect [operating] costs

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term
- Long-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- Very likely

(3.1.1.14) Magnitude

Select from:

- Medium-high

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

As will be described in 3.1.1.25, if our current business portfolio and GHG emissions remain unchanged, our company could incur a tax burden of up to about 48 billion yen per year in case that carbon costs were set at 15,000 yen/t-CO₂ with reference to the 2030 CO₂ price levels in the IEA NZE scenario and other sources. In addition, based on an independent survey of carbon costs based on the latest national policy trends, we forecast that our revenue would decline by up to 16 billion yen. In both cases, the cost burdens can be greatly reduced with progressing reforms to our business portfolio.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

- Yes

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

48000000000

(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)

48000000000

(3.1.1.25) Explanation of financial effect figure

Asahi Kasei is strongly aware of the need to be more aggressive in implementing large-scale GHG reduction measures. If no large-scale measures are taken, the company will continue to pay additional cost in taxes annually, mainly on fossil fuels purchased for its domestic power generation systems. Looking at the global trend toward decarbonization, Japan currently has a low carbon tax rate of 289 yen/t-CO₂. However, according to the NZE scenario of IEA, in order to keep the global temperature rise below 1.5°C and achieve the Paris Agreement target, it is necessary to set the level of carbon tax in each country at around 140 USD per t-CO₂. We confirmed that when calculating the potential economic impact of our Group's total annual CO₂ emissions (3.18 million t-CO₂), the Group may incur a tax burden of up to 48 billion yen per year by setting the carbon cost at 15,000 yen/t-CO₂ with reference to the CO₂ price level for 2030 in the IEA NZE scenario. Potential financial impact figure: Total CO₂ emissions 48,000,000,000 yen : ((3.18 million t-CO₂) x 15,000 yen/t-CO₂)

(3.1.1.26) Primary response to risk

Policies and plans

- Develop a climate transition plan

(3.1.1.27) Cost of response to risk

48000000000

(3.1.1.28) Explanation of cost calculation

Situation) Companies in Japan that utilize fossil fuels are required to pay a tax on heavy fuel. The rate is scheduled to rise in a phased manner. Asahi Kasei recognizes the need to take appropriate measures to address this issue. Task) Asahi Kasei supplies about 50 percent of the Group's total energy needs through in-house power generation and makes direct purchases of the fossil fuels consumed by its in-house power generation systems. In view of the strong likelihood that the burden against the fossil fuels will be increased in the years ahead, we need to avoid the potential risk of an increase in the cost burden. For economic reasons, we need to contain the cost of this risk response within the range of carbon pricing cost. Assuming a carbon cost of 15,000 yen/t-CO₂, based on the CO₂ price level for 2030 in the IEA NZE scenario, the cost would amount to approximately 48 billion yen.

(3.1.1.29) Description of response

Action) To mitigate this risk, Asahi Kasei has begun utilizing fuels that generate low CO₂ emissions. In 2015, We have invested in equipment that allows the on-site generating systems at Nobeoka plant facility to burn woody biomass fuels, thus enabling us to convert considerable part of our on-site generation fossil-fuel consumption to woody biomass fuels. In addition, we completely replaced one of our aging in-house coal-fired power plants with a liquefied natural gas (LNG) turbine plant that generates far less CO₂ emissions per unit of fuel raw material. Furthermore, in 2018, we started to renovate two of our hydroelectric power plants located in Kyushu, the Gokasegawa Plant and Mamihara Plant which supply electricity to our manufacturing plants in the Nobeoka area. In the case of the first, the Gokasegawa Plant, operation started in March 2022. That will enable us to continue using renewable energy over the long term. Result) As a result, the biomass fuel consumption and hydropower in

Asahi Kasei group has increased to 63,870 MWh and 106,289 MWh. (how the figure in " Cost of Management " was calculated) Renovation of our hydroelectric power plants located in Kyushu, the Gokasegawa Plant and Mamihara Plant requires approximately 10 billion yen which will be covered by our green bond.

Water

(3.1.1.1) Risk identifier

Select from:

- Risk4

(3.1.1.3) Risk types and primary environmental risk driver

Policy

- Increased difficulty in obtaining water withdrawal permits

(3.1.1.4) Value chain stage where the risk occurs

Select from:

- Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

- Singapore

(3.1.1.9) Organization-specific description of risk

Products produced at our two plants in Singapore are some of essential building blocks of the 'Materials' field in our Medium-term management initiative "Be a Trailblazer" aiming to contribute to a sustainable society. Therefore, the operational stability of the two plants in Singapore is very important for the Asahi Kasei Group's business plan. Chemical plants require a lot of water especially for cooling, but Singapore chronically suffers from water shortages because of its small land area and lack of large rivers. Good quality water is being supplied from neighboring Malaysia, but a change in political or other circumstances could lead to instability in water supply. Lobbying activities might become more important and much more care will have to be taken when choosing locations for further expansion of plants.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Long-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

Exceptionally unlikely

(3.1.1.14) Magnitude

Select from:

Low

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Asahi Kasei operates two factories and uses industrial water in Singapore, which receives a supply of high-quality water from neighboring Malaysia. If Malaysia's economic development continues in the future, there is a slight possibility that the domestic demand for industrial water will increase and Singapore's water supply will become unstable in the long term. If such a situation occurs, there is a risk that the supply of industrial water to Jurong Island will stop, operations at our two factories on the island will cease, and profit losses will occur due to reduced production.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

Yes

(3.1.1.23) Anticipated financial effect figure in the long-term – minimum (currency)

1300000000

(3.1.1.24) Anticipated financial effect figure in the long-term – maximum (currency)

3900000000

(3.1.1.25) Explanation of financial effect figure

In calculating the financial impact, we assumed a hypothetical situation where the supply of industrial water to Jurong Island is completely halted due to a change in political or other circumstances and the operations of our two plants on the island are suspended for a maximum of 3 months and a minimum of 1 month. We also used the production volume and unit price of major products at the target business location.

(3.1.1.26) Primary response to risk

Engagement

Engage with regulators/policy makers

(3.1.1.27) Cost of response to risk

0

(3.1.1.28) Explanation of cost calculation

No observable cost is incurred by information and intelligence collection because this is inseparable from what we do in the normal course of business. We believe that any attempt at separation would be nonsensical.

(3.1.1.29) Description of response

To collect information and intelligence is always the first step in running a good business, regardless of whether it is about water risks or not. We understand that Singapore is a country where environmental regulations are likely to be strengthened quickly. The carbon tax introduced in Singapore in 2019 is just one such example. We recognize that collecting and analyzing information and intelligence are the basic steps for detecting and minimizing water risks. Specifically, we offer Microza, a hollow fiber filtration membrane for water treatment, to the Changgi New Water Plant, Singapore's largest sewage recovery plant. Based on such achievements, there is a close connection to the Singaporean Ministry of Sustainability and the Environment, and information on water administration in Singapore (such as water price trends, water self-sufficiency rate improvement plans, and trends in Malaysia, which is a water import destination) can be obtained in a timely manner. Furthermore, information on the Ministry of Sustainability and the Environment's website and external information providers is monitored at all times. In addition, with regard to water-related regulations, lobbying activities are carried out domestically and overseas through JCIA (Japan Chemical Industry Association).

Climate change

(3.1.1.1) Risk identifier

Select from:

- Risk2

(3.1.1.3) Risk types and primary environmental risk driver

Acute physical

- Flooding (coastal, fluvial, pluvial, groundwater)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

- Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

- Thailand

(3.1.1.9) Organization-specific description of risk

Due to the increasing scale of flooding associated with climate change, we face an increased risk of facility water damage, lost product inventories, and lost opportunities from the suspension of production operations. In FY 2011, flood waters damaged an Asahi Kasei Group facility in Thailand that was engaged in the production of plastic compounds, forcing the closure of that facility for half a year. Our losses in that incident included 2.7 billion yen in lost income for the half-year the facility was not operational. Assessments of risk to Asahi Kasei Group facilities and business offices worldwide have determined that the aforementioned facility in Thailand is the only facility at risk of being damaged by flooding. That finding demonstrated that we would be able to limit the focus of required countermeasures to that facility alone. Unless countermeasures were taken, we could potentially face the risk of incurring an equivalent burden of losses from new flooding. We recognize this magnitude scale as an appropriate potential impact.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

Short-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

Virtually certain

(3.1.1.14) Magnitude

Select from:

Low

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

As mentioned above, the risks of flood damage in Thailand is one of the environmental risk that is vulnerable to the substantive effects on our financial position. However, as we are taking measures, we do not expect it to have a significant impact on our financial situation at the selected future time.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

Yes

(3.1.1.19) Anticipated financial effect figure in the short-term – minimum (currency)

400000000

(3.1.1.20) Anticipated financial effect figure in the short-term – maximum (currency)

2700000000

(3.1.1.25) Explanation of financial effect figure

Unless countermeasures were taken, we could potentially face the risk of incurring an equivalent burden of losses from new flooding. Asahi Kasei examined the possible extent of damage in the main areas where physical risks are foreseen, including by means of third-party surveys. From the results of this study, we estimated the possible damage to be approximately 2.7 billion yen at maximum and approximately 400 million yen at minimum, based on assumptions that consider the frequency of disasters and even the possibility of simultaneous occurrences in the main areas of operation. We recognize this magnitude scale as an appropriate potential impact.

(3.1.1.26) Primary response to risk

Policies and plans

Develop flood emergency plans

(3.1.1.27) Cost of response to risk

(3.1.1.28) Explanation of cost calculation

Situation) Due to the increasing flood with climate change, we face an increased risk of facility water damage, especially in Thailand. Asahi Kasei recognizes the need to take appropriate measures to address this issue. Task) The aforementioned Thai plastic compound facility is engaged in the manufacture of functional plastic composite products using processes that blend additives into plastic feedstock at high temperatures. Extruders are the principal type of machinery at this facility, which had multiple units installed on its ground floor. We need to reduce the risk of sales loss caused by flood damage on facilities. As for risk response costs, we consider it reasonable to adopt measures within the range of the expected financial impact. We have decided to implement measures to address flooding risks up to the value of approximately 950 million yen.

(3.1.1.29) Description of response

Action) The following countermeasures were taken against potential future flood damage. 1) The power receiving and distribution boxes, transformers, and extruder control panels on the first floor were relocated to the second floor and the main extruder units were modified so that they can be lifted by crane after dismantling in the event of future flooding. 2) An upstream river monitoring framework was set up, enabling the prediction of potential flood conditions 10 days in advance. Result) These steps ensure that in the event of future flooding on a scale even larger than that experienced during the FY2011, the equipment at this facility will suffer no damage, the duration of facility downtime will be limited to only a few weeks. (how the figure in “ Cost of Management “ was calculated) The cited measures including relocation of the power receiving and distribution boxes, transformers, and extruder control panels cost 950 million yen. These are mainly recorded as “ buildings and accompanying facilities “ and “ machinery and equipment “ on its financial report.

Climate change

(3.1.1.1) Risk identifier

Select from:

Risk3

(3.1.1.3) Risk types and primary environmental risk driver

Market

Changing customer behavior

(3.1.1.4) Value chain stage where the risk occurs

Select from:

Downstream value chain

(3.1.1.6) Country/area where the risk occurs

Select all that apply

Japan

(3.1.1.9) Organization-specific description of risk

The housing market with high energy saving performance is steadily increasing in developed countries. Consumers and building material manufacturers are interested in houses and building materials with higher performance than the criteria of mandatory regulations from the viewpoint of economics and climate change awareness. Along with

recent improvements in the thermal insulation performance of buildings, interest in energy-saving performance has been steadily increasing with the spread of ZEH (net Zero Energy House). In addition, improvements in thermal conditions due to heat insulation have been found to not only prevent heat shock, but also improve various diseases and contribute greatly to the health of residents. If we cannot sell products with adequate thermal performance, we may not be able to sell our products, which in turn, will damage our corporate image. In particular, in the Japanese market, HEAT 20: "Society of Hyper-Enhanced insulation and Advanced Technology houses for the next 20 years" (established in 2009, composed of volunteer members) suggests thermal performance standards exceeding those of ZEH. Thus, thermal insulation manufacturers must intensify competition to satisfy this grade. Unless we, Asahi Kasei, stay ahead of other companies and develop and sell high-grade products, there is a possibility of damage to our sales and corporate image.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced demand for products and services

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- Likely

(3.1.1.14) Magnitude

Select from:

- Medium

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Given that we are developing and marketing products that meet the levels proposed by HEAT 20 above, we do not expect a significant impact on our financial position in the selected future time. However, as will be mentioned below in Row 3 (3.1.1.25), the potential financial impact will be calculated in the case that we fall behind our competitors in the development and supply of energy-saving building materials and ZEH products.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

- Yes

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

8300000000

(3.1.1.25) Explanation of financial effect figure

If Asahi Kasei lags behind its competitors in the development and supply of energy-efficient building materials and ZEH products, it will inevitably lead to a decline in sales, which will not only lower its profit margin but also adversely affect its brand images. Potential financial impact is calculated as follows. Sales related to housing in 2023 were 955.4 billion yen. The profit ratio is 8.7%. In some cases, if the sales decreased by 10%, the profit would decrease by 8.3 billion yen, even in a single fiscal year. Profit decreased by 8.3 billion yen : (955.4 billion yen x 8.7% (profit ratio) x 10% (decline in sales)).

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

Other infrastructure, technology and spending, please specify :Leading our competitors in developing/delivering high-quality products to customers

(3.1.1.27) Cost of response to risk

3600000000

(3.1.1.28) Explanation of cost calculation

Situation) Along with the improvement of heat insulation performance in buildings, interest in energy savings has been increasing. If we cannot sell products with adequate insulation performance, we may not be able to sell our products, which in turn, will also damage our corporate image. Task) We need to develop a product that meets the HEAT 20 standards, which exceed the ZEH (net Zero Energy House) regulation criteria, to avoid damage to our brand image. R&D for NEOMA Zeus was funded by housing and construction material research expenses, which accounted for 3.38% of the 106.6 billion yen R&D expenditure for the entire group (3.6 billion yen : 106.6 billion yen x 3.38%).

(3.1.1.29) Description of response

Action) To avoid the risk of sales decline as a result of not meeting market demands, we have focused on standing at the forefront of innovation. " Neoma Foam " panels we developed represent the new standard in thermal insulation, with high performance marked by extremely low thermal conductivity, superior fire resistance, low gas release, freedom from ozone-depleting gases, ease of installation, and overall quality, safety, and efficiency. In addition, the product we developed is called " NEOMA Zeus " (equivalent to G1 of HEAT 20) which further surpassed the performance of Neoma Foam by 10%. Result) As a result, with solid sales increase of insulating material within our building materials business in the housing segment, sales of the entire housing segment increased by 54% from 619 billion yen in FY2016, before the release of "NEOMA Zeus", to 954 billion yen in FY2023. (how the figure in " Cost of Management " was calculated)

Water

(3.1.1.1) Risk identifier

Select from:

Risk5

(3.1.1.3) Risk types and primary environmental risk driver

Market

Changing customer behavior

(3.1.1.4) Value chain stage where the risk occurs

Select from:

- Direct operations

(3.1.1.9) Organization-specific description of risk

There is a growing concern that microplastics in the ocean attract persistent organic pollutants (POPs) such as polychlorinated biphenyls (PCBs), are picked up by plankton, which are then eaten by fish, and finally end up in the human food chain and affect our health. It is feared that these POPs are carcinogenic and endocrine-disrupting, but the complexity of the behavior of microplastics in the environment and how POPs are accumulated in marine species makes it challenging to estimate the scale and magnitude of the impact. That said, if a lot of POP-contaminated microplastics end up in the human food chain, the impact on our health could be huge, given the high bio-accumulation potential of POPs. Microplastics could result from chemical plants and from inappropriate disposal of end-of-life plastic products. Changes in consumer awareness and behavior towards microplastics or plastics in general could have an impact on our sales, since a certain percentage of our sales comes from businesses related to plastic dust, single use plastics and plastic beads, which are thought to be the main contributors to the microplastics issue.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced demand for products and services

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- Likely

(3.1.1.14) Magnitude

Select from:

- Low

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Changes in consumer awareness and behavior towards microplastics or general plastics will gradually permeate and become apparent in the short or medium term. The sales may decrease which is from our products related to plastic dust, single use plastics and plastic beads, which are thought to be the main cause of the microplastics issue, and there is a risk of losing sales of our products.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

- Yes

(3.1.1.21) Anticipated financial effect figure in the medium-term – minimum (currency)

30000000000

(3.1.1.22) Anticipated financial effect figure in the medium-term – maximum (currency)

40000000000

(3.1.1.25) Explanation of financial effect figure

The estimate range given was calculated based on the business sales and maximum and minimum unit prices of our plastic products related to plastic dust, single use plastics and plastic beads, which are thought to be the main contributors to the microplastics issue, and the magnitude and likelihood of the changes in consumer awareness/behavior affecting the sales from such products. The upper end of the range was calculated by assuming the maximum magnitude, which we understand is very unlikely to occur. Even if such a tail risk event should occur, we understand that the financial impact on our business would be limited because our sales are mostly from businesses other than those for our products related to plastic dust, single-use plastics, and plastic beads.

(3.1.1.26) Primary response to risk

Infrastructure, technology and spending

- Take action to switch to technically recyclable plastic

(3.1.1.27) Cost of response to risk

800000000000

(3.1.1.28) Explanation of cost calculation

This is the total projected amount for capital expenditure for the FY2022–FY2024 3-year period in the Asahi Kasei Group's medium-term management initiative. Some of this budget was allocated for the tackling of this issue.

(3.1.1.29) Description of response

The Asahi Kasei Group is trying to tackle this issue within our sphere of responsibility and influence. Specifically, we are trying to minimize our impact both as a producer of plastic products and as a generator of plastic waste. We are accelerating the development of both chemical recycling technology for plastic waste and material one in collaboration with other companies and academia. As for the recycling of polystyrene chemicals, for example, we established a demonstration facility on Mizushima and began operations in 2023. In addition, we are also establishing a platform to manage and visualize the supply chain based on blockchain technology.

Water

(3.1.1.1) Risk identifier

Select from:

- Risk6

(3.1.1.3) Risk types and primary environmental risk driver

Acute physical

- Flooding (coastal, fluvial, pluvial, groundwater)

(3.1.1.4) Value chain stage where the risk occurs

Select from:

- Direct operations

(3.1.1.6) Country/area where the risk occurs

Select all that apply

- Thailand

(3.1.1.7) River basin where the risk occurs

Select all that apply

- Chao Phraya

(3.1.1.9) Organization-specific description of risk

Due to the increasing scale of flooding associated with climate change, we face an increased risk of facility water damage, lost product inventories, and lost opportunities from the suspension of production operations. In FY 2011, flood waters damaged an Asahi Kasei Group facility in Thailand that was engaged in the production of plastic compounds, forcing the closure of that facility for half a year. Our losses in that incident included 2.7 billion yen in lost income for the half-year the facility was not operational. Assessments of risk to Asahi Kasei Group facilities and business offices worldwide have determined that the aforementioned facility in Thailand is the only facility at risk of being damaged by flooding. That finding demonstrated that we would be able to limit the focus of required countermeasures to that facility alone. Unless countermeasures were taken, we could potentially face the risk of incurring an equivalent burden of losses from new flooding. We recognize this magnitude scale as an appropriate potential impact.

(3.1.1.11) Primary financial effect of the risk

Select from:

- Decreased revenues due to reduced production capacity

(3.1.1.12) Time horizon over which the risk is anticipated to have a substantive effect on the organization

Select all that apply

- Short-term

(3.1.1.13) Likelihood of the risk having an effect within the anticipated time horizon

Select from:

- Virtually certain

(3.1.1.14) Magnitude

Select from:

- Low

(3.1.1.16) Anticipated effect of the risk on the financial position, financial performance and cash flows of the organization in the selected future time horizons

As mentioned above, the risks of flood damage in Thailand is one of the environmental risk that is vulnerable to the substantive effects on our financial position. However, as we are taking measures, we do not expect it to have a significant impact on our financial situation at the selected future time.

(3.1.1.17) Are you able to quantify the financial effect of the risk?

Select from:

Yes

(3.1.1.19) Anticipated financial effect figure in the short-term – minimum (currency)

400000000

(3.1.1.20) Anticipated financial effect figure in the short-term – maximum (currency)

2700000000

(3.1.1.25) Explanation of financial effect figure

Unless countermeasures were taken, we could potentially face the risk of incurring an equivalent burden of losses from new flooding. Asahi Kasei examined the possible extent of damage in the main areas where physical risks are foreseen, including by means of third-party surveys. From the results of this study, we estimated the possible damage to be approximately 400 million yen, based on assumptions that consider the frequency of disasters and even the possibility of simultaneous occurrences in the main areas of operation. We recognize this magnitude scale as an appropriate potential impact.

(3.1.1.26) Primary response to risk

Policies and plans

Develop flood emergency plans

(3.1.1.27) Cost of response to risk

950000000

(3.1.1.28) Explanation of cost calculation

Situation) Due to the increasing flood with climate change, we face an increased risk of facility water damage, especially in Thailand. Asahi Kasei recognizes the need to take appropriate measures to address this issue. Task) The aforementioned Thai plastic compound facility is engaged in the manufacture of functional plastic composite products using processes that blend additives into plastic feedstock at high temperatures. Extruders are the principal type of machinery at this facility, which had multiple units installed on its ground floor. We need to reduce the risk of sales loss caused by flood damage on facilities. As for risk response costs, we consider it reasonable to adopt measures within the range of the expected financial impact. We have decided to implement measures to address flooding risks up to the value of approximately 950 million yen.

(3.1.1.29) Description of response

Action) The following countermeasures were taken against potential future flood damage. 1) The power receiving and distribution boxes, transformers, and extruder control panels on the first floor were relocated to the second floor

and the main extruder units were modified so that they can be lifted by crane after dismantling in the event of future flooding. 2) An upstream river monitoring framework was set up, enabling the prediction of potential flood conditions 10 days in advance. Result) These steps ensure that in the event of future flooding on a scale even larger than that experienced during the FY 2011, the equipment at this facility will suffer no damage, the duration of facility downtime will be limited to only a few weeks. (how the figure in “ Cost of Management “ was calculated) The cited measures including relocation of the power receiving and distribution boxes, transformers, and extruder control panels cost 950 million yen. These are mainly recorded as “ buildings and accompanying facilities “ and “ machinery and equipment “ on its financial report.

[Add row]

(3.1.2) Provide the amount and proportion of your financial metrics from the reporting year that are vulnerable to the substantive effects of environmental risks.

Climate change

(3.1.2.1) Financial metric

Select from:

OPEX

(3.1.2.2) Amount of financial metric vulnerable to transition risks for this environmental issue (unit currency as selected in 1.2)

48000000000

(3.1.2.3) % of total financial metric vulnerable to transition risks for this environmental issue

Select from:

1-10%

(3.1.2.7) Explanation of financial figures

As described in 3.1.1.25 at Risk 1 of 3.1.1, potential economic impact of our Group's total annual CO2 emissions (3.18 million t-CO2) is 48 billion yen per year. % Impact of the amount is around 2%; 48 billion yen divided by consolidated sales for FY 2023, 2,784.9 billion yen

Water

(3.1.2.1) Financial metric

Select from:

Revenue

(3.1.2.4) Amount of financial metric vulnerable to physical risks for this environmental issue (unit currency as selected in 1.2)

2700000000

(3.1.2.5) % of total financial metric vulnerable to physical risks for this environmental

issue

Select from:

- Less than 1%

(3.1.2.7) Explanation of financial figures

As described in 3.1.1.25 at Risk 6 of 3.1.1, possible damage by flood in Thailand is 2.7 billion yen. % Impact of the amount is less than 1%; 2.7 billion yen divided by consolidated sales for FY 2023, 2,784.9 billion yen
[Add row]

(3.2) Within each river basin, how many facilities are exposed to substantive effects of water-related risks, and what percentage of your total number of facilities does this represent?

Row 1

(3.2.1) Country/Area & River basin

Thailand

- Chao Phraya

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

- Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

- Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

- Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 2

(3.2.1) Country/Area & River basin

China

Yangtze River (Chang Jiang)

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 3

(3.2.1) Country/Area & River basin

India

Other, please specify :Mithi River

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in

this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 4

(3.2.1) Country/Area & River basin

Republic of Korea

Other, please specify :Oehwanggang

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 5

(3.2.1) Country/Area & River basin

China

Other, please specify :JinJiang

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 6

(3.2.1) Country/Area & River basin

Sweden

Other, please specify :Stomnesjon

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 7

(3.2.1) Country/Area & River basin

United States of America

Other, please specify :Lake Ontario

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

Row 8

(3.2.1) Country/Area & River basin

Viet Nam

Other, please specify :song Bac Hung Hai

(3.2.2) Value chain stages where facilities at risk have been identified in this river basin

Select all that apply

Direct operations

(3.2.3) Number of facilities within direct operations exposed to water-related risk in this river basin

1

(3.2.4) % of your organization's total facilities within direct operations exposed to water-related risk in this river basin

Select from:

Less than 1%

(3.2.10) % organization's total global revenue that could be affected

Select from:

Less than 1%

(3.2.11) Please explain

Using Aqueduct, we have identified eight sites that we operate directly at a high risk of riverine flooding in the river basin.

[Add row]

(3.3) In the reporting year, was your organization subject to any fines, enforcement orders, and/or other penalties for water-related regulatory violations?

	Water-related regulatory violations
	Select from: <input checked="" type="checkbox"/> No

[Fixed row]

(3.5) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

Select from:

Yes

(3.5.1) Select the carbon pricing regulation(s) which impact your operations.

Select all that apply

Japan carbon tax

Korea ETS

(3.5.2) Provide details of each Emissions Trading Scheme (ETS) your organization is regulated by.

Korea ETS

(3.5.2.1) % of Scope 1 emissions covered by the ETS

11.7

(3.5.2.2) % of Scope 2 emissions covered by the ETS

0

(3.5.2.3) Period start date

01/01/2023

(3.5.2.4) Period end date

12/31/2023

(3.5.2.5) Allowances allocated

383514

(3.5.2.6) Allowances purchased

0

(3.5.2.7) Verified Scope 1 emissions in metric tons CO2e

363121

(3.5.2.8) Verified Scope 2 emissions in metric tons CO2e

0

(3.5.2.9) Details of ownership

Select from:

Facilities we own and operate

(3.5.2.10) Comment

Allowances allocated 383,514 t-CO2e : 383,486 t-CO2e (Korea ETS Allowances allocated for 2023) & 28 t-CO2e (Korea ETS Allowances carried over from 2022)
[Fixed row]

(3.5.3) Complete the following table for each of the tax systems you are regulated by.

Japan carbon tax

(3.5.3.1) Period start date

03/31/2023

(3.5.3.2) Period end date

03/30/2024

(3.5.3.3) % of total Scope 1 emissions covered by tax

21.1

(3.5.3.4) Total cost of tax paid

145000000

(3.5.3.5) Comment

We accounted for global warming countermeasure tax.
[Fixed row]

(3.5.4) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

Improving productivity, energy intensity, and the ratio of renewable energy use, we set such targets for businesses and factories and are implementing a strategy to reduce energy costs and the carbon tax burden. Asahi Kasei

regards green transformation centering on climate change initiatives as an essential management issue and has it positioned as a core theme in its management strategy. As part of this, Asahi Kasei introduced internal carbon pricing (ICP). The price level of ICP was set by taking factors into account such as the IEA forecasts for carbon and market prices, as well as Asahi Kasei's own cost outlooks for carbon neutrality. The ICP price was revised from 10,000 yen (100 USD)/CO₂-t to 15,000 yen (140 USD)/CO₂-t, an equivalent level to the carbon tax price forecast of 140 USD/CO₂-t in 2030 under the net zero scenario of the WEO by the IEA, from July 2023. We have utilized ICP to evaluate the profitability of capital investments and make investment decisions, furthering action toward regulatory compliance with carbon neutrality.

(3.6) Have you identified any environmental opportunities which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future?

	Environmental opportunities identified
Climate change	Select from: <input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized
Water	Select from: <input checked="" type="checkbox"/> Yes, we have identified opportunities, and some/all are being realized

[Fixed row]

(3.6.1) Provide details of the environmental opportunities identified which have had a substantive effect on your organization in the reporting year, or are anticipated to have a substantive effect on your organization in the future.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

- Opp1

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

- Increased sales of existing products and services

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- Downstream value chain

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- Canada
- Japan
- Republic of Korea
- United States of America

(3.6.1.8) Organization specific description

Increasing consumer awareness of climate change is expected to strengthen consumer preferences for electric vehicles (EVs). Asahi Kasei has developed separators for high-performance lithium-ion batteries that will be used in EVs and assumes that it will enjoy significant business opportunities if the market transition from gasoline-engine automobiles to EVs gains momentum. The lithium-ion battery separator Hipore is Asahi Kasei polyolefin film used in a wide range of high-technology fields. The membranes look like plastic films, but are actually filled with microscopic pores. Hipore is high-performance microporous membrane with wide range thickness and highly uniform pores. Asahi Kasei was the first company in the world to successfully mass produce separators for current batteries, thereby establishing a de facto standard and accumulating technology and know-how cultivated through long years of business activities. The company is equipped with product design capabilities and post-processing know-how that contribute to improved battery performance. We also possess separator development and evaluation capabilities based on battery evaluation technology, as well as the capacity for high productivity and stable product supply. For all these reasons, we have a significant advantage in this field.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

- Very likely (90–100%)

(3.6.1.12) Magnitude

Select from:

- Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

With Hipore, one of our prime focal businesses, we are mainly targeting North America, Japan, and South Korea, where EV markets are expected to expand. We are pursuing growth while aiming to achieve a market share of 30% or more in North America, where significant growth is expected in the medium to long term particularly. At a management briefing in May 2024, the business forecast for FY2031 was for 160 billion yen in sales and an operating profit margin of more than 20% based on a “strategy of North American expansion utilizing swift decision-making and various means.”

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

Yes

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

33600000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

160000000000

(3.6.1.23) Explanation of financial effect figures

As mentioned in (3.6.1.14) of this section, with Hipore, one of our prime focal businesses, we are mainly targeting North America, Japan, and South Korea, where EV markets are expected to expand. We are pursuing growth while aiming to achieve a market share of 30% or more in North America, where significant growth is expected in the medium to long term particularly. Although Hipore sales were 33.6 billion yen in FY2022, the business forecast for FY2031 was for 160 billion yen in sales and an operating profit margin of more than 20% based on a “strategy of North American expansion utilizing swift decision-making and various means.” The forecast was presented at a management briefing in May 2024. In addition, we expect that the current financial effect of 33.6 billion yen will be achieved as a minimum opportunity.

(3.6.1.24) Cost to realize opportunity

220000000000

(3.6.1.25) Explanation of cost calculation

This indicates that the following two capital investments will be executed for our Hipore business to acquire the North American and Japanese markets, where EV markets are expected to expand: 1) Expansion of coating facilities in the United States, Japan, and South Korea with a total investment of approximately 40 billion yen (announced in October 2023), and 2) Construction of an integrated film-making and coating plant in Canada with a total investment of approximately 180 billion yen (announced in April 2024). Regarding 2), in addition to receiving investment from the Development Bank of Japan and Honda Motor Co., Ltd., we will receive subsidies and more from the Canadian and Ontario provincial governments to control investment risks and pursue sufficient production scale to respond to market expansion.

(3.6.1.26) Strategy to realize opportunity

As mentioned above, with our Hipore business, the company will pursue sufficient production scale to respond to market expansion while controlling investment risks through strategies such as vertical integration and leveraging external capital. The North American EV market (xEVs) is expected to grow over the medium to long term, beyond the first period as given in the preceding paragraph and into the second and third periods of investment. Our mission is to accept the intense inquiries from automakers and battery manufacturers and ensure that we reliably meet these demands. With our investments through the third period, we target a market share of at least 30% in North America. In the future, in the energy storage business with the separator business at its core, we will develop various solution businesses using the battery-related technologies cultivated by our company to date.

Water

(3.6.1.1) Opportunity identifier

Select from:

- Opp4

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

- Increased sales of existing products and services

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- Downstream value chain

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- China
- Indonesia
- Republic of Korea
- Singapore
- Thailand

(3.6.1.8) Organization specific description

Drought conditions attributable to climate change have become increasingly common in all regions of our planet. For example, water shortages have become so commonplace in China that during periods of scarcity, local governments will order manufacturing facilities to shut down operations. Conversely, these conditions present a business opportunity for goods and services that contribute to water conservation. The Asahi Kasei Group is competitive in the field of manufacturing technology for filtration membranes that incorporate its own proprietary technologies. For example, "Microza" is a filtration module containing unique hollow filter membranes developed by Asahi Kasei for filtration systems. Several types of hollow fiber membranes are available, and various organic polymers. Liquid filtration takes place through the pores, or gaps, in the hollow fiber wall structure. Microza membranes have sharp pore size distributions that provide superior and stable filtration performance. The Asahi Kasei Group has developed its "Microza", which are with its Microza membranes used at over 1,600 plants worldwide, enjoying the tap water treatment market share of about a 20-30% in the global UF/MF market.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- Short-term
- Medium-term
- Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

Virtually certain (99–100%)

(3.6.1.12) Magnitude

Select from:

Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Sales of material segments including filtration membranes will be expected to increase in short term. This forecast assumes that the company will focus on high-value-added businesses in the materials segment with the expectation of making a profit in the segment. The global market for microfiltration (MF) and ultrafiltration (UF) systems is growing, driven by serious environmental water quality issues and water shortages, as well as increasingly stringent global wastewater regulations. Asahi Kasei is the world's leading supplier of MF/UF membranes, the scale of our MF/UF systems business will be around 20-30 billion yen in midium term. From a long-term perspective, Microza, which not only contributes to the effective use of water resources but also to climate change and resource circulation. It is expected that we will be able to continue to capture major business opportunities in the medium term and beyond, specifically business opportunities on the scale of 20-30 billion yen.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

Yes

(3.6.1.17) Anticipated financial effect figure in the short-term - minimum (currency)

517000000000

(3.6.1.18) Anticipated financial effect figure in the short-term – maximum (currency)

517000000000

(3.6.1.19) Anticipated financial effect figure in the medium-term - minimum (currency)

20000000000

(3.6.1.20) Anticipated financial effect figure in the medium-term - maximum (currency)

30000000000

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

20000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

(3.6.1.23) Explanation of financial effect figures

Short-term sales of the Environmental Solutions business, including filtration membranes, will be expected at 517 billion yen in FY 2024. The global market for microfiltration (MF) and ultrafiltration (UF) systems is growing, driven by serious environmental water quality issues and water shortages, as well as increasingly stringent global wastewater regulations. The global market for MF/UF systems expect to reach about 96.3 billion yen in 2030. Asahi Kasei is the world's leading supplier of MF/UF membranes, with its Microza membranes used at over 1,000 plants worldwide, enjoying a market share of over 20%. Based on calculations assuming a same market share, the scale of our MF/UF system business in the medium term can be calculated to be approximately 20 - 30 billion yen (96.3 billion yen x 20 - 30%). The deployment of Microza started in the production of water for injection (WFI) as an environment-friendly alternative for distillers, which emit a huge amount of CO₂. Microza is also being used as a substitute for diatomaceous earth filtration, which produces large quantities of waste. Microza is also widely used in various countries of the world in the process of recycling wastewater into industrial water by further purifying treated wastewater from sewage plants and industrial wastewater, greatly contributing to solving the water resource issue, which is one of the SDGs. Contributing to the global environment in these multiple aspects is expected to become increasingly important in the future after a certain level of progress has been made in addressing each individual environmental aspect. From a longer-term perspective, Microza, which not only contributes to the effective use of water resources but also to climate change and resource circulation. It is expected that we can capture the same level of business opportunities in the long term as in the medium term, and the scale of business have been calculated a 20 - 30 billion yen using the same simple calculation as in the medium term.

(3.6.1.24) Cost to realize opportunity

12300000000

(3.6.1.25) Explanation of cost calculation

(how the figure in " Cost to realize opportunity " was calculated) Filtration membranes are part of Environmental Solutions business segment, the cost of research and development for which was 12.3 billion yen in FY 2023. That cost is composed of labor, material and depreciation. Research and development in the chemicals segment is focused on the environment, resources, and energy.

(3.6.1.26) Strategy to realize opportunity

As mentioned in 3.6.1.23, the global market for microfiltration and ultrafiltration systems is growing, driven by serious environmental water quality issues and water shortages. As many countries face water shortages and a growing need to improve water quality, they are increasingly adopting filtration membranes and water filtration and recycling systems. We consider this opportunity strategic because the adoption of Microza has been growing firmly in many countries that face water shortages and have growing needs for improved water quality. Asahi Kasei has contributed, and will continue to contribute, to solutions for a wide range of environmental problems related to water resources by achieving further growth in orders for large-scale water-treatment facilities throughout the world, particularly in Asian countries where the number and scale of such projects is forecasted to increase steadily. In fact, we are trying to shift our focus away from the traditional Japanese and US markets towards countries that face water shortages such as China, Korea, Singapore, Thailand, Indonesia, and Middle Eastern countries. For example, facing water shortages, the Singaporean government is promoting a water reclamation policy called NEWater, one of which is the reuse of sewage wastewater through recycling. Asahi Kasei's Microza membranes are used in many of these wastewater treatment plants, with a adoption rate of over 60%. This is the result of Asahi Kasei's filtration membranes being recognized for their chemical resistance and long lifespan, and it gives us the opportunity to make a significant contribution to water security in Singapore. We are also challenging to make contributions to the global environment in the multiple aspects, that will lead to long-term business. Recently, from April 2024, we began selling a membrane system to produce sterile water that is used for the preparation of injections. The membrane system, which utilizes Microza hollow-fiber membrane for water treatment, was developed as an alternative to the conventional distillation processes for the production of sterile water, reducing the need to generate steam, this system enables lower CO₂ emissions. We expect that the new system will allow its customers to reduce CO₂

emissions while producing a stable supply of safer sterile water for the pharmaceutical industry.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

- Opp2

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

- Development of new products or services through R&D and innovation

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- Downstream value chain

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- Italy
- Japan
- Britain and Northern Ireland
- France
- Germany
- Australia
- United States of America
- United Kingdom of Great

(3.6.1.8) Organization specific description

Hydrogen is expected to play an important role in achieving a carbon-neutral society. Our hydrogen-related business is listed in our Medium-term Management Plan 2024 (“Be a Trailblazer”) as one of “10 Growth Gears” (GG10) for driving our next phase of growth. To address the arrival of the hydrogen economy, we are strategizing to accelerate business development of alkaline water electrolysis systems, an area in which we have a technological advantage. With a proven track record in the operation of 10 MW water electrolysis systems, Asahi Kasei is working to improve system durability and reliability. We are also taking a comprehensive approach, developing everything from the basic components of electrolyzers to complete systems. Our alkaline water electrolysis system is based on the technology of our ion-exchange membrane salt electrolysis business, which has been developed for nearly 50 years. We are aware that we are the only company in the world that can handle every aspect of the salt electrolysis business, from the sale of parts to system monitoring. We consider membrane technology to be particularly important. By improving this technology, we aim to create highly efficient electrolytic cells. Our aim in the hydrogen-related business is to work on both technology and business development with the goal of commercialization by 2025.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Increased revenues through access to new and emerging markets

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a

substantive effect on the organization

Select all that apply

- Medium-term
- Long-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

- Likely (66–100%)

(3.6.1.12) Magnitude

Select from:

- High

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

The capacity for water electrolyzer installations is expected to grow exponentially, from 1 GW in 2022 to 10 GW in 2025 and 85 GW by 2030. Specific targets for hydrogen deployment and support measures in Europe’s REPowerEU plan, the Infrastructure Investment and Jobs Act and the Inflation Reduction Act of the US, and Japan’s Hydrogen Society Promotion Law are adding certainty to hydrogen projects and pushing forward investment decisions that had been stalled. As part of a project commissioned by NEDO, Asahi Kasei has installed a large 10 MW water electrolysis system at the Fukushima Hydrogen Energy Research Field (FH2R). The system has been in operation since 2020. It is one of the world’s largest-scale operational water electrolysis systems. We are also planning another (NEDO) Green Innovation Fund Project and a large-scale demonstration project with several other partners to establish commercialization technologies and systems. The economic ripple effects of the Green Innovation Fund Project (global market scale estimate) are expected to amount to around 0.4 trillion yen (cumulative total by 2030) and 4.4 trillion yen/year (by 2050). In the market, Asahi Kasei is aiming to achieve 100 billion yen in annual sales by around 2030. This figure is shown in the “Material Sector Business Briefing” held in December 2023.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

- Yes

(3.6.1.21) Anticipated financial effect figure in the long-term - minimum (currency)

100000000000

(3.6.1.22) Anticipated financial effect figure in the long-term – maximum (currency)

100000000000

(3.6.1.23) Explanation of financial effect figures

The capacity for water electrolyzer installations is expected to grow exponentially, from 1 GW in 2022 to 10 GW in 2025 and 85 GW by 2030. Specific targets for hydrogen deployment and support measures in Europe’s REPowerEU plan, the Infrastructure Investment and Jobs Act and the Inflation Reduction Act of the US, and Japan’s Hydrogen Society Promotion Law are adding certainty to hydrogen projects and pushing forward investment decisions that had been stalled. As part of a project commissioned by NEDO, Asahi Kasei has installed a large 10 MW water

electrolysis system at the Fukushima Hydrogen Energy Research Field (FH2R). The system has been in operation since 2020. It is one of the world's largest-scale operational water electrolysis systems. We are also planning another (NEDO) Green Innovation Fund Project and a large-scale demonstration project with several other partners to establish commercialization technologies and systems. The economic ripple effects of the Green Innovation Fund Project (global market scale estimate) are expected to amount to around 0.4 trillion yen (cumulative total by 2030) and 4.4 trillion yen/year (by 2050). In the market, Asahi Kasei is aiming to achieve 100 billion yen in annual sales by around 2030. This figure is shown in the "Material Sector Business Briefing" held in December 2023.

(3.6.1.24) Cost to realize opportunity

75000000000

(3.6.1.25) Explanation of cost calculation

Situation) We are strategizing to accelerate business development of alkaline water electrolysis systems, an area in which we have a technological advantage. A budget of 75 billion yen, the amount indicated in the Green Innovation Fund Project, will be used to pay for the practical implementation of project. Task) To commercialize the hydrogen production process, it is vital to address the different water electrolysis system requirements of different customers. It is also necessary to build production capacity and supply chains to meet the rapidly growing demand for water electrolysis systems.

(3.6.1.26) Strategy to realize opportunity

Action) The action Asahi Kasei is taking to address this issue is to produce water electrolysis systems that satisfy customer requirements through in-house R&D and production engineering capabilities, and to promote standardization of the water electrolysis system and ancillary equipment in cooperation with other relevant companies and industry associations. We have joined the Hydrogen Council, a global initiative related to hydrogen, as a steering member. As steering members of the council, we will collaborate with a variety of companies and organizations along the supply chain through our involvement in the activities of the Hydrogen Council. We are also participating in the Japan Hydrogen Association (JHA), an industry-government-academia group dedicated to discussions aimed at promoting the implementation of hydrogen technology in Japan as an executive member. On top of activities aimed at resolving issues related to real-world application of hydrogen technology, we take part in discussions on the direction of the JHA's activities as a member of the Steering Committee. Through these industry associations, we are compiling and sharing industry opinions with the aim of building up the international and domestic green hydrogen market and water electrolysis industry. We aim to set up a system of cooperation with a view to building partnerships both within the Asahi Kasei Group and also externally, and plan to secure the production capacity and supply chain structure and scale to meet market demand. Result) Based on the business structure we have cultivated in the salt electrolysis business, we are focusing first on electrolyzer sales and operation and maintenance services. We see Europe and the US as high-priority markets because of their maturity in terms of policies and potential partners. And if there are promising projects in Japan, we will participate in them.

Climate change

(3.6.1.1) Opportunity identifier

Select from:

Opp3

(3.6.1.3) Opportunity type and primary environmental opportunity driver

Products and services

Increased sales of existing products and services

(3.6.1.4) Value chain stage where the opportunity occurs

Select from:

- Downstream value chain

(3.6.1.5) Country/area where the opportunity occurs

Select all that apply

- Japan

(3.6.1.8) Organization specific description

Global warming caused by climate change has increased consumer interest in housing and living environments, and consequently also in the energy-saving performance of buildings and measures to counter the increasing risk of wind and flood damage, and other kinds of severe natural disasters. Asahi Kasei sees this trend as an opportunity to supply housing that matches these needs. Asahi Kasei has been accumulating experience and achievements in its housing business through its Hebel Haus products since Asahi Kasei Homes was established in 1972. The company also boasts an industry-leading track record in the business of apartment building reconstruction. In addition, we are continuing to pursue contributions to the life cycle of housing and business activities from an environmental perspective, with a focus on decarbonization as well as strong resilience to disasters, e.g., by promoting ZEH (net Zero Energy House), promoting renewable energy by joining the RE100 initiative (accomplishment in FY2023), and acquiring SBT certification.

(3.6.1.9) Primary financial effect of the opportunity

Select from:

- Increased revenues resulting from increased demand for products and services

(3.6.1.10) Time horizon over which the opportunity is anticipated to have a substantive effect on the organization

Select all that apply

- Short-term
- Medium-term

(3.6.1.11) Likelihood of the opportunity having an effect within the anticipated time horizon

Select from:

- Very likely (90–100%)

(3.6.1.12) Magnitude

Select from:

- Medium-high

(3.6.1.14) Anticipated effect of the opportunity on the financial position, financial performance and cash flows of the organization in the selected future time horizons

Toward realizing CN by 2050, housing laws have been revised, and based on this, Housing Performance Indication System and higher performance grades such as insulation have been newly established and made mandatory, thus ZEH housing is being promoted throughout society. Asahi Kasei Homes has steadily increased their ZEH rate by developing specifications that can meet these system and grades and by popularization. Asahi Kasei Homes set a ZEH rate target of 90% for FY 2025, and the actual result for FY 2023 was 88%. If we simply multiply the sales of

order-built homes in FY 2023 (approximately 400 billion yen) by the ZEH rate, it is approximately 350 billion yen.

(3.6.1.15) Are you able to quantify the financial effects of the opportunity?

Select from:

Yes

(3.6.1.17) Anticipated financial effect figure in the short-term - minimum (currency)

368000000000

(3.6.1.18) Anticipated financial effect figure in the short-term – maximum (currency)

376000000000

(3.6.1.23) Explanation of financial effect figures

Toward realizing CN by 2050, housing laws have been revised, and based on this, Housing Performance Indication System and higher performance grades such as insulation have been newly established and made mandatory, thus ZEH housing is being promoted throughout society. Asahi Kasei Homes has steadily increased their ZEH rate by developing specifications that can meet these system and grades and by popularization. Asahi Kasei Homes set a ZEH rate target of 90% for FY 2025 and FY 2024, and the actual result for FY 2023 was 88%. If we simply multiply the sales forecast of order-built homes in FY 2024 (418 billion yen) by the ZEH rate for FY 2023, it is approximately 368 billion yen; in case to multiply by the ZEH rate target for FY 2024, it is approximately 376 billion yen.

(3.6.1.24) Cost to realize opportunity

3600000000

(3.6.1.25) Explanation of cost calculation

R&D expenses in the homes segment in FY 2023 was 3.6 billion yen. Asahi Kasei Homes has steadily increased their ZEH rate by developing specifications that can meet these system and grades and by popularization, and will continue to do so in the future.

(3.6.1.26) Strategy to realize opportunity

Asahi Kasei Homes has rented roofs of “Hebel Mason”, multi-dwelling homes that were sold in urban areas, from owners and installed solar panels and storage batteries on the “Hebel Mason”. As a result, Asahi Kasei Homes gets renewable energy from those facilities and supplies it to renters of “Hebel Mason” and Asahi Kasei group. In FY 2023, these efforts were recognized and Asahi Kasei Homes won the “Jury’s Special Award of the Energy Conservation Grand Prize”. Asahi Kasei Homes will reduce not only our own GHG emissions, but also GHG emissions in society through our initiatives, and will contribute to the realization of CN.

[Add row]

(3.6.2) Provide the amount and proportion of your financial metrics in the reporting year that are aligned with the substantive effects of environmental opportunities.

Climate change

(3.6.2.1) Financial metric

Select from:

Revenue

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

33600000000

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

1-10%

(3.6.2.4) Explanation of financial figures

Sales of Hipore LIB separator was 33.6 billion yen for FY 2022. 33.6 billion yen divided by Asahi Kasei's total sales, 2,726.5 billion yen for FY 2022 is approx. 1%.

Water

(3.6.2.1) Financial metric

Select from:

CAPEX

(3.6.2.2) Amount of financial metric aligned with opportunities for this environmental issue (unit currency as selected in 1.2)

56200000000

(3.6.2.3) % of total financial metric aligned with opportunities for this environmental issue

Select from:

31-40%

(3.6.2.4) Explanation of financial figures

Capex of Environmental Solutions subsegment in which Microza water treatment membrane is included was 56.2 billion yen for FY 2023. 56.2 billion yen divided by Asahi Kasei's total Capex, 183.7 billion yen for FY 2023, is approx. 31%.

[Add row]

C4. Governance

(4.1) Does your organization have a board of directors or an equivalent governing body?

(4.1.1) Board of directors or equivalent governing body

Select from:

Yes

(4.1.2) Frequency with which the board or equivalent meets

Select from:

More frequently than quarterly

(4.1.3) Types of directors your board or equivalent is comprised of

Select all that apply

Executive directors or equivalent

Non-executive directors or equivalent

Independent non-executive directors or equivalent

(4.1.4) Board diversity and inclusion policy

Select from:

Yes, and it is publicly available

(4.1.5) Briefly describe what the policy covers

The policy for the selection of Board candidates shall apply to all persons elected to the Board of Directors. In choosing director candidates, those with excellent discernment and abilities befitting of a director are selected. For in-house directors, those who are considered to have expertise, experience, and abilities in their field of responsibility are selected as candidates. Meanwhile, external directors are expected to have objective management supervision based on advanced discernment, selecting a wide range of candidates with rich experience in management, academia, government, etc., as befitting of the position.

[Fixed row]

(4.1.1) Is there board-level oversight of environmental issues within your organization?

	Board-level oversight of this environmental issue
Climate change	Select from:

	Board-level oversight of this environmental issue
	<input checked="" type="checkbox"/> Yes
Water	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(4.1.2) Identify the positions (do not include any names) of the individuals or committees on the board with accountability for environmental issues and provide details of the board’s oversight of environmental issues.

Climate change

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- President

(4.1.2.2) Positions’ accountability for this environmental issue is outlined in policies applicable to the board

Select from:

- Yes

(4.1.2.3) Policies which outline the positions’ accountability for this environmental issue

Select all that apply

- Board Terms of Reference

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

- Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- Reviewing and guiding annual budgets
- Overseeing and guiding scenario analysis
- Overseeing the setting of corporate targets
- Monitoring progress towards corporate targets

- Approving corporate policies and/or commitments
- Overseeing and guiding major capital expenditures
- Monitoring the implementation of the business strategy
- Overseeing and guiding the development of a business strategy
- Overseeing and guiding acquisitions, mergers, and divestitures
- Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

(4.1.2.7) Please explain

The highest responsibility for climate-related issues lies with the president of the Asahi Kasei Group. The president is responsible for promoting sustainability and accountable for its promotion and results. Our GHG emission reduction targets have been discussed and decided by the board. The board has actively addressed climate change as part of its medium-term business plan, which is currently in effect, and it deliberates and makes decisions on climate-related issues on a continuous basis. Discussions in the Task Force on Climate-related Financial Disclosures (TCFD) are also handled by the board. Accordingly, the highest level of responsibility for climate-related issues after the president lies with the board. All board members check and oversee the president in his duties as chief operating officer, which include climate-related issues. The company has three committees for specialist discussions of climate-related issues: the Sustainability Promotion Committee, the Global Environment Measures Promotion Committee, and the Environment Safety Health and Quality Assurance (ESH&QA) Committee. The discussions and policies of these committees are reported to the board and reflected in group management discussions. For example, discussions held by the company's board based on the reports of these committees led to the declaration in 2021 of our aim of achieving carbon neutrality by 2050. Such discussions include analysis and countermeasures to address physical and transition risks, along with the pursuit of opportunities, in accordance with the TCFD framework. The highest responsibility for overall risk management lies with the president, who is assisted by the director in charge of Risk and Compliance under the supervision of the board. The Risk and Compliance Committee, chaired by the President, ensures that the heads of each department are notified of all management-level decisions and instructions relating to risk management, including climate change risk. Important investments are decided by the board, with internal carbon pricing reflected to confirm profitability and determine the pros and cons of any investment. The board meets once a month, as a rule, or as and when necessary.

Water

(4.1.2.1) Positions of individuals or committees with accountability for this environmental issue

Select all that apply

- President

(4.1.2.2) Positions' accountability for this environmental issue is outlined in policies applicable to the board

Select from:

- Yes

(4.1.2.3) Policies which outline the positions' accountability for this environmental issue

Select all that apply

- Board Terms of Reference

(4.1.2.4) Frequency with which this environmental issue is a scheduled agenda item

Select from:

- Scheduled agenda item in some board meetings – at least annually

(4.1.2.5) Governance mechanisms into which this environmental issue is integrated

Select all that apply

- Reviewing and guiding annual budgets
- Overseeing and guiding scenario analysis
- Overseeing the setting of corporate targets
- Monitoring progress towards corporate targets
- Approving corporate policies and/or commitments
- Overseeing and guiding major capital expenditures
- Monitoring the implementation of the business strategy
- Overseeing and guiding the development of a business strategy
- Overseeing and guiding acquisitions, mergers, and divestitures
- Reviewing and guiding the assessment process for dependencies, impacts, risks, and opportunities

(4.1.2.7) Please explain

The ultimate responsibility for water-related issues in the Group lies with the president of the Asahi Kasei Group. In our group, water-related business is one of the most important management issues in terms of risks and opportunities for our business. In terms of risk, many of our Group's plants are located in areas with abundant water resources, but some factories have the risk of depleting water resources, which could have a major impact on factory operations when risks materialize. We recognize that not only current factory responses, but also decisions on future locations are important management issues. In addition, the Board of Directors is also discussing analyses and responses based on the TCFD framework, such as considering necessary responses, assuming the possibility of flooding and the leakage of hazardous materials as weather disasters become more severe due to climate change. On the other hand, from an opportunity perspective, we are considering measures to contribute as a business in anticipation of a shortage of water resources and the increasing uneven distribution of water resources worldwide. These are reflected in the content of the medium-term management plan and the annual management plan that the president takes the lead in formulating. The Environment Safety Health and Quality Assurance (ESH&QA) Committee deliberates ESH&QA plans and results, which include those related to water issues, in annual ESH&QA meetings. The Secretary of the ESH&QA Committee reports the outcomes of the Committee to the Management Council once a year. Most decisions are made within annual ESH&QA meetings and/or the Management Council, but if something comes up that shall be discussed and approved by the Board of Directors, e.g. water-related issues relating to acquisitions and major capital investments as well as important issues relating to water membranes business, a person in charge of the issue explains it to the Board. Apart from this, the Director in charge of ESH&QA activities reports the progress of the Group's ESH&QA activities to the President twice a year. We believe this multi-layered governance system enables the management and the Board of Directors to concentrate on water-related matters with high priority.

[Fixed row]

(4.2) Does your organization's board have competency on environmental issues?

Climate change

(4.2.1) Board-level competency on this environmental issue

Select from:

- Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- Having at least one board member with expertise on this environmental issue
- Other, please specify :The chairman has been the chairman of the Environmental Committee of Keidanren, the business round table of Japan. Through that experience, he has gained a wealth of knowledge about the environment, especially climate change and water.

(4.2.3) Environmental expertise of the board member

Experience

- Active member of an environmental committee or organization

Water

(4.2.1) Board-level competency on this environmental issue

Select from:

- Yes

(4.2.2) Mechanisms to maintain an environmentally competent board

Select all that apply

- Having at least one board member with expertise on this environmental issue
- Other, please specify :The chairman has been the chairman of the Environmental Committee of Keidanren, the business round table of Japan. Through that experience, he has gained a wealth of knowledge about the environment, especially climate change and water.

(4.2.3) Environmental expertise of the board member

Experience

- Active member of an environmental committee or organization

[Fixed row]

(4.3) Is there management-level responsibility for environmental issues within your organization?

	Management-level responsibility for this environmental issue
Climate change	Select from: <input checked="" type="checkbox"/> Yes
Water	Select from:

	Management-level responsibility for this environmental issue
	<input checked="" type="checkbox"/> Yes

[Fixed row]

(4.3.1) Provide the highest senior management-level positions or committees with responsibility for environmental issues (do not include the names of individuals).

Climate change

(4.3.1.1) Position of individual or committee with responsibility

Executive level

- President

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- Assessing environmental dependencies, impacts, risks, and opportunities
- Managing environmental dependencies, impacts, risks, and opportunities

Policies, commitments, and targets

- Setting corporate environmental policies and/or commitments
- Setting corporate environmental targets

Strategy and financial planning

- Conducting environmental scenario analysis
- Developing a business strategy which considers environmental issues
- Implementing the business strategy related to environmental issues
- Managing acquisitions, mergers, and divestitures related to environmental issues

(4.3.1.4) Reporting line

Select from:

- Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- Annually

(4.3.1.6) Please explain

Asahi Kasei Group has established two committees under the president to promote individual priority activities on climate issues. They are the Sustainability Promotion Committee, the Environment Health Safety and Quality Assurance (EHS&QA) Committee. The Sustainability Promotion Committee, chaired by the President and comprised of members including the Executive Officer for Technology Functions, the Executive Officer for Business Functions, and the Executive Officers for the 3 business sectors discusses the most important strategic themes related with Sustainability such as carbon neutrality. The Sustainability Promotion Committee works closely with the Environmental Safety and Quality Assurance Committee, and other related committees to discuss general ESG issues and formulate policies. The Environmental Safety and Quality Assurance Committee is chaired by the President and consists of the Director in charge of the Environment Health Safety and Quality Assurance (EHS&QA) activities and EHS&QA managers. It is the core organization for EHS&QA management planning, target setting, taking actions, monitoring, auditing, reporting and reviewing. Their tasks include responding to climate change problems and serve as the basis of the promotion system to work with all the business departments. Specifically, the committee submits an action plan specifying concrete measures and achievement dates to achieve the goals, and along with the organization's EHS&QA implementation report to the Environmental Safety & Quality Assurance Director, is also reported to the board. It deliberates EHS&QA plans and results, which include those related to climate issues, in EHS&QA meetings. The EHS&QA Promotion Council, which is chaired by the Lead Executive Officer in charge of EHS&QA, is held four times a year.

Water

(4.3.1.1) Position of individual or committee with responsibility

Executive level

- President

(4.3.1.2) Environmental responsibilities of this position

Dependencies, impacts, risks and opportunities

- Assessing environmental dependencies, impacts, risks, and opportunities
- Managing environmental dependencies, impacts, risks, and opportunities

Strategy and financial planning

- Conducting environmental scenario analysis
- Developing a business strategy which considers environmental issues
- Implementing the business strategy related to environmental issues
- Managing acquisitions, mergers, and divestitures related to environmental issues

(4.3.1.4) Reporting line

Select from:

- Reports to the board directly

(4.3.1.5) Frequency of reporting to the board on environmental issues

Select from:

- Annually

(4.3.1.6) Please explain

The Environment, Safety, Health and Quality Assurance (ESH&QA) Committee is a corporate organ under the direct authority of the President. It is chaired by the President and consists of a Director in charge of ESH&QA activities

and ESH&QA managers. It deliberates ESH&QA plans and results, which include those related to water issues, in annual ESH&QA meetings. The Secretary of the Committee reports the outcomes of the Committee to the Management Council once a year. Most decisions are made within annual ESH&QA meetings and/or the Management Council, but if something comes up that shall be discussed and approved by the Board of Directors, e.g. water-related issues relating to acquisitions and major capital investments as well as important issues relating to water membranes business, a person in charge of the issue explains it to the Board. Apart from this, the Director in charge of ESH&QA activities reports the progress of the Group's ESH&QA activities to the President twice a year. [Add row]

(4.5) Do you provide monetary incentives for the management of environmental issues, including the attainment of targets?

Climate change

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

14

(4.5.3) Please explain

The achievement of nonfinancial targets, including individual targets such as promoting sustainability, is incentivized as performance-based remuneration. Performance-based remuneration was calculated as comprising 14% of the whole, with performance-based remuneration for directors in FY2023 at 85 million yen and total director remuneration at 601 million yen (14% : 85,000,000 / 601,000,000 yen). Remuneration is linked with assessments of things such as climate change and sustainability promotion.

Water

(4.5.1) Provision of monetary incentives related to this environmental issue

Select from:

Yes

(4.5.2) % of total C-suite and board-level monetary incentives linked to the management of this environmental issue

14

(4.5.3) Please explain

The achievement of nonfinancial targets, including individual targets such as promoting sustainability, is incentivized as performance-based remuneration. Performance-based remuneration was calculated as comprising 14% of the whole, with performance-based remuneration for directors in FY2023 at 85 million yen and total director remuneration at 601 million yen (14% : 85,000,000 / 601,000,000 yen). Remuneration is linked with assessments of things such as climate change and sustainability promotion.

[Fixed row]

(4.5.1) Provide further details on the monetary incentives provided for the management of environmental issues (do not include the names of individuals).

Climate change

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

Director on board

(4.5.1.2) Incentives

Select all that apply

Bonus - % of salary

(4.5.1.3) Performance metrics

Targets

Progress towards environmental targets

Achievement of environmental targets

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

Both Short-Term and Long-Term Incentive Plan, or equivalent

(4.5.1.5) Further details of incentives

Performance-linked remuneration, which constitutes a part of the remuneration of executive directors, is calculated based on a comprehensive judgment on the basis of achievement of financial targets such as consolidated net sales, operating income, ROIC, etc., together with achievement of individually set targets including progress on sustainability. The sustainability activities include the management of climate change and water security issues. Standards for financial incentives are selected as appropriate for clear and objective evaluation based on earnings results together with the perspective of awareness for improving invested capital efficiency. The formula required to calculate individual performance-linked remuneration is outlined as follows. individual performance-linked remuneration amount : Index calculated by evaluation x basic amount by rank * Coefficient comprehensive considering achievement of financial targets and nonfinancial targets.*

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

The company's remuneration of directors is a key element of its corporate governance, reflecting incentives for achieving sustainability promotion, including climate change initiatives. The company believes that incentive schemes have various advantages because the results are fairly assessed. This is especially true in the field of sustainability, which was not seen as having sufficient importance in the past. In addition, rewards can be set according to individual performance, which stimulates the motivation to work within the company.

Water

(4.5.1.1) Position entitled to monetary incentive

Board or executive level

- Director on board

(4.5.1.2) Incentives

Select all that apply

- Bonus - % of salary

(4.5.1.3) Performance metrics

Targets

- Progress towards environmental targets
- Achievement of environmental targets

(4.5.1.4) Incentive plan the incentives are linked to

Select from:

- Both Short-Term and Long-Term Incentive Plan, or equivalent

(4.5.1.5) Further details of incentives

Performance-linked remuneration, which constitutes a part of the remuneration of executive directors, is calculated based on a comprehensive judgment on the basis of achievement of financial targets such as consolidated net sales, operating income, ROIC, etc., together with achievement of individually set targets including progress on sustainability. The sustainability activities include the management of climate change and water security issues. Standards for financial incentives are selected as appropriate for clear and objective evaluation based on earnings results together with the perspective of awareness for improving invested capital efficiency. The formula required to calculate individual performance-linked remuneration is outlined as follows. individual performance-linked remuneration amount : Index calculated by evaluation x basic amount by rank * Coefficient comprehensive considering achievement of financial targets and nonfinancial targets.*

(4.5.1.6) How the position's incentives contribute to the achievement of your environmental commitments and/or climate transition plan

The company's remuneration of directors is a key element of its corporate governance, reflecting incentives for achieving sustainability promotion, including climate change initiatives. The company believes that incentive schemes have various advantages because the results are fairly assessed. This is especially true in the field of sustainability, which was not seen as having sufficient importance in the past. In addition, rewards can be set according to individual performance, which stimulates the motivation to work within the company.

[Add row]

(4.6) Does your organization have an environmental policy that addresses environmental issues?

	Does your organization have any environmental policies?
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(4.6.1) Provide details of your environmental policies.

Row 1

(4.6.1.1) Environmental issues covered

Select all that apply

- Climate change
- Water

(4.6.1.2) Level of coverage

Select from:

- Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(4.6.1.4) Explain the coverage

Our ESH & QA and Health & Productivity Management Policy includes the statement “To counter climate change and preserve the global environment, we reduce the environmental burden of all operations.” In order to prevent global warming, we aim to contribute to achieve a carbon-neutral and sustainable world, and will work throughout the entire product life-cycle from development to disposal. For the Asahi Kasei Group, “efforts to reduce the environmental burden” naturally means efforts to pursue the effective use of water resources and reduce the impact in the form of effluent. We also explicitly uphold “ensuring safe and comfortable workplace environments” in our Code of Conduct and promise to strive to prevent occupational accidents, build comfortable workplace environments and maintain and improve employee health. We take it as our responsibility to safeguard employees access to safe water and sanitation as a human right, which we believe is indispensable to ensure safe and comfortable workplace environments.

(4.6.1.5) Environmental policy content

Climate-specific commitments

- Other climate-related commitment, please specify :efforts to reduce the environmental burden

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- No, but we plan to align in the next two years

(4.6.1.7) Public availability

Select from:

- Publicly available

(4.6.1.8) Attach the policy

The Asahi Kasei Group ESH & QA and Health & Productivity Management Policy.pdf

Row 2

(4.6.1.1) Environmental issues covered

Select all that apply

- Climate change

(4.6.1.2) Level of coverage

Select from:

- Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- Direct operations
- Upstream value chain
- Downstream value chain

(4.6.1.4) Explain the coverage

In accordance with its Group Mission, the Asahi Kasei Group is committed to contributing to life and living for people around the world. The Asahi Kasei Group has long been aware that climate change is a global issue that will have a significant impact on both the natural environment and society, and we see it as our mission to use the scientific expertise we have cultivated since our founding to deal with this issue leveraging our combined strength. In May 2021, the Asahi Kasei Group adopted a policy for carbon neutrality, sets forth the objectives with regard to absolute GHG emissions of the Asahi Kasei Group. In addition, the Asahi Kasei Group works to contribute to reducing GHG emissions throughout society. We are also working toward the 2030 targets of GHG Reduction Contribution throughout the product life cycle.

(4.6.1.5) Environmental policy content

Climate-specific commitments

- Commitment to net-zero emissions

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- No, but we plan to align in the next two years

(4.6.1.7) Public availability

Select from:

- Publicly available

Row 3

(4.6.1.1) Environmental issues covered

Select all that apply

- Water

(4.6.1.2) Level of coverage

Select from:

- Organization-wide

(4.6.1.3) Value chain stages covered

Select all that apply

- Direct operations

(4.6.1.4) Explain the coverage

Asahi Kasei Group's business is intrinsically related to water resources. Ensuring their future viability is one of our societal missions and a prerequisite for the continuity of our business. Asahi Kasei has a policy of reducing water use and endeavors to reduce the amount of water used in our plants and increase its efficiency through recycling. To help prevent water pollution, the Asahi Kasei Group is thorough in its water discharge management and leakage countermeasures against the contamination of bodies of water or groundwater. In addition, as an annual goal for group-wide environmental safety activities, we have set zero instances of leakage as covered by the Water Pollution Prevention Act.

(4.6.1.5) Environmental policy content

Water-specific commitments

- Commitment to control/reduce/eliminate water pollution
- Commitment to reduce water consumption volumes

(4.6.1.6) Indicate whether your environmental policy is in line with global environmental treaties or policy goals

Select all that apply

- No, but we plan to align in the next two years

(4.6.1.7) Public availability

Select from:

Publicly available

[Add row]

(4.10) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

(4.10.1) Are you a signatory or member of any environmental collaborative frameworks or initiatives?

Select from:

Yes

(4.10.2) Collaborative framework or initiative

Select all that apply

International Sustainability & Carbon Certification (ISCC)

Task Force on Climate-related Financial Disclosures (TCFD)

UN Global Compact

(4.10.3) Describe your organization's role within each framework or initiative

The Asahi Kasei Group endorses the UN Global Compact and participates in its Supply Chain Subcommittee, which works to promote activities to help establish a sustainable CSR (corporate social responsibility) procurement mechanism for companies that transcends industries and interests. In May 2019, we also expressed our agreement for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD), because we believe that it is useful for companies to disclose their risks and opportunities to build greater trust with stakeholders and to sustainably increase their corporate value. Our ISCC initiatives will be disclosed in 13.1.1.

[Fixed row]

(4.11) In the reporting year, did your organization engage in activities that could directly or indirectly influence policy, law, or regulation that may (positively or negatively) impact the environment?

(4.11.1) External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the environment

Select all that apply

Yes, we engaged directly with policy makers

Yes, we engaged indirectly through, and/or provided financial or in-kind support to a trade association or other intermediary organization or individual whose activities could influence policy, law, or regulation

(4.11.2) Indicate whether your organization has a public commitment or position statement to conduct your engagement activities in line with global environmental treaties or policy goals

Select from:

Yes, we have a public commitment or position statement in line with global environmental treaties or policy goals

(4.11.3) Global environmental treaties or policy goals in line with public commitment or position statement

Select all that apply

- Paris Agreement
- Sustainable Development Goal 6 on Clean Water and Sanitation

(4.11.5) Indicate whether your organization is registered on a transparency register

Select from:

Yes

(4.11.6) Types of transparency register your organization is registered on

Select all that apply

- Voluntary government register
- Non-government register

(4.11.7) Disclose the transparency registers on which your organization is registered & the relevant ID numbers for your organization

EU Transparency Register Asahi Kasei Europe REG Number:374003692405-67 InfluenceMap Asahi Kasei

(4.11.8) Describe the process your organization has in place to ensure that your external engagement activities are consistent with your environmental commitments and/or transition plan

All our collaborative activities are centrally monitored by the Corporate Planning Department, which formulates and promotes our Medium-term Management Plan, including the climate transition plan, and harmonized to avoid any contradictions. In implementing the activities, we collaborate with all relevant departments within the company, seeking management-level judgment on any important matters. When public comments are invited on proposed regulations on the environment, such as GHG emissions, energy consumption, effluents, air pollutants, and soil contamination, which we find scientifically ungrounded, too excessive, or inconsistent with existing regulations, we submit our comments individually or collectively through industry associations such as the Japan Chemical Industry Association (JCIA). When we submit our comments individually, we carefully examine and review our comments internally over and over again in the sense of our water policy before they are submitted to the government so that they are fair, balanced, and consistent with our existing policies. If any unfairness, imbalance, or inconsistency is found, it should be rectified during this process. When we submit our comments through the industry association, we follow the same steps to prepare our comments, but then take part in a discussion within the JCIA to prepare the JCIA's comments. No single company can control the outcome of the discussion, but we make every effort to have our opinions reflected in the JCIA's comments. The JCIA's comments are often submitted through the Federation of Economic Organizations. In addition to public comments, we use a variety of channels to promote our external engagement activities to ensure that our environmental commitments and transition plan do not deviate from goals for Japan or globally. For example, our Board Chair serves as Vice Chair of Keidanren, Chair of the Keidanren Environmental Committee, and a member of the Advisory Committee for Natural Resources and Energy that is discussing Japan's 7th Strategic Energy Plan, and sits on the governance board of Circular Partners, an industry–government–academia partnership on the circular economy. In addition, we participate in the initiatives, discussions, and initiatives of the following industry associations: The GX League (a framework to promote Green

(4.11.1) On what policies, laws, or regulations that may (positively or negatively) impact the environment has your organization been engaging directly with policy makers in the reporting year?

Row 1

(4.11.1.1) Specify the policy, law, or regulation on which your organization is engaging with policy makers

Act on the Promotion of Effective Utilization of Resources

(4.11.1.2) Environmental issues the policy, law, or regulation relates to

Select all that apply

Climate change

(4.11.1.3) Focus area of policy, law, or regulation that may impact the environment

Low-impact production and innovation

Circular economy

(4.11.1.4) Geographic coverage of policy, law, or regulation

Select from:

National

(4.11.1.5) Country/area/region the policy, law, or regulation applies to

Select all that apply

Japan

(4.11.1.6) Your organization's position on the policy, law, or regulation

Select from:

Support with major exceptions

(4.11.1.7) Details of any exceptions and your organization's proposed alternative approach to the policy, law, or regulation

The Chairman of Asahi Kasei Corporation participated (as a member) in the "Study Group for Designing a Growth-Oriented, Resource-Autonomous Circular Economy," an expert panel organized by the Ministry of Economy, Trade and Industry (METI), which is responsible for policymaking in this field. The study group examined measures to promote Japan's transition to a circular economy in a way that is consistent with decarbonization. One product of this collaboration was a "Strategy for a Growth-Oriented Resource-Autonomous Circular Economy," issued on March 31, 2023. A decision was also taken to consider amending the Act on the Promotion of Effective Utilization of Resources (3R Law), with a bill to be submitted to an ordinary Diet session in 2024, for the purpose of establishing

a system to accelerate linkages between the “arteries and veins” of material cycles based on this strategy. The details of the amendment to the Act on the Promotion of Effective Utilization of Resources will be discussed when the bill is submitted to the ordinary Diet in the between the summer of 2023 and 2024. Although this plan remains undecided at present, it will potentially be at the center of Asahi Kasei’s contribution transition plan achievement.

(4.11.1.11) Indicate if you have evaluated whether your organization’s engagement on this policy, law, or regulation is aligned with global environmental treaties or policy goals

Select from:

- Yes, we have evaluated, and it is aligned

(4.11.1.12) Global environmental treaties or policy goals aligned with your organization's engagement on this policy, law or regulation

Select all that apply

- Paris Agreement

[Add row]

(4.11.2) Provide details of your indirect engagement on policy, law, or regulation that may (positively or negatively) impact the environment through trade associations or other intermediary organizations or individuals in the reporting year.

Row 1

(4.11.2.1) Type of indirect engagement

Select from:

- Indirect engagement via a trade association

(4.11.2.4) Trade association

Asia and Pacific

- Japan Business Federation (Keidanren)

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

- Climate change

(4.11.2.6) Indicate whether your organization’s position is consistent with the organization or individual you engage with

Select from:

- Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

- Yes, we publicly promoted their current position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

Asahi Kasei has declared its aim to become carbon-neutral by 2050, in conformity with the goals of the Paris Agreement, participating in the "Working Group on Green Economic Value added to Eco-friendly Products and Services" and "GX Management Promotion Working Group" to formulate rules for shaping markets, which are some of the initiatives in the GX League. In the former Working Group above, Asahi Kasei joined one of cosponsors and Working Group issued recommendations in December 2023. In the recommendations, issues for recognition of GX products value as an additional value and distribution of such products in the market and framework for solution of these issues are described. In the latter Working Group above, to help achieve global carbon neutrality for the whole world, this working group aims to verify a mechanism to facilitate the creation of rules by the public and private sectors, with the goal of establishing ways to evaluate appropriately the opportunities for Japanese companies to contribute to climate change (e.g., reducing emissions by supplying products and services to the market). Also, Keidanren (Japan Business Federation) believes that GX, i.e., the transformation of the entire economy and society, is necessary to achieve carbon neutrality. Accordingly, it has formulated the "Keidanren Carbon Neutral Action Plan" as a concrete approach to realizing GX while calling on the government to formulate and implement promptly the "GX Policy Package" and implement the plan steadily. In accordance with the above, Asahi Kasei and Keidanren are working toward carbon neutrality using a similar and consistent approach. The chairman of Asahi Kasei has also chaired Keidanren's Committee on Environment, and his deep insights into climate-related issues have influenced Keidanren's policies and positions.

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

- Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

- Paris Agreement

Row 2

(4.11.2.1) Type of indirect engagement

Select from:

- Indirect engagement via a trade association

(4.11.2.4) Trade association

Asia and Pacific

- Japan Chemical Industry Association

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

- Climate change
- Water

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

- Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

- Yes, we publicly promoted their current position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

Asahi Kasei has declared its aim of becoming carbon neutrality by 2050, in line with the Paris Agreement. It has announced that it will work toward this goal by greening its electricity and steam production and adopting innovative processes through the implementation of chemical technologies such as alkaline water electrolysis and CO2 separation and capture, which it is developing. The Japan Chemical Industry Association (JCIA) has also formulated a position, titled "The Chemical Industry's Stance on Carbon Neutrality." In response to the Japanese government's commitment to carbon neutrality by 2050, the chemical industry, as a solution provider, has also pledged to promote and accelerate innovation to contribute to the growth of a sustainable society, by realizing the untapped potential of "chemistry" to strive for solutions to global problems. In addition, Asahi Kasei has identified important issues and themes to focus on as "Materiality of the Asahi Kasei Group," with water pollution prevention positioned as one such important theme. With this theme determined as relevant to Sustainable Development Goal (SDG) 6, these efforts show that the initiative will be promoted while incorporating the perspectives of diverse stakeholders. The JCIA has also determined the relevance of the SDG items to chemical industry actions. Some examples of what JCIA regards as chemical industry contributions to SDG Goal 6 are: water purification, such as by ultrafiltration membranes and adsorbents; water supply by technologies, such as seawater desalination membranes to deserts and isolated islands; and the development of water-saving detergents. In accordance with the above, Asahi Kasei and JCIA are taking similar and compatible approaches to carbon neutrality and water-related environmental issues. The President of Asahi Kasei is a board member of JCIA, and especially since Asahi Kasei is also playing a leading role in the Carbon Neutrality Action Plan WG that Keidanren is working on, he is closely involved in the chemical industry's plan of action for carbon neutrality and therefore exerts a significant influence on the JCIA's position.

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

- Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

- Paris Agreement
- Sustainable Development Goal 6 on Clean Water and Sanitation

Row 3

(4.11.2.1) Type of indirect engagement

Select from:

- Indirect engagement via a trade association

(4.11.2.4) Trade association

Europe

- Hydrogen Europe

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

- Climate change

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

- Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

- Yes, we publicly promoted their current position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

Asahi Kasei has declared its aim of becoming carbon neutrality by 2050, in line with the Paris Agreement. It has announced that it will work toward this goal by greening its electricity and steam production and adopting innovative processes through the implementation of chemical technologies such as alkaline water electrolysis and CO2 separation and capture, which it is developing. Especially, Asahi Kasei regards hydrogen, which is attracting attention as a fuel for vehicles and power generation, raw material for chemicals, and carrier for energy storage and transport, as an indispensable substance for achieving carbon neutrality. With Japan and other countries around the world announcing their hydrogen strategy and the increasing expectations for hydrogen globally, Asahi Kasei Group has set its aims at achieving early commercialization of hydrogen based on its knowledge and technological

development capabilities in salt electrolysis systems and electrochemistry. To this end, it has conducted trial runs aimed at efficient hydrogen production using renewable energy, participated in projects around the world, and teamed up with partners both upstream and downstream in the supply chain. Hydrogen Europe's vision is to propel global carbon neutrality by accelerating the European hydrogen industry. Hydrogen Europe's mission is; to enable the adoption of clean hydrogen as an abundant and affordable energy carrier and feedstock; to bring together diverse players, large enterprises and small and medium-sized enterprises, national hydrogen associations, non-governmental organisations, regional public authorities and other relevant organisations which support the delivery of clean hydrogen and fuel cells technologies; to promote national, European and international policies and initiatives that strengthen market penetration of European hydrogen technologies domestically and globally. There is agreement with Asahi Kasei on the direction of practical application of hydrogen. Asahi Kasei supports this initiative as an electrolyzer supplier and will actively contribute with recommendations.

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

Paris Agreement

Row 4

(4.11.2.1) Type of indirect engagement

Select from:

Indirect engagement via a trade association

(4.11.2.4) Trade association

Asia and Pacific

Other trade association in Asia and Pacific, please specify :Japan Clean Ocean Material Alliance(CLOMA)

(4.11.2.5) Environmental issues relevant to the policies, laws, or regulations on which the organization or individual has taken a position

Select all that apply

Water

(4.11.2.6) Indicate whether your organization's position is consistent with the organization or individual you engage with

Select from:

Consistent

(4.11.2.7) Indicate whether your organization attempted to influence the organization or individual's position in the reporting year

Select from:

Yes, we publicly promoted their current position

(4.11.2.8) Describe how your organization's position is consistent with or differs from the organization or individual's position, and any actions taken to influence their position

In principle, the Japan Clean Ocean Material Alliance (CLOMA) has declared its aims to achieve a clean ocean along with the SDGs, setting its scope as SDG Goal 6. At the same time, it also clearly states that it will promote building a sustainable 3R system and materials technological contributions. In addition, Asahi Kasei has identified important issues and themes to focus on as "Materiality of the Asahi Kasei Group," with water pollution prevention positioned as one such important theme. With this theme determined as relevant to Sustainable Development Goal (SDG) 6, these efforts show that the initiative will be promoted while incorporating the perspectives of diverse stakeholders. In light of these factors, Asahi Kasei and CLOMA are working on similar and compatible approaches to water-related environmental issues. Asahi Kasei has been a founding member of CLOMA, which supports the Japanese government as an expert in resource-independent economies. Asahi Kasei's participation in various recycling-related CLOMA working groups is an endorsement of the positions of CLOMA. Asahi Kasei is also deeply involved in the development of laws and regulations on resource recycling, including the microplastics contaminating our water.

(4.11.2.9) Funding figure your organization provided to this organization or individual in the reporting year (currency)

690

(4.11.2.11) Indicate if you have evaluated whether your organization's engagement is aligned with global environmental treaties or policy goals

Select from:

Yes, we have evaluated, and it is aligned

(4.11.2.12) Global environmental treaties or policy goals aligned with your organization's engagement on policy, law or regulation

Select all that apply

Sustainable Development Goal 6 on Clean Water and Sanitation

[Add row]

(4.12) Have you published information about your organization's response to environmental issues for this reporting year in places other than your CDP response?

Select from:

Yes

(4.12.1) Provide details on the information published about your organization's response to environmental issues for this reporting year in places other than your CDP response. Please attach the publication.

Row 1

(4.12.1.1) Publication

Select from:

- In mainstream reports, in line with environmental disclosure standards or frameworks

(4.12.1.2) Standard or framework the report is in line with

Select all that apply

- TCFD

(4.12.1.3) Environmental issues covered in publication

Select all that apply

- Climate change

(4.12.1.4) Status of the publication

Select from:

- Complete

(4.12.1.5) Content elements

Select all that apply

- Governance
- Risks & Opportunities
- Strategy
- Emission targets
- Other, please specify :Business Risk, Climate change risk

(4.12.1.6) Page/section reference

PDF Green Transformation: page21, Business Risks: page 47

(4.12.1.7) Attach the relevant publication

有価証券報告書 (2024) .pdf

Row 2

(4.12.1.1) Publication

Select from:

- In voluntary sustainability reports

(4.12.1.3) Environmental issues covered in publication

Select all that apply

- Climate change

Water

(4.12.1.4) Status of the publication

Select from:

Underway - previous year attached

(4.12.1.5) Content elements

Select all that apply

Governance

Strategy

Emissions figures

Emission targets

(4.12.1.7) Attach the relevant publication

sustainability_report2023e.pdf

Row 3

(4.12.1.1) Publication

Select from:

In mainstream reports, in line with environmental disclosure standards or frameworks

(4.12.1.2) Standard or framework the report is in line with

Select all that apply

TCFD

(4.12.1.3) Environmental issues covered in publication

Select all that apply

Climate change

Water

(4.12.1.4) Status of the publication

Select from:

Underway - previous year attached

(4.12.1.5) Content elements

Select all that apply

Governance

Strategy

Emissions figures

(4.12.1.7) Attach the relevant publication

Asahi Kasei report 2023(en).pdf
[Add row]

C5. Business strategy

(5.1) Does your organization use scenario analysis to identify environmental outcomes?

Climate change

(5.1.1) Use of scenario analysis

Select from:

Yes

(5.1.2) Frequency of analysis

Select from:

Annually

Water

(5.1.1) Use of scenario analysis

Select from:

Yes

(5.1.2) Frequency of analysis

Select from:

Annually

[Fixed row]

(5.1.1) Provide details of the scenarios used in your organization's scenario analysis.

Climate change

(5.1.1.1) Scenario used

Physical climate scenarios

RCP 7.0

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

SSP3

(5.1.1.3) Approach to scenario

Select from:

- Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Acute physical
- Market

(5.1.1.6) Temperature alignment of scenario

Select from:

- 4.0°C and above

(5.1.1.7) Reference year

2021

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- Climate change (one of five drivers of nature change)

Stakeholder and customer demands

- Consumer attention to impact

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Scenario analysis is based on various assumptions, and actual risk presentation may vary significantly depending on variations in assumptions. For example, a 100-year flood is assumed in risk analysis for flood damage using Aqueduct, but this assumption itself may change significantly.

(5.1.1.11) Rationale for choice of scenario

We use currently the TCFD framework to determine the risks and opportunities of our company and how those could have substantive financial or strategic impact on us. We suppose two scenarios for the climate change and relevant social change, meaning IPCC SSP3-7.0 (4°C) scenario and IEA NZE 2050 (1.5°C) scenario. In IPCC SSP3-7.0 scenario, the temperature will rise sharply in accordance with the strengthening typhoons that have heavier rain and stronger wind. In IEA NZE 2050 scenario, the temperature will rise moderately with more strict regulations on CO2 emission and policies that promote more climate-friendly options, such as electric vehicles. We have discussed the

impact of both risks and opportunities with people from our three core business sectors, and the corporate division. After this discussion, we had a more comprehensive discussion at the Management Council and Board of Directors to determine the risks and opportunities including water-related issues.

Water

(5.1.1.1) Scenario used

Climate transition scenarios

- IEA NZE 2050

(5.1.1.3) Approach to scenario

Select from:

- Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Policy
- Market
- Reputation
- Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

- 1.5°C or lower

(5.1.1.7) Reference year

2021

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2040
- 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- Climate change (one of five drivers of nature change)

Stakeholder and customer demands

- Consumer attention to impact

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Scenario analysis is based on various assumptions, and actual risk presentation may vary significantly depending on variations in assumptions. For example, a 100-year flood is assumed in risk analysis for flood damage using Aqueduct, but this assumption itself may change significantly.

(5.1.1.11) Rationale for choice of scenario

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Climate change

(5.1.1.1) Scenario used

Climate transition scenarios

- IEA NZE 2050

(5.1.1.3) Approach to scenario

Select from:

- Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Policy
- Market
- Reputation
- Technology

(5.1.1.6) Temperature alignment of scenario

Select from:

- 1.5°C or lower

(5.1.1.7) Reference year

2021

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2040
- 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- Climate change (one of five drivers of nature change)

Stakeholder and customer demands

- Consumer attention to impact

Regulators, legal and policy regimes

- Global regulation
- Global targets
- Methodologies and expectations for science-based targets

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Scenario analysis is based on various assumptions, and actual risk presentation may vary significantly depending on variations in assumptions. For example, if climate change measures progress very slowly toward 2030 and global warming progresses rapidly, there is uncertainty that national policies may be strengthened rapidly, resulting in costs that exceed those carbon tax assumed in the IEA's NZE scenario.

(5.1.1.11) Rationale for choice of scenario

We use currently the TCFD framework to determine the risks and opportunities of our company and how those could have substantive financial or strategic impact on us. We suppose two scenarios for the climate change and relevant social change, meaning IPCC SSP3-7.0 (4°C) scenario and IEA NZE 2050 (1.5°C) scenario. In IPCC SSP3-7.0 scenario, the temperature will rise sharply in accordance with the strengthening typhoons that have heavier rain and stronger wind. In IEA NZE 2050 scenario, the temperature will rise moderately with more strict regulations on CO2 emission and policies that promote more climate-friendly options, such as electric vehicles. We have discussed the impact of both risks and opportunities with people from our three core business sectors, and the corporate division. After this discussion, we had a more comprehensive discussion at the Management Council and Board of Directors to determine the risks and opportunities including water-related issues.

Water

(5.1.1.1) Scenario used

Physical climate scenarios

- RCP 7.0

(5.1.1.2) Scenario used SSPs used in conjunction with scenario

Select from:

- SSP3

(5.1.1.3) Approach to scenario

Select from:

- Qualitative and quantitative

(5.1.1.4) Scenario coverage

Select from:

- Organization-wide

(5.1.1.5) Risk types considered in scenario

Select all that apply

- Acute physical
- Market

(5.1.1.6) Temperature alignment of scenario

Select from:

- 4.0°C and above

(5.1.1.7) Reference year

2013

(5.1.1.8) Timeframes covered

Select all that apply

- 2030
- 2050

(5.1.1.9) Driving forces in scenario

Local ecosystem asset interactions, dependencies and impacts

- Climate change (one of five drivers of nature change)

Stakeholder and customer demands

- Consumer attention to impact

(5.1.1.10) Assumptions, uncertainties and constraints in scenario

Scenario analysis is based on various assumptions, and actual risk presentation may vary significantly depending on variations in assumptions. For example, a 100-year flood is assumed in risk analysis for flood damage using Aqeduct, but this assumption itself may change significantly.

(5.1.1.11) Rationale for choice of scenario

We use currently the TCFD framework to determine the risks and opportunities of our company and how those could have substantive financial or strategic impact on us. We suppose two scenarios for the climate change and relevant social change, meaning IPCC SSP3-7.0 (4°C) scenario and IEA NZE 2050 (1.5°C) scenario. In IPCC SSP3-7.0 scenario, the temperature will rise sharply in accordance with the strengthening typhoons that have heavier rain and stronger wind. In IEA NZE 2050 scenario, the temperature will rise moderately with more strict regulations on CO2 emission and policies that promote more climate-friendly options, such as electric vehicles. We have discussed the impact of both risks and opportunities with people from our three core business sectors, and the corporate division. After this discussion, we had a more comprehensive discussion at the corporate strategy committee meeting and the board meeting to determine the risks and opportunities including water-related issues.

[Add row]

(5.1.2) Provide details of the outcomes of your organization's scenario analysis.

Climate change

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

- Risk and opportunities identification, assessment and management
- Target setting and transition planning

(5.1.2.2) Coverage of analysis

Select from:

- Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

We investigated what the likely effects of climate change are and their impact on our business for both the 4°C and 1.5°C scenarios, in line with the TCFD framework. The results indicate that we should expect a substantial financial impact from climate change in the medium term, but since our business portfolio is made up of a broad variety of businesses, climate change presents opportunities as well as risks and the overall financial risk to the company is likely to be limited. The focal questions that we arrived at in the course of our review are summarized below. 4°C scenario: (Risks) · Increasingly severe climatic damage due to higher temperatures (shutdown of operations at coastal and riverfront plants due to frequent storm surges and flooding) (Opportunities) · Spread of heat stroke and infectious diseases (higher demand for existing drugs, new drugs, and critical care business) 1.5°C scenario: (Risks) · Acceleration of decarbonization (stricter GHG emission regulations, higher carbon price, higher cost of raw materials) (Opportunities) · Diffusion of net zero energy houses (ZEHs) and electric vehicles (EVs) from policy changes · Arrival of a “hydrogen society” (higher demand for water electrolysis powered by renewable energy) To address the above important issues, we have initiated the following actions with a medium-to-long-term perspective. To deal with increasingly severe climatic damage caused by higher temperatures, we are implementing risk management and responses from the viewpoint of business continuity planning. Last year, we investigated the risks of floods and storm surges in the future at our major manufacturing bases and headquarters using “Aqueduct Floods”, and found no significant increase in risk. To address the spread of infectious diseases and heat stroke, we continue to provide appropriate emergency medical supplies and equipment, as well as consumables, equipment, and services for biopharmaceutical manufacturing processes. In view of accelerating decarbonization, we are systematically transitioning our existing coal-fired plants to liquefied natural gas (LNG) with a natural gas cogeneration system, and expanding our use of renewable energy, with the goal of drastically reducing GHG

emissions and achieving net zero emissions on a group basis by 2050. Through these activities, we plan to avoid the adverse impacts of increasingly strict regulations related to decarbonization (e.g., soaring carbon taxes). Since raw material costs are very likely to keep increasing, we are working energetically to develop chemical recycling technology for plastics, in order to help shape a more recycling-oriented society. · To take advantage of decarbonization-related opportunities, we aim to increase production of separators and other electronic components that are essential for lithium-ion batteries (LIBs), both to keep pace with growing demand and to expand market share. · To address the arrival of the hydrogen economy, we are strategizing to accelerate business development of alkaline water electrolysis systems, an area in which we have a technological advantage. This year, as risks related to both the 4 °C and 1.5 °C scenarios, we also assumed factors such as company selection when investor and customer expectations for carbon neutrality surpassed our commitment levels and declining social reputation. Consideration of such specifics has led to a clearer recognition by management that these risks are increasing year-over-year, thereby leading to the next actions.

Water

(5.1.2.1) Business processes influenced by your analysis of the reported scenarios

Select all that apply

Risk and opportunities identification, assessment and management

(5.1.2.2) Coverage of analysis

Select from:

Organization-wide

(5.1.2.3) Summarize the outcomes of the scenario analysis and any implications for other environmental issues

According to the IPCC SSP3-7.0 (4°C) scenarios, drought conditions attributable to climate change will become increasingly common in all regions of the planet in the future. For example, water shortages will become so commonplace in China that during periods of scarcity, local governments will order manufacturing facilities to cease operations. Conversely, these conditions present a business opportunity for goods and services that contribute to water conservation. The Asahi Kasei Group is competitive in the field of manufacturing technology for “Microza” filtration/purification membranes that incorporate its own proprietary technologies. Increased revenues resulting from increased demand for products and services: Sales of material segments including filtration membranes are aimed at 1,312 (billion yen) in the FY2024 budget, an increase from 1,262 (billion yen) in FY2023. With the business expansion of highly value-added products such as filtration membranes, the operating income margin is targeted at 4.8% in the FY2024 budget compared with 3.4% in FY2023. This numerical value is disclosed in IR materials for the progress and outlook of the Medium-Term Management Plan 2024. The global market for microfiltration (MF) and ultrafiltration (UF) systems is growing by about 10% annually, driven by urgent environmental water quality issues and water shortages, as well as increasingly stringent global wastewater regulations. Microza holds the leading share of the US market for membrane-process water clarification systems, one of the larger markets for such systems. We consider this opportunity strategic because the adoption of Microza has been growing firmly in many countries that face water shortages and have growing needs for improved water quality. In fact, we are trying to focus on not only the traditional Japanese and US markets, but also countries that face water shortages such as China, Korea, Singapore, Thailand, Indonesia, and Middle Eastern countries. Asahi Kasei has contributed, and will continue to contribute, to solutions for a wide range of environmental problems related to water resources by achieving further growth in orders for large-scale global water-treatment facilities, particularly in Asian countries, where the number and scale of such projects is forecasted to increase steadily.

[Fixed row]

(5.2) Does your organization’s strategy include a climate transition plan?

(5.2.1) Transition plan

Select from:

- Yes, we have a climate transition plan which aligns with a 1.5°C world

(5.2.3) Publicly available climate transition plan

Select from:

- Yes

(5.2.4) Plan explicitly commits to cease all spending on, and revenue generation from, activities that contribute to fossil fuel expansion

Select from:

- No, but we plan to add an explicit commitment within the next two years

(5.2.7) Mechanism by which feedback is collected from shareholders on your climate transition plan

Select from:

- We have a different feedback mechanism in place

(5.2.8) Description of feedback mechanism

We offer explanations and progress reports on the company's 1.5 °C transition plan in our integrated Asahi Kasei Report and on our sustainability website annually. The information and advice we obtain through the exchange of opinions with stakeholders and feedback surveys regarding the Asahi Kasei Report are examined in detail in terms of both technology and cost by our internal carbon neutrality promotion team (responsible for formulating the transition plan). After approval by the board, proposals and measures judged to be effective are reflected in our medium-to-long-term transition plan for achieving net zero emissions, and then implemented.

(5.2.9) Frequency of feedback collection

Select from:

- Annually

(5.2.13) Other environmental issues that your climate transition plan considers

Select all that apply

- Plastics

[Fixed row]

(5.3) Have environmental risks and opportunities affected your strategy and/or financial planning?

(5.3.1) Environmental risks and/or opportunities have affected your strategy and/or financial planning

Select from:

- Yes, both strategy and financial planning

(5.3.2) Business areas where environmental risks and/or opportunities have affected your strategy

Select all that apply

- Products and services
- Upstream/downstream value chain
- Investment in R&D
- Operations

[Fixed row]

(5.3.1) Describe where and how environmental risks and opportunities have affected your strategy.

Products and services

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change
- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Risk; - A company specific description of how our strategy in this area has been influenced by climate-related risks AND the time horizons it covers As concerns about global warming are increasing with interest in promoting low fuel consumption tires, there is a risk that the market share of the tire market will decline in short term or mid term if we lag behind competitive fuel-efficient performance with competitors. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related risks We have been developing a modified SBR that can drastically improve fuel economy performance and wear resistance performance. Analysis using Aqueduct confirmed that the Singapore plant, which is not located very high above sea level on Jurong Island, is not subject to significant flooding risk. Opportunity; - A company specific description of how our strategy in this area has been influenced by climate-related opportunities AND the time horizons it covers Concern about the impact of the use of automotive fossil fuels on climate change was raised and the EV policy was announced in various countries around the world, which has led to the opportunity for sales of our automotive LIB separators. In fact, our business is also influenced in terms of increasing production capacity. We will increase production capacity at our factory and further focus on increasing sales volume. The time horizon the strategy covers is mid and long-term because EV market will possibly develop at an accelerating pace over time. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related opportunities. We estimate that the size of the market for automotive LIB separators will grow from approximately 1.6 billion m2 in

2023 to over 7.6 billion m2 in 2030. Consequently, we will invest 220 billion yen to upgrade our LIB separator manufacturing infrastructure while controlling investment risks by vertical collaborations and the use of external funds.

Upstream/downstream value chain

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change
- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Risk; - A company specific description of how our strategy in this area has been influenced by climate-related risks AND the time horizons it covers The number of customers who evaluate efforts to reduce energy costs accompanying transportation are increasing. We need to review our packaging and increase our transportation efficiency. Otherwise, we might lose our customers. The time horizon the strategy covers is short-term and mid-term, because in some countries, the provision of environmental impact information including CO2 emissions has already begun. Overseas sales ratio is increasing from 50.6% to 52.8% from 2022 to 2023, and so we are urged to manage packaging and transportation. -A case study of the most substantial strategic decisions made in this area to date that has been influenced by the climate-related risks Among other transportation options, we promote environmentally friendly railway shipment. In cooperation with the transport firms contracted for shipment, a wide range of measures are employed to reduce energy consumption. We have received Eco-Rail Mark certification in recognition of our preferential shipment of products by rail. Opportunity; - A company specific description of how our strategy in this area has been influenced by climate-related opportunities AND the time horizons it covers Automobile manufacturers are promoting lightweight materials as a response to CO2 emissions regulations during driving. We have been developing foam product (automotive interior material with foamed polyethylene beads) leading to weight reduction compared to conventionally used resin parts and expanding market for automobile manufacturer. The time horizon the strategy covers is short-term and mid-term. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related opportunities CO2 emissions regulations are getting stricter globally, especially in the EU and China. Our sales in EU and China in fiscal 2023 were 193.8 billion yen (7.0% of total sales) and 249.4 billion yen (9.0% of total sales) and we seek to create and expand business there. As one of measures for it, we established Asahi Kasei Europe GmbH in Dusseldorf, Germany, as a base for the future expansion of business in Europe and enable deeper ties to be gained with the Europe automotive industry. The Asahi Kasei Group recognizes that the risk of disasters in raw material manufacturing contractors and product logistics is increasing because of increasingly severe meteorological disasters. To this end, the Group uses hazard maps to visualize high-risk sales channels, and is working on initiatives such as compiling a list of alternate suppliers, initiating multisourcing, increasing inventory, and selecting resilient suppliers.

Investment in R&D

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Risk; -A company specific description of how our strategy in this area has been influenced by climate-related risks AND the time horizons it covers As measures to deal with the heat island phenomenon and summer climate change, development of construction technology to remove heat directly, such as heat shield pavement, water retentive pavement, medium temperature pavement, and construction reduction technology by two directions, such as road life extension, construction reduction of technological development, from the point of global warming, are promoted. If we miss the development competition of synthetic rubber that can be used for these technologies, there are risks that business expansion is getting severe. The time horizon the strategy covers is mid and long-term. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related risks We focus on developing a modified S-SBR, our product, can achieve a high-level balance of braking performance and fuel efficiency while also improving abrasion resistance and handling stability characteristics. Opportunity; -A company-specific description of how our strategy in this area has been influenced by climate-related opportunities AND the time horizons it covers. Regulatory energy standards for housing in Japan were enforced from April 2017 and mandated conformity to energy saving standards by April 2025; therefore, the demand for high insulation is increasing more and more. The revenue of the housing segment accounts for about 34% of the Company, so it will have a significant impact. The time horizon the strategy covers is mid- and long term. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related opportunities In anticipation of such mandatory standardization, we have been making efforts to develop higher performance insulation materials and have developed the product "Neoma Zeus" launched from January 2018 which could further enhance the heat insulation performance of the heat insulating material "Neoma form". By pioneering the development of high thermal insulation performance ahead of other companies, we have led to opportunities to increase market share in the thermal insulation market expected to expand in the future.

Operations

(5.3.1.1) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.1.2) Environmental issues relevant to the risks and/or opportunities that have affected your strategy in this area

Select all that apply

- Climate change
- Water

(5.3.1.3) Describe how environmental risks and/or opportunities have affected your strategy in this area

Risk; -A company-specific description of how our strategy in this area has been influenced by climate-related risks AND the time horizons it covers. According to the IPCC Sixth Assessment Report, sea level rise by the end of the twenty-first century is estimated to be from 28 cm to 101 cm. Our fiber factory (i.e., Nagahama in Nobeoka city, Kyusyu, Japan) is located in a coastal area, so there are risks of plant flooding and submersion. The time horizon the strategy covers is mid- and long term. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related risks We established a comprehensive set of internal regulations which guides the proper response to any industrial accidents or natural disasters which may occur. The smooth operation of the emergency response system ensures that personal safety is secured, that effects of the situation are prevented from spreading to surrounding areas, and that damage is held to a minimum, through close communication between the plants, regional management, and the head office. The plants prepare annual plans for periodic training drills, and perform drills in coordination with the head office. Opportunity; -A company specific description of how our strategy in this area has been influenced by climate-related opportunities AND the time horizons it covers Under the circumstances where stable supply of water due to climate change is threatened, demand for water recycling is increasing. The time horizon the strategy covers is mid and long-term. -A case study of the most substantial strategic decisions made in this area to date that have been influenced by the climate-related opportunities We create Microza (hollow-fiber membrane for water treatment) which can meet the need for water reuse and water quality improvement. The demand for water shortage and water quality improvement is high in countries like China, Korea, Thailand, Indonesia etc, leading to the opportunity to expand our business area. We intend to actively develop in chronic water shortage areas such as the Middle East where demand is strong in the future.

[Add row]

(5.3.2) Describe where and how environmental risks and opportunities have affected your financial planning.

Row 1

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

Revenues

(5.3.2.2) Effect type

Select all that apply

Risks

Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

By creating opportunities for value-added profitable businesses to respond to climate change, such as EV battery separators, new materials in the automobile field, energy-saving houses, etc., the expansion of profitability of the Asahi Kasei Group will be reflected in the financial planning. Climate change has little negative impact on revenue as we have succeeded in creating opportunities for highly profitable value -added projects. So far, we have succeeded in creating value-added business that exceeds the influence of carbon tax. The time horizon covered by

the financial planning The time horizon covered by the financial planning of revenues is short, middle and long-term. The trend of revenue expansion continues in the future as follows: For FY 2023, sales was 2.785 trillion-yen and, operating income was 141 billion yen. FY 2024 planned sales 2.912 trillion-yen, operating income 180 billion yen. Of that operating income, we target about 110 billion yen being generated from GG10 businesses.

Row 2

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Direct costs

(5.3.2.2) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

In order to respond to major changes in the industrial structure represented by electric cars, we are promoting a change in the portfolio of business areas. In promoting this change of portfolio, we will contribute to responding to climate change concerning R&D of areas to be focused as priority areas, aimed at realizing " healthy, comfortable and safe longevity society " and " clean environmental energy society ". In the materials business, we have been developing renewable energy and energy-saving related materials, particularly high performance separators for lithium ion secondary batteries and separators for lead storage batteries. In the housing business, it is reflected in the financial plan as research and development expenses such as reduction of living energy consumption in houses and improvement of insulation performance. The time horizon covered by the financial planning The time horizon covered by the financial planning of operating costs is short, middle and long-term. The R&D expenditure as operating costs of the Asahi Kasei Group has been around 90 billion yen in recent years, but it is gradually increasing. It was 107 billion yen in fiscal 2023. 2023. In the budget for FY2024, 112 billion yen is planned.

Row 3

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Capital expenditures
- Capital allocation

(5.3.2.2) Effect type

Select all that apply

- Risks

- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

We emphasize investment in new and expanded facilities in product areas that can be expected to grow over the long term, including climate change response businesses, while at the same time, streamlining labor-saving maintenance for the purpose of improving product reliability and cost reduction and investing in information technology. We have announced a total capital investment plan of 220 billion yen through FY2023 and FY2024 for the expansion of production lines for separators in our Hipore business (in the US, Japan, and South Korea) and plant construction in Canada. With these investments, the Hipore business was forecast to achieve sales of 160 billion yen and an operating profit margin exceeding 20% in FY2031 at a management briefing in May 2024. At present, we are aggressively developing capital investment opportunities in addition to risk countermeasures. The time horizon covered by the financial planning of capital expenditures and allocation is short and mid-term. Capital expenditures related to businesses triggered by climate change account for the majority of our company's capital investment plan, so its impact is great. To be specific, of the capital investment of 183.7 billion yen in FY2023, that of material business, which is greatly impacted by climate change, accounts for a majority (111.5 billion yen). In the budget for FY2024, 305 billion yen of capital investment is planned. Of this, 214 billion yen, a significant increase, is planned for the material field.

Row 4

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Acquisitions and divestments

(5.3.2.2) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

In addition to investing existing businesses, in order to aggressively promote new business investment by M & A etc., we have set up a long term investment amount of 800 to 900 billion yen (cumulative total of 3 years) as a medium-term management plan 2024 (2022 - 2024) " Be a Trailblazer ". Most of our M & A plans are projects that captures opportunities for climate change. The time horizon covered by the financial planning The time horizon

covered by the financial planning of acquisitions and divestments is mid and long-term.

Row 5

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Access to capital

(5.3.2.2) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

There will be a need to secure funding to respond to climate change, such as R&D expenses, new capital investment, and funds related to corporate acquisitions. We actively disclose ESG data and have set up a company position to procure funds at a low interest rate, aiming at better access to capital. -The time horizon covered by the financial planning of access to capital is short and mid-term. In FY2023, long-term debt income and corporate bond issuance, including the issuance of green bonds, totaled 125.5 billion yen. In the future, we will continue to issue new borrowings and corporate bonds as appropriate with an eye toward balancing cash flow.

Row 6

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

- Assets

(5.3.2.2) Effect type

Select all that apply

- Risks
- Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

- Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

In the event of a natural disaster due to climate change, there will be an impact of asset declines due to impairment on fixed assets such as factory equipment. -The time horizon covered by the financial planning The time horizon covered by the financial planning of assets is short and mid-term. Since natural disasters that require impairment have not occurred in recent years, we believe that the impact is minor. In addition, we sincerely explain climate change response to investors, and it is expected that there will be less valuation loss on assets in ESG investment including climate change.

Row 7

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

Liabilities

(5.3.2.2) Effect type

Select all that apply

Risks

Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have affected these financial planning elements

Select all that apply

Climate change

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

There is a possibility of an effect from an increase in liabilities due to an increase in corporate bonds and borrowings in order to secure funding associated with new capital investment and acquisitions. The time horizon covered by the financial planning The time horizon covered by the financial planning of liability is short and mid-term. Based on our medium-term management initiative 2024 (2022 - 2024) " Be a Trailblazer ", corporate bonds and borrowings are expected to increase by 250 - 450 billion yen in the future the 3-year period of fiscal 2022 - 2024.

Row 8

(5.3.2.1) Financial planning elements that have been affected

Select all that apply

Revenues

(5.3.2.2) Effect type

Select all that apply

Opportunities

(5.3.2.3) Environmental issues relevant to the risks and/or opportunities that have

affected these financial planning elements

Select all that apply

Water

(5.3.2.4) Describe how environmental risks and/or opportunities have affected these financial planning elements

According to the latest report from Grand View Research, Inc., the global market for UV sterilizers is projected to reach 6.17 billion USD by 2030. This is based on a projected CAGR of 7.0% between 2024 and 2030, due to rising demand for safe drinking water in developing countries and increased demand for environmentally friendly fungicidal systems. Under such circumstances, we have newly developed a deep UV UVC-LED "Klaran" that can emit light at wavelengths around 265 nm with high power that can effectively perform sterilization. Using this device, drinking-water can be disinfected more easily, saving people suffering from water-borne illness in developing countries and elsewhere. In addition, since this device does not use any mercury, it can also respond to international mercury use regulations, and it is highly expected to be a light source instead of mercury lamps. Research, application development, and sales expansion costs for this business expansion have already been reflected in financial planning. The Asahi Kasei Group as a whole has prepared a budget of 800-900 billion yen for investment from FY2022 to FY2024 including this device business expansion.

[Add row]

(5.4) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

	Identification of spending/revenue that is aligned with your organization's climate transition	Methodology or framework used to assess alignment with your organization's climate transition
	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Other methodology or framework

[Fixed row]

(5.4.1) Quantify the amount and percentage share of your spending/revenue that is aligned with your organization's climate transition.

Row 1

(5.4.1.1) Methodology or framework used to assess alignment

Select from:

Other, please specify :

(5.4.1.5) Financial metric

Select from:

CAPEX

(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year

(currency)

183700000000

(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)

4.8

(5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

In anticipation of megatrends such as the transition of society to carbon neutrality, we are pushing to transform our business portfolio. As part of this, we are committed to investing approximately 60 billion yen in the three years to FY2024 on decarbonization-related activities. In addition, company-wide capital investment, including sustainability-related investments, was 183.7 billion yen in FY2023.

Row 2

(5.4.1.1) Methodology or framework used to assess alignment

Select from:

Other, please specify

(5.4.1.5) Financial metric

Select from:

Revenue/Turnover

(5.4.1.6) Amount of selected financial metric that is aligned in the reporting year (currency)

640000000000

(5.4.1.7) Percentage share of selected financial metric aligned in the reporting year (%)

29

(5.4.1.9) Percentage share of selected financial metric planned to align in 2030 (%)

50

(5.4.1.12) Details of the methodology or framework used to assess alignment with your organization's climate transition

We track sales of Environmental Contribution Products, particularly those that contribute to decarbonization, as a percentage of total sales (excluding healthcare segment). To promote the goal of carbon neutrality by 2050, we have set a target of 50% of product sales by 2030. To achieve these targets, we are working to expand the number of products of this type and to increase sales of each product.

[Add row]

(5.5) Does your organization invest in research and development (R&D) of low-carbon products or services related to your sector activities?

(5.5.1) Investment in low-carbon R&D

Select from:

Yes

(5.5.2) Comment

Under our previous medium-term business plan, “Cs for Tomorrow 2021” (2019–2021), we invested approximately 850 billion yen in capital expenditures over three years, focused largely on separators for lithium-ion batteries and other decarbonization fields. Under the new 2024 Medium-Term Business Plan (2022–2024), we plan to invest resources (800–900 billion yen over 3 years) in 10 Growth Gears (GG10) to drive our next growth phase. According to the plan, this investment level will account for over 70% of operating income by around 2030. In the area of decarbonization, we plan to focus on hydrogen, CO2 chemistry, and energy storage (separators) in the field of “Environment & Energy”, automotive interior materials in the “Mobility” field, and digital solutions (electronic components and materials) in the “Life Material” field.

[Fixed row]

(5.5.3) Provide details of your organization’s investments in low-carbon R&D for chemical production activities over the last three years.

Row 1

(5.5.3.1) Technology area

Select from:

Unable to disaggregate by technology area

(5.5.3.3) Average % of total R&D investment over the last 3 years

4.7

(5.5.3.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

9400000000

(5.5.3.5) Average % of total R&D investment planned over the next 5 years

7.5

(5.5.3.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

Since data is not broken down by technology segment, this disclosure includes not only R&D spending but also

capital expenditure for all decarbonization-related investments. Asahi Kasei considers decarbonization-related R&D to be a very important up-front investment for the transition to NetZero by 2050, so the company expects to increase such investment in its future plans.

[Add row]

(5.5.6) Provide details of your organization's investments in low-carbon R&D for real estate and construction activities over the last three years.

Row 1

(5.5.6.1) Technology area

Select from:

Building integrated photovoltaic systems

(5.5.6.2) Stage of development in the reporting year

Select from:

Large scale commercial deployment

(5.5.6.3) Average % of total R&D investment over the last 3 years

1

(5.5.6.4) R&D investment figure in the reporting year (unit currency as selected in 1.2) (optional)

1500000000

(5.5.6.5) Average % of total R&D investment planned over the next 5 years

2

(5.5.6.6) Explain how your R&D investment in this technology area is aligned with your climate commitments and/or climate transition plan

The Asahi Kasei Group invests in R&D for the solar power generation facilities and storage batteries owned, managed, and installed in homes built by Asahi Kasei Homes. In its environmental policy, Asahi Kasei Homes Group cites that it will help to mitigate climate change by effectively utilizing renewable energy and will continue investing in R&D for solar power generation facilities and storage batteries.

[Add row]

(5.9) What is the trend in your organization's water-related capital expenditure (CAPEX) and operating expenditure (OPEX) for the reporting year, and the anticipated trend for the next reporting year?

(5.9.1) Water-related CAPEX (+/- % change)

(5.9.2) Anticipated forward trend for CAPEX (+/- % change)

-4

(5.9.3) Water-related OPEX (+/- % change)

3.99

(5.9.4) Anticipated forward trend for OPEX (+/- % change)

5

(5.9.5) Please explain

CAPEX: 2023 Capital Investment in Water-Related Business Capital investment related to water was significantly increased compared to the previous year. This was due to a combination of investments in wastewater facilities for photosensitive materials and water electrolysis equipment. We plan to continue investing above average levels next fiscal year, mainly in water R&D, but investments are expected to be lower compared to the large amount of investment in fiscal 2023. OPEX: Most of the operating expenses in 2023 were for water quality analysis of wastewater discharged directly into public waters, such as rivers and the sea, and the cost of its neutralizing agents, many of which were used to comply with laws and regulations. As there were no major changes in the number of business establishments analyzed for water quality, the change compared to the previous year was 3.99 %. We expect the next fiscal year to be about the same.

[Fixed row]

(5.10) Does your organization use an internal price on environmental externalities?

	Use of internal pricing of environmental externalities	Environmental externality priced
	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Carbon

[Fixed row]

(5.10.1) Provide details of your organization’s internal price on carbon.

Row 1

(5.10.1.1) Type of pricing scheme

Select from:

Shadow price

(5.10.1.2) Objectives for implementing internal price

Select all that apply

- Drive energy efficiency
- Drive low-carbon investment
- Identify and seize low-carbon opportunities

(5.10.1.3) Factors considered when determining the price

Select all that apply

- Alignment with the price of a carbon tax
- Benchmarking against peers
- Cost of required measures to achieve climate-related targets

(5.10.1.4) Calculation methodology and assumptions made in determining the price

The ICP takes into account factors including the IEA forecasts for carbon price and market price, as well as Asahi Kasei's own cost outlooks for carbon neutrality.

(5.10.1.5) Scopes covered

Select all that apply

- Scope 1
- Scope 2

(5.10.1.6) Pricing approach used – spatial variance

Select from:

- Uniform

(5.10.1.8) Pricing approach used – temporal variance

Select from:

- Static

(5.10.1.10) Minimum actual price used (currency per metric ton CO₂e)

15000

(5.10.1.11) Maximum actual price used (currency per metric ton CO₂e)

15000

(5.10.1.12) Business decision-making processes the internal price is applied to

Select all that apply

- Capital expenditure
- Product and R&D

(5.10.1.13) Internal price is mandatory within business decision-making processes

Select from:

- Yes, for some decision-making processes, please specify :We used to use oil-fuel boiler for the chemical plant in Miyazaki which must be replaced by the new one. Assuming of CO₂ cost based on the internal

carbon pricing, we have decided to replace it by LNG-fuel boiler.

(5.10.1.14) % total emissions in the reporting year in selected scopes this internal price covers

0.01

(5.10.1.15) Pricing approach is monitored and evaluated to achieve objectives

Select from:

Yes

[Add row]

(5.11) Do you engage with your value chain on environmental issues?

	Engaging with this stakeholder on environmental issues	Environmental issues covered
Suppliers	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Climate change <input checked="" type="checkbox"/> Water
Customers	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Climate change <input checked="" type="checkbox"/> Water
Other value chain stakeholders	Select from: <input checked="" type="checkbox"/> Yes	Select all that apply <input checked="" type="checkbox"/> Climate change <input checked="" type="checkbox"/> Water

[Fixed row]

(5.11.1) Does your organization assess and classify suppliers according to their dependencies and/or impacts on the environment?

Climate change

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

Contribution to supplier-related Scope 3 emissions

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

76-99%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

In Asahi kasei Homes, the threshold is set to the top 80% of transaction amounts.

(5.11.1.5) % Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

Select from:

76-99%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

40

Water

(5.11.1.1) Assessment of supplier dependencies and/or impacts on the environment

Select from:

Yes, we assess the dependencies and/or impacts of our suppliers

(5.11.1.2) Criteria for assessing supplier dependencies and/or impacts on the environment

Select all that apply

Basin/landscape condition

Dependence on water

Impact on water availability

Impact on pollution levels

(5.11.1.3) % Tier 1 suppliers assessed

Select from:

76-99%

(5.11.1.4) Define a threshold for classifying suppliers as having substantive dependencies and/or impacts on the environment

In Asahi kasei Homes, the threshold is set to the top 80% of transaction amounts.

(5.11.1.5) % Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

Select from:

76-99%

(5.11.1.6) Number of Tier 1 suppliers meeting the thresholds for substantive dependencies and/or impacts on the environment

40

[Fixed row]

(5.11.2) Does your organization prioritize which suppliers to engage with on environmental issues?

Climate change

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

Yes, we prioritize which suppliers to engage with on this environmental issue

(5.11.2.2) Criteria informing which suppliers are prioritized for engagement on this environmental issue

Select all that apply

Business risk mitigation

Material sourcing

Procurement spend

Strategic status of suppliers

(5.11.2.4) Please explain

We request CFP data from suppliers with larger procurement amounts whose impact at Scope 3 Category 1 will be significant as a result, and we are striving to quantitatively assess the environmental impact of such procurement items. In addition, we are working to reduce the risks associated with our suppliers comprising the top 80% by contract value, conducting CSR procurement questionnaires for these companies that include questions related to the environment and climate change, and meeting individually with low-scoring suppliers.

Water

(5.11.2.1) Supplier engagement prioritization on this environmental issue

Select from:

No, we do not prioritize which suppliers to engage with on this environmental issue

(5.11.2.3) Primary reason for no supplier prioritization on this environmental issue

Select from:

Lack of internal resources, capabilities or expertise (e.g., due to organization size)

(5.11.2.4) Please explain

We conduct CSR procurement questionnaires for our suppliers comprising the top 80% by contract value, including questions related to the efficient use of water. However, preferred suppliers related to this theme are not selected. In addition, at present, no method for systematic evaluation has been established.

[Fixed row]

(5.11.5) Do your suppliers have to meet environmental requirements as part of your organization's purchasing process?

Climate change

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

Yes, suppliers have to meet environmental requirements related to this environmental issue, but they are not included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

Yes, we have a policy in place for addressing non-compliance

(5.11.5.3) Comment

Suppliers are asked to cooperate with climate change-related measures specified in the Supplier Guidelines. In addition, our suppliers are required to handle industrial waste properly, as well as fluorocarbon refrigerant gases, which have a significant greenhouse effect.

Water

(5.11.5.1) Suppliers have to meet specific environmental requirements related to this environmental issue as part of the purchasing process

Select from:

Yes, suppliers have to meet environmental requirements related to this environmental issue, but they are not included in our supplier contracts

(5.11.5.2) Policy in place for addressing supplier non-compliance

Select from:

No, we do not have a policy in place for addressing non-compliance

(5.11.5.3) Comment

The Supplier Guidelines specify matters related to the efficient use of water, and suppliers are requested to cooperate on these matters.

[Fixed row]

(5.11.6) Provide details of the environmental requirements that suppliers have to meet as part of your organization's purchasing process, and the compliance measures in place.

Climate change

(5.11.6.1) Environmental requirement

Select from:

- Compliance with an environmental certification, please specify :

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy,

we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. Partners are rated from A to D, and those scoring a C or D are either visited in person or via an online meeting to check their status and provide support to improve it. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. If the issue(s) has not been corrected in a subsequent follow-up review, we may consider suspending and reviewing transactions with that supplier. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a “serious issue”. In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback. In addition, some suppliers have submitted their current GHG emissions and phased reduction targets for 2030 and 2050.

Water

(5.11.6.1) Environmental requirement

Select from:

- Compliance with an environmental certification, please specify :

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy, we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a "serious issue". In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback.

Climate change

(5.11.6.1) Environmental requirement

Select from:

- Setting a low-carbon or renewable energy target

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy, we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. Partners are rated from A to D, and those scoring a C or D are either visited in person or via an online meeting to check their status and provide support to improve it. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. If the issue(s) has not been corrected in a subsequent follow-up review, we may consider suspending and reviewing transactions with that supplier. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a "serious issue". In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback. In addition, some suppliers have submitted their current GHG emissions and phased reduction targets for 2030 and 2050.

Climate change

(5.11.6.1) Environmental requirement

Select from:

- Disclosure of GHG emissions to your organization (Scope 1 and 2)

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this

environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy, we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. Partners are rated from A to D, and those scoring a C or D are either visited in person or via an online meeting to check their status and provide support to improve it. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. If the issue(s) has not been corrected in a subsequent follow-up review, we may consider suspending and reviewing transactions with that supplier. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a "serious issue". In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback. In addition, some suppliers have submitted their current GHG emissions and phased reduction targets for 2030 and 2050.

Climate change

(5.11.6.1) Environmental requirement

Select from:

- Disclosure of GHG emissions to your organization (Scope 1, 2 and 3)

(5.11.6.2) Mechanisms for monitoring compliance with this environmental requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy, we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. Partners are rated from A to D, and those scoring a C or D are either visited in person or via an online meeting to check their status and provide support to improve it. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. If the issue(s) has not been corrected in a subsequent follow-up review, we may consider suspending and reviewing transactions with that supplier. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a “serious issue”. In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback. In addition, some suppliers have submitted their current GHG emissions and phased reduction targets for 2030 and 2050.

Water

(5.11.6.1) Environmental requirement

Select from:

- Total water withdrawal volumes reduction

(5.11.6.2) Mechanisms for monitoring compliance with this environmental

requirement

Select all that apply

- Certification
- Supplier scorecard or rating
- Supplier self-assessment

(5.11.6.3) % tier 1 suppliers by procurement spend required to comply with this environmental requirement

Select from:

- 76-99%

(5.11.6.4) % tier 1 suppliers by procurement spend in compliance with this environmental requirement

Select from:

- 76-99%

(5.11.6.9) Response to supplier non-compliance with this environmental requirement

Select from:

- Retain and engage

(5.11.6.10) % of non-compliant suppliers engaged

Select from:

- 100%

(5.11.6.11) Procedures to engage non-compliant suppliers

Select all that apply

- Providing information on appropriate actions that can be taken to address non-compliance

(5.11.6.12) Comment

Based on our purchasing policy, we have developed our Supplier Guidelines, in order to understand Group policy, we have made it available online along with our purchasing policy. In addition, we evaluate the activities of our partners through the implementation of a CSR procurement questionnaire, and we send feedback sheets. We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. If serious problems are detected as a result of the meeting, we exchange opinions with the business partner to encourage quick improvement. In FY2023, meetings were held with 33 business partners, but none of these suppliers were found to have a "serious issue". In addition, for the seven partners who raised their scores significantly, meetings were held along with interviews on best practices for CSR promotion activities. For the FY2023 questionnaire as well, those partners who scored a C or D have also had all of their responses and risks posed to the supply chain evaluated and analyzed individually, and have been communicated with as necessary regarding improvements made in response to Asahi Kasei Group feedback.

[Add row]

(5.11.7) Provide further details of your organization's supplier engagement on environmental issues.

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:

- Upstream value chain transparency and human rights

(5.11.7.3) Type and details of engagement

Information collection

- Collect targets information at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- 76-99%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

- Unknown

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

We send out a CSR questionnaire to our major suppliers. Specifically, we selected top 80% suppliers by purchase amount because high volume suppliers play significant roles in dealing with climate-related risks on supply chain. We believe this coverage is reasonable from a stand point of the Asahi Kasei Group's responsibility and risks. We are deliberately thinking about further expanding the scope since we believe additional costs and burden on our suppliers will not justify that. For supplier-related Scope 3 emissions, we collect emissions information from applicable suppliers and aggregate them, and report them at 7.8. So, the coverage rate is 100%. Impact of engagement; Our purchasing division sends questionnaire to suppliers as a supplier assessment and encourage them to make improvement regarding CSR procurement including climate change issues. The Asahi Kasei Group is considering more formally requiring suppliers to meet a certain level of CSR performance standards by including it in the terms of conditions. This has already been communicated to our suppliers. Measure of success; Asahi Kasei group already set up " Purchasing Policy " and " Purchasing mission statement ". We sent CSR questionnaires, including environment and energy saving, to suppliers and asked them to cooperate with CSR procurement. We tabulate the results of questionnaires and analyze the number and proportion of companies that have clear environmental policies and systems to promote environmental conscious activities. We consider increase in those numbers as our success of supplier responses to our CSR policy including climate-related issues.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

- No, this engagement is unrelated to meeting an environmental requirement

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

- Yes

Water

(5.11.7.2) Action driven by supplier engagement

Select from:

- Upstream value chain transparency and human rights

(5.11.7.3) Type and details of engagement

Information collection

- Collect targets information at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- 76-99%

(5.11.7.7) % tier 1 suppliers with substantive impacts and/or dependencies related to this environmental issue covered by engagement

Select from:

- Unknown

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

We understand that, the higher the share of our procurement spend, the higher the risk of our operations being affected by a water-related adverse event at a supplier, and that it is very effective and efficient to work together with our supply chain members in order to solve global water issues. That is why we send out a CSR questionnaire to our major suppliers from which we procure a significant amount of products. Specifically, in FY2023, we sent out a CSR questionnaire to those suppliers covering 82% in terms of procurement spend. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. We believe that this functions as an incentive for our suppliers to respond to a questionnaire. We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make

improvements by providing them with feedback. We measure the success mainly by the response rate.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

- No, this engagement is unrelated to meeting an environmental requirement

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

- Unknown

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:

- Emissions reduction

(5.11.7.3) Type and details of engagement

Capacity building

- Provide training, support and best practices on how to mitigate environmental impact

Information collection

- Collect climate transition plan information at least annually from suppliers
- Collect GHG emissions data at least annually from suppliers
- Collect targets information at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- 76-99%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

- Unknown

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

We send out a CSR questionnaire to our major suppliers. Specifically, we selected top 80% suppliers by purchase amount because high volume suppliers play significant roles in dealing with climate-related risks on supply chain. We believe this coverage is reasonable from a stand point of the Asahi Kasei Group's responsibility and risks. We are deliberately thinking about further expanding the scope since we believe additional costs and burden on our suppliers will not justify that. For supplier-related Scope 3 emissions, we collect emissions information from applicable suppliers and aggregate them, and report them at 7.8. So, the coverage rate is 100%. Impact of engagement; Our purchasing division sends questionnaire to suppliers as a supplier assessment and encourage them to make improvement regarding CSR procurement including climate change issues. The Asahi Kasei Group is considering more formally requiring suppliers to meet a certain level of CSR performance standards by including it in the terms of conditions. This has already been communicated to our suppliers. Measure of success; Asahi Kasei group already set up " Purchasing Policy " and " Purchasing mission statement ". We sent CSR questionnaires, including environment and energy saving, to suppliers and asked them to cooperate with CSR procurement. We tabulate the results of questionnaires and analyze the number and proportion of companies that have clear environmental policies and systems to promote environmental conscious activities. We consider increase in those numbers as our success of supplier responses to our CSR policy including climate-related issues.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

- No, this engagement is unrelated to meeting an environmental requirement

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

- Yes

Climate change

(5.11.7.2) Action driven by supplier engagement

Select from:

- Adaptation to climate change

(5.11.7.3) Type and details of engagement

Capacity building

- Provide training, support and best practices on how to mitigate environmental impact

Information collection

- Collect climate transition plan information at least annually from suppliers
- Collect GHG emissions data at least annually from suppliers
- Collect targets information at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

76-99%

(5.11.7.6) % of tier 1 supplier-related scope 3 emissions covered by engagement

Select from:

Unknown

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

We send out a CSR questionnaire to our major suppliers. Specifically, we selected top 80% suppliers by purchase amount because high volume suppliers play significant roles in dealing with climate-related risks on supply chain. We believe this coverage is reasonable from a stand point of the Asahi Kasei Group's responsibility and risks. We are deliberately thinking about further expanding the scope since we believe additional costs and burden on our suppliers will not justify that. For supplier-related Scope 3 emissions, we collect emissions information from applicable suppliers and aggregate them, and report them at 7.8. So, the coverage rate is 100%. Impact of engagement; Our purchasing division sends questionnaire to suppliers as a supplier assessment and encourage them to make improvement regarding CSR procurement including climate change issues. The Asahi Kasei Group is considering more formally requiring suppliers to meet a certain level of CSR performance standards by including it in the terms of conditions. This has already been communicated to our suppliers. Measure of success; Asahi Kasei group already set up " Purchasing Policy " and " Purchasing mission statement ". We sent CSR questionnaires, including environment and energy saving, to suppliers and asked them to cooperate with CSR procurement. We tabulate the results of questionnaires and analyze the number and proportion of companies that have clear environmental policies and systems to promote environmental conscious activities. We consider increase in those numbers as our success of supplier responses to our CSR policy including climate-related issues.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

No, this engagement is unrelated to meeting an environmental requirement

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

Yes

Water

(5.11.7.2) Action driven by supplier engagement

Select from:

Total water withdrawal volumes reduction

(5.11.7.3) Type and details of engagement

Capacity building

Provide training, support and best practices on how to mitigate environmental impact

Information collection

- Collect targets information at least annually from suppliers

(5.11.7.4) Upstream value chain coverage

Select all that apply

- Tier 1 suppliers

(5.11.7.5) % of tier 1 suppliers by procurement spend covered by engagement

Select from:

- 76-99%

(5.11.7.7) % tier 1 suppliers with substantive impacts and/or dependencies related to this environmental issue covered by engagement

Select from:

- Unknown

(5.11.7.9) Describe the engagement and explain the effect of your engagement on the selected environmental action

We understand that, the higher the share of our procurement spend, the higher the risk of our operations being affected by a water-related adverse event at a supplier, and that it is very effective and efficient to work together with our supply chain members in order to solve global water issues. That is why we send out a CSR questionnaire to our major suppliers from which we procure a significant amount of products. Specifically, in FY2023, we sent out a CSR questionnaire to those suppliers covering 82% in terms of procurement spend. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. We believe that this functions as an incentive for our suppliers to respond to a questionnaire. We ask them about how they work on efficient use of water resources and wastewater management in order to understand and manage current and future risks in the supply chain. Information obtained from suppliers is used not only to assess water risks in our supply chain, but also to encourage suppliers to make improvements by providing them with feedback. We measure the success mainly by the response rate.

(5.11.7.10) Engagement is helping your tier 1 suppliers meet an environmental requirement related to this environmental issue

Select from:

- No, this engagement is unrelated to meeting an environmental requirement

(5.11.7.11) Engagement is helping your tier 1 suppliers engage with their own suppliers on the selected action

Select from:

- Unknown

[Add row]

(5.11.9) Provide details of any environmental engagement activity with other stakeholders in the value chain.

Climate change

(5.11.9.1) Type of stakeholder

Select from:

- Customers

(5.11.9.2) Type and details of engagement

Education/Information sharing

- Run an engagement campaign to educate stakeholders about the environmental impacts about your products, goods and/or services

Innovation and collaboration

- Collaborate with stakeholders on innovations to reduce environmental impacts in products and services

(5.11.9.3) % of stakeholder type engaged

Select from:

- Less than 1%

(5.11.9.4) % stakeholder-associated scope 3 emissions

Select from:

- Less than 1%

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

Customer engagement is particularly important for reducing GHG emissions across the entire value chain. Customer demand for decarbonization, and actions based on that demand, will reduce emissions downstream of the value chain and contribute to the reduction of emissions upstream of the value chain. Asahi Kasei attaches great importance to customer engagement. We promote the integration of diverse businesses and human resources, both internally and externally, and proceed to create new businesses, further their global expansion, and develop sustainable solutions. For this reason, we regularly exhibit at the Sustainable Material Expo, one of the largest sustainability-related product exhibitions in Japan. By quantitatively touting the emission-reducing effects of our products, we are building relationships with customers who see the value in reducing emissions in the value chain through purchases. In addition, we hold lectures to spread the word on Asahi Kasei initiatives to achieve a sustainable society. In doing so, we have increased our product fanbase along with their understanding of Asahi Kasei's sustainability initiatives, leading to future engagement.

(5.11.9.6) Effect of engagement and measures of success

Customers who find value in products that reduce their GHG emissions and purchase more of said products will help in reducing GHG emissions across the entire value chain of those products. In particular, Asahi Kasei has defined products that help to improve the environment, such as by reducing GHG emissions throughout their life cycle, as Environmental Contribution Products. We have set a goal to more than double the contribution to GHG reductions by 2030 from 2020 levels, with sales of such products as one means to increase reductions. We take an increase in annual sales as an indicator of achieving this goal. As GHG emissions are reduced more across the entire value chain, the higher the level of this indicator goes; thus, we monitor fluctuations appropriately and calculate the impact. With sales of Environmental Contribution Products declining slightly in FY2023, we take this to mean that further customer engagement on improvements will be required in the future.

Water

(5.11.9.1) Type of stakeholder

Select from:

Customers

(5.11.9.2) Type and details of engagement

Education/Information sharing

Educate and work with stakeholders on understanding and measuring exposure to environmental risks

(5.11.9.3) % of stakeholder type engaged

Select from:

Unknown

(5.11.9.5) Rationale for engaging these stakeholders and scope of engagement

The Asahi Kasei Group has set “coexistence with the environment” as a group vision, and positions the challenge of global environmental measures as the most important issue. In particular, the Asahi Kasei Group’s policy on global environmental measures stipulates “conservation of water resources” and pledges to contribute to this worldwide through our business and products. In relation to the business of recycled cellulosic fiber (trade name “BEMBERG”), Asahi Kasei Corporation has been implementing initiatives such as technical and educational support and community development (including purification projects for contaminated rivers) for stakeholders involved in the final product from the procurement of raw materials (cotton linters) in India. This business model also includes improvement of wastewater purification systems for industrial use, which is indispensable for the sustainable development of the textile industry, considering the global environment. Specifically, the company is implementing initiatives with dyeing manufacturers and other stakeholders aimed at achieving zero wastewater at dye plants using the “Microza” hollow fiber membrane developed by the company for wastewater treatment generated during fabric dyeing.

(5.11.9.6) Effect of engagement and measures of success

Asahi Kasei Corp. has been exporting recycled cellulose (cupro textile, trade name BEMBERG), which is used as a raw material for sari, traditional female clothing in India, since 1976. As of 2021, Asahi Kasei had contracts with 10 dye plants and about 60 garment factories, and the volume of cupro textile handled was about 6,000 tons. Asahi Kasei Corp. started the challenge of constructing a wastewater purification system for the industry considering the global environment, which is indispensable for the sustainable development of the textile industry, while aiming at the business expansion of BEMBERG and the Microza hollow fiber membrane in India. Specifically, it aims to achieve zero wastewater in dye plants using Microza for treatment of the wastewater generated during dyeing. This will enable us to conserve valuable natural water resources through environmental conservation and water reuse around our plants, and to contribute to the expansion of our business. By 2023, a cumulative amount of approximately 40,000 m³/day of textile dyeing effluent has been treated and recycled back into the respective textile dyeing process, which is equivalent to saving daily water access to natural water resources for approx. 25,000 households.

[Add row]

C6. Environmental Performance - Consolidation Approach

(6.1) Provide details on your chosen consolidation approach for the calculation of environmental performance data.

	Consolidation approach used	Provide the rationale for the choice of consolidation approach
Climate change	Select from: <input checked="" type="checkbox"/> Financial control	<i>Because we collect environmental performance data for consolidated subsidiaries under financial control</i>
Water	Select from: <input checked="" type="checkbox"/> Financial control	<i>Because we collect environmental performance data for consolidated subsidiaries under financial control</i>

[Fixed row]

C7. Environmental performance - Climate Change

(7.1) Is this your first year of reporting emissions data to CDP?

Select from:

No

(7.1.1) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this disclosure of emissions data?

	Has there been a structural change?
	Select all that apply <input checked="" type="checkbox"/> No

[Fixed row]

(7.1.2) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?

(7.1.2.1) Change(s) in methodology, boundary, and/or reporting year definition?

Select all that apply

Yes, a change in boundary

No

(7.1.2.2) Details of methodology, boundary, and/or reporting year definition change(s)

Due to a review of Scope 3 target items, there has been a slight change in past Scope 3 data. There are no changes to the emissions accounting methodology or reporting year definition.

[Fixed row]

(7.1.3) Have your organization's base year emissions and past years' emissions been recalculated as a result of any changes or errors reported in 7.1.1 and/or 7.1.2?

	Base year recalculation	Scope(s) recalculated	Past years' recalculation
	Select from: <input checked="" type="checkbox"/> Yes -No, because the impact does not meet our significance threshold (We made a mistake in the answer in CDP, so we have corrected it.)	Select all that apply <input checked="" type="checkbox"/> Scope 1 (We made a mistake in the answer in CDP, so we have corrected it.)	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.

Select all that apply

- Act on the Rational Use of Energy
- Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superseded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- The Greenhouse Gas Protocol: Scope 2 Guidance
- The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

(7.3) Describe your organization's approach to reporting Scope 2 emissions.

	Scope 2, location-based	Scope 2, market-based
	Select from: <input checked="" type="checkbox"/> We are reporting a Scope 2, location-based figure	Select from: <input checked="" type="checkbox"/> We are reporting a Scope 2, market-based figure

[Fixed row]

(7.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?

Select from:

- Yes

(7.4.1) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.

Row 1

(7.4.1.1) Source of excluded emissions

Our non-manufacturing facilities such as small sales offices which require a very small amount of energy

(7.4.1.2) Scope(s) or Scope 3 category(ies)

Select all that apply

- Scope 1
- Scope 2 (location-based)
- Scope 2 (market-based)

(7.4.1.3) Relevance of Scope 1 emissions from this source

Select from:

- Emissions are relevant but not yet calculated

(7.4.1.4) Relevance of location-based Scope 2 emissions from this source

Select from:

- Emissions are relevant but not yet calculated

(7.4.1.5) Relevance of market-based Scope 2 emissions from this source

Select from:

- Emissions are relevant but not yet calculated

(7.4.1.8) Estimated percentage of total Scope 1+2 emissions this excluded source represents

0.1

(7.4.1.10) Explain why this source is excluded

Target Coverage: The GHG emissions of all consolidated companies are financially aggregated. This applies to companies in which we hold more than 50% of the voting rights or substantial management rights. Exclusions: Our non-manufacturing facilities such as small sales offices which require a very small amount of energy are excluded.

(7.4.1.11) Explain how you estimated the percentage of emissions this excluded source represents

We have confirmed from general inventory and emission factor data that the activity level and GHG emissions in non-manufacturing facilities are negligible compared with the activity levels and GHG emission factor used to calculate GHGs in large-scale manufacturing at each manufacturing site.

[Add row]

(7.5) Provide your base year and base year emissions.

	Base year end	Base year emissions (metric tons CO2e)
Scope 1	03/31/2014	3880000.0
Scope 2 (location-based)	03/31/2014	660000.0
Scope 2 (market-based)	03/31/2014	1230000.0

[Fixed row]

(7.6) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

	Gross global Scope 1 emissions (metric tons CO2e)	End date
Reporting year	2386214	Date input [must be between [10/01/2015 - 10/01/2023]
Past year 1	2853917	03/31/2023
Past year 2	3080947	03/31/2022
Past year 3	2906814	03/31/2021
Past year 4	2961401	03/31/2020
Past year 5	3094855	03/31/2019

[Fixed row]

(7.7) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

	Gross global Scope 2, location-based emissions (metric tons CO2e)	Gross global Scope 2, market-based emissions (metric tons CO2e) (if applicable)	End date
Reporting year	846144	793816	Date input [must be between [10/01/2015 - 10/01/2023]
Past year 1	870683	823854	03/31/2023
Past year 2	1048479	1030384	03/31/2022
Past year 3	929331	899405	03/31/2021
Past year 4	1024946	1029041	03/31/2020
Past year 5	1043183	1068131	03/31/2019

[Fixed row]

(7.8) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

4120954

(7.8.3) Emissions calculation methodology

Select all that apply

Hybrid method

Capital goods

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

465819

(7.8.3) Emissions calculation methodology

Select all that apply

Investment-specific method

Fuel-and-energy-related activities (not included in Scope 1 or 2)

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

692230

(7.8.3) Emissions calculation methodology

Select all that apply

Hybrid method

Upstream transportation and distribution

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

201937

(7.8.3) Emissions calculation methodology

Select all that apply

Hybrid method

Waste generated in operations

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

65869

(7.8.3) Emissions calculation methodology

Select all that apply

Waste-type-specific method

Business travel

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

20561

(7.8.3) Emissions calculation methodology

Select all that apply

Spend-based method

Employee commuting

(7.8.1) Evaluation status

Select from:

- Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

28968

(7.8.3) Emissions calculation methodology

Select all that apply

- Spend-based method

Upstream leased assets

(7.8.1) Evaluation status

Select from:

- Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

0

(7.8.3) Emissions calculation methodology

Select all that apply

- Hybrid method

Downstream transportation and distribution

(7.8.1) Evaluation status

Select from:

- Not relevant, explanation provided

(7.8.5) Please explain

The emissions of downstream transportation depends on final products, which includes much of uncertainty.

Processing of sold products

(7.8.1) Evaluation status

Select from:

- Relevant, not yet calculated

(7.8.5) Please explain

It is difficult to obtain information on processing of intermediate products from service providers, so we cannot yet

calculate emissions associated with the processing of sold products.

Use of sold products

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

1388717

(7.8.3) Emissions calculation methodology

Select all that apply

Other, please specify :We used the “Energy Consumption Performance Calculation Program” (Residential Version) of the Building Research Institute, National Research and Development Agency, Japan.

(7.8.5) Please explain

Using the Building Research Institute’s “Energy Consumption Performance Calculation Program” (Residential Version), we performed calculations for homes for which a notice of verification was issued within the fiscal year, based on the following. σ (annual energy use per household for energy source x emission factor for energy source) x service life (60 years) Emission factor for energy source: electricity 0.438 (t-CO2/MWh) and 8.64(GJ/1,000kWh), city gas 0.051 (t-CO2/GJ), kerosene 0.069 (t-CO2/GJ)

End of life treatment of sold products

(7.8.1) Evaluation status

Select from:

Relevant, calculated

(7.8.2) Emissions in reporting year (metric tons CO2e)

4921705

(7.8.3) Emissions calculation methodology

Select all that apply

Hybrid method

(7.8.4) Percentage of emissions calculated using data obtained from suppliers or value chain partners

0

Downstream leased assets

(7.8.1) Evaluation status

Select from:

Not relevant, explanation provided

(7.8.5) Please explain

Asahi Kasei does not have leasing operations. Reports in this category are considered to be unnecessary.

Franchises

(7.8.1) Evaluation status

Select from:

Not relevant, explanation provided

(7.8.5) Please explain

Asahi Kasei does not franchise shops or systems.

Investments

(7.8.1) Evaluation status

Select from:

Not relevant, explanation provided

(7.8.5) Please explain

Asahi Kasei does not have applicable activity.

Other (upstream)

(7.8.1) Evaluation status

Select from:

Not evaluated

Other (downstream)

(7.8.1) Evaluation status

Select from:

Not evaluated

[Fixed row]

(7.8.1) Disclose or restate your Scope 3 emissions data for previous years.

Past year 1

(7.8.1.1) End date

03/31/2023

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4780000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

440000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

860000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

240000

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

70000

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

20000

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

30000

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

1600000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

5980000

Past year 2

(7.8.1.1) End date

03/31/2022

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4720000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

450000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

770000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

240000

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

70000

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

0

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

30000

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

1920000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

5950000

Past year 3

(7.8.1.1) End date

03/31/2021

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4620000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

390000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)

(metric tons CO2e)

780000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

250000

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

0

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

0

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

30000

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

1340000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

5870000

Past year 4

(7.8.1.1) End date

03/31/2020

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4430000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

320000

**(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2)
(metric tons CO2e)**

240000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

270000

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

0

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

30000

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

30000

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

960000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

4700000

Past year 5

(7.8.1.1) End date

03/31/2019

(7.8.1.2) Scope 3: Purchased goods and services (metric tons CO2e)

4740000

(7.8.1.3) Scope 3: Capital goods (metric tons CO2e)

290000

(7.8.1.4) Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)

210000

(7.8.1.5) Scope 3: Upstream transportation and distribution (metric tons CO2e)

300000

(7.8.1.6) Scope 3: Waste generated in operations (metric tons CO2e)

0

(7.8.1.7) Scope 3: Business travel (metric tons CO2e)

30000

(7.8.1.8) Scope 3: Employee commuting (metric tons CO2e)

30000

(7.8.1.9) Scope 3: Upstream leased assets (metric tons CO2e)

0

(7.8.1.12) Scope 3: Use of sold products (metric tons CO2e)

920000

(7.8.1.13) Scope 3: End of life treatment of sold products (metric tons CO2e)

4980000

[Fixed row]

(7.9) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Select from: <input checked="" type="checkbox"/> Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Select from: <input checked="" type="checkbox"/> Third-party verification or assurance process in place
Scope 3	Select from: <input checked="" type="checkbox"/> Third-party verification or assurance process in place

[Fixed row]

(7.9.1) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Row 1

(7.9.1.1) Verification or assurance cycle in place

Select from:

Annual process

(7.9.1.2) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.1.3) Type of verification or assurance

Select from:

Limited assurance

(7.9.1.4) Attach the statement

Asahi KASEI_7.9.pdf

(7.9.1.5) Page/section reference

1,2/all

(7.9.1.6) Relevant standard

Select from:

ISAE 3410

(7.9.1.7) Proportion of reported emissions verified (%)

100

[Add row]

(7.9.2) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Row 1

(7.9.2.1) Scope 2 approach

Select from:

Scope 2 market-based

(7.9.2.2) Verification or assurance cycle in place

Select from:

Annual process

(7.9.2.3) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.2.4) Type of verification or assurance

Select from:

Limited assurance

(7.9.2.5) Attach the statement

Asahi KASEI_7.9.pdf

(7.9.2.6) Page/ section reference

1,2/all

(7.9.2.7) Relevant standard

Select from:

ISAE 3410

(7.9.2.8) Proportion of reported emissions verified (%)

100

[Add row]

(7.9.3) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

Row 1

(7.9.3.1) Scope 3 category

Select all that apply

Scope 3: Purchased goods and services

(7.9.3.2) Verification or assurance cycle in place

Select from:

Annual process

(7.9.3.3) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.3.4) Type of verification or assurance

Select from:

Limited assurance

(7.9.3.5) Attach the statement

(7.9.3.6) Page/section reference

1,2/all

(7.9.3.7) Relevant standard

Select from:

ISAE 3410

(7.9.3.8) Proportion of reported emissions verified (%)

100

Row 2

(7.9.3.1) Scope 3 category

Select all that apply

Scope 3: Use of sold products

(7.9.3.2) Verification or assurance cycle in place

Select from:

Annual process

(7.9.3.3) Status in the current reporting year

Select from:

Underway but not complete for reporting year – previous statement of process attached

(7.9.3.4) Type of verification or assurance

Select from:

Limited assurance

(7.9.3.5) Attach the statement

Asahi KASEI_7.9.pdf

(7.9.3.6) Page/section reference

1,2/all

(7.9.3.7) Relevant standard

Select from:

ISAE 3410

(7.9.3.8) Proportion of reported emissions verified (%)

Row 3**(7.9.3.1) Scope 3 category**

Select all that apply

- Scope 3: End-of-life treatment of sold products

(7.9.3.2) Verification or assurance cycle in place

Select from:

- Annual process

(7.9.3.3) Status in the current reporting year

Select from:

- Underway but not complete for reporting year – previous statement of process attached

(7.9.3.4) Type of verification or assurance

Select from:

- Limited assurance

(7.9.3.5) Attach the statement

Asahi KASEI_7.9.pdf

(7.9.3.6) Page/section reference

1,2/all

(7.9.3.7) Relevant standard

Select from:

- ISAE 3410

(7.9.3.8) Proportion of reported emissions verified (%)

100

[Add row]

(7.10) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Select from:

- Decreased

(7.10.1) Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined), and for each of them specify how your emissions compare to the previous year.

Change in renewable energy consumption

(7.10.1.1) Change in emissions (metric tons CO2e)

15000

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

0.41

(7.10.1.4) Please explain calculation

We reduced our carbon emissions by purchasing renewable energy certificates at overseas locations. (15,000 t-CO2e) Last year's scope 1&2 emissions Scope1: 2,853,917 t-CO2e, Scope2: 823,854 t-CO2e, Scope 1&2 3,677,771 t-CO2e in total. 0.41% : (15,000/3,677,771) x 100.

Other emissions reduction activities

(7.10.1.1) Change in emissions (metric tons CO2e)

265000

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

7.21

(7.10.1.4) Please explain calculation

265,000 t-CO2e was reduced by the following measure. By shrinking our coal-derived power generation, both our coal usage and GHG emissions decreased. Last year's scope 1&2 emissions Scope1: 2,853,917 t-CO2e, Scope2: 823,854 t-CO2e, Scope 1&2 3,677,771 t-CO2e in total. 7.21% : (265,000/3,677,771) x 100.

Divestment

(7.10.1.1) Change in emissions (metric tons CO2e)

17000

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

0.46

(7.10.1.4) Please explain calculation

17,000 t-CO₂e was reduced by the following measure. Our general-purpose business has been transferred to another company. Last year's scope 1&2 emissions Scope1: 2,853,917 t-CO₂e, Scope2: 823,854 t-CO₂e, Scope 1&2 3,677,771 t-CO₂e in total. 0.46% : $(17,000/3,677,771) \times 100$.

Change in physical operating conditions

(7.10.1.1) Change in emissions (metric tons CO₂e)

170000

(7.10.1.2) Direction of change in emissions

Select from:

Decreased

(7.10.1.3) Emissions value (percentage)

4.62

(7.10.1.4) Please explain calculation

170,000 t-CO₂e was reduced by the following situation. Operating income decrease with reduced shipments due to sluggish demand, impact of inventory valuation, and maintenance turnaround, and GHG emissions associated with manufacturing declined during that time. Last year's scope 1&2 emissions Scope1: 2,853,917 t-CO₂e, Scope2: 823,854 t-CO₂e, Scope 1&2 3,677,771 t-CO₂e in total. 4.62% : $(170,000/3,677,771) \times 100$.

[Fixed row]

(7.10.2) Are your emissions performance calculations in 7.10 and 7.10.1 based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Select from:

Market-based

(7.12) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Select from:

Yes

(7.12.1) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

	CO2 emissions from biogenic carbon (metric tons CO2)
	351

[Fixed row]

(7.15) Does your organization break down its Scope 1 emissions by greenhouse gas type?

Select from:

Yes

(7.15.1) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used global warming potential (GWP).

Row 1

(7.15.1.1) Greenhouse gas

Select from:

CO2

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

2285853

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 2

(7.15.1.1) Greenhouse gas

Select from:

CH4

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

4043

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 3

(7.15.1.1) Greenhouse gas

Select from:

N2O

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

63766

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 4

(7.15.1.1) Greenhouse gas

Select from:

HFCs

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

27526

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 5

(7.15.1.1) Greenhouse gas

Select from:

PFCs

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

2878

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 6

(7.15.1.1) Greenhouse gas

Select from:

SF6

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

2148

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

Row 7

(7.15.1.1) Greenhouse gas

Select from:

NF3

(7.15.1.2) Scope 1 emissions (metric tons of CO2e)

0

(7.15.1.3) GWP Reference

Select from:

IPCC Fifth Assessment Report (AR5 – 100 year)

[Add row]

(7.16) Break down your total gross global Scope 1 and 2 emissions by country/area.

Australia

(7.16.1) Scope 1 emissions (metric tons CO2e)

1992.104

(7.16.2) Scope 2, location-based (metric tons CO2e)

3206.621

Austria

(7.16.1) Scope 1 emissions (metric tons CO2e)

0

(7.16.2) Scope 2, location-based (metric tons CO2e)

34.398

Brazil

(7.16.1) Scope 1 emissions (metric tons CO2e)

532.403

(7.16.2) Scope 2, location-based (metric tons CO2e)

1321.78

China

(7.16.1) Scope 1 emissions (metric tons CO2e)

45221.118

(7.16.2) Scope 2, location-based (metric tons CO2e)

131951.417

Czechia

(7.16.1) Scope 1 emissions (metric tons CO2e)

1166.312

(7.16.2) Scope 2, location-based (metric tons CO2e)

6639.027

France

(7.16.1) Scope 1 emissions (metric tons CO2e)

11814.053

(7.16.2) Scope 2, location-based (metric tons CO2e)

1407.731

Germany

(7.16.1) Scope 1 emissions (metric tons CO2e)

1519.841

(7.16.2) Scope 2, location-based (metric tons CO2e)

451.368

India

(7.16.1) Scope 1 emissions (metric tons CO2e)

3002.591

(7.16.2) Scope 2, location-based (metric tons CO2e)

11556.542

Italy

(7.16.1) Scope 1 emissions (metric tons CO2e)

9427.954

(7.16.2) Scope 2, location-based (metric tons CO2e)

2826.873

Japan

(7.16.1) Scope 1 emissions (metric tons CO2e)

1912270.094

(7.16.2) Scope 2, location-based (metric tons CO2e)

340405

(7.16.3) Scope 2, market-based (metric tons CO2e)

288077

Mexico

(7.16.1) Scope 1 emissions (metric tons CO2e)

2584.642

(7.16.2) Scope 2, location-based (metric tons CO2e)

3500.945

Morocco

(7.16.1) Scope 1 emissions (metric tons CO2e)

6.287

(7.16.2) Scope 2, location-based (metric tons CO2e)

2705.4

Poland

(7.16.1) Scope 1 emissions (metric tons CO2e)

2107.395

(7.16.2) Scope 2, location-based (metric tons CO2e)

3490.518

Republic of Korea

(7.16.1) Scope 1 emissions (metric tons CO2e)

279767.535

(7.16.2) Scope 2, location-based (metric tons CO2e)

47875.333

(7.16.3) Scope 2, market-based (metric tons CO2e)

0

Romania

(7.16.1) Scope 1 emissions (metric tons CO2e)

0

(7.16.2) Scope 2, location-based (metric tons CO2e)

0

Singapore

(7.16.1) Scope 1 emissions (metric tons CO2e)

49632.15

(7.16.2) Scope 2, location-based (metric tons CO2e)

131389.227

Spain

(7.16.1) Scope 1 emissions (metric tons CO2e)

0

(7.16.2) Scope 2, location-based (metric tons CO2e)

0

Sweden

(7.16.1) Scope 1 emissions (metric tons CO2e)

0

(7.16.2) Scope 2, location-based (metric tons CO2e)

24.574

Taiwan, China

(7.16.1) Scope 1 emissions (metric tons CO2e)

4907.03

(7.16.2) Scope 2, location-based (metric tons CO2e)

14448.933

Thailand

(7.16.1) Scope 1 emissions (metric tons CO2e)

6512.967

(7.16.2) Scope 2, location-based (metric tons CO2e)

44505.218

United States of America

(7.16.1) Scope 1 emissions (metric tons CO2e)

53414.698

(7.16.2) Scope 2, location-based (metric tons CO2e)

97045.748

Viet Nam

(7.16.1) Scope 1 emissions (metric tons CO2e)

334.857

(7.16.2) Scope 2, location-based (metric tons CO2e)

1356.809
[Fixed row]

(7.17) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

Select all that apply

By business division

(7.17.1) Break down your total gross global Scope 1 emissions by business division.

	Business division	Scope 1 emissions (metric ton CO2e)
Row 1	Material sector	994449
Row 2	Homes sector	68430
Row 3	Health Care sector	13635
Row 4	Other sector (Staff etc.)	237

[Add row]

(7.19) Break down your organization's total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e
Chemicals production activities	994449

[Fixed row]

(7.20) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

Select all that apply

By business division

(7.20.1) Break down your total gross global Scope 2 emissions by business division.

	Business division	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Row 1	Material sector	90273	566993
Row 2	Homes sector	21385	21728
Row 3	Health Care sector	15625	29172
Row 4	Other sector (Staff etc.)	143	143

[Add row]

(7.21) Break down your organization's total gross global Scope 2 emissions by sector production activity in metric tons CO2e.

	Scope 2, location-based, metric tons CO2e	Scope 2, market-based (if applicable), metric tons CO2e
Chemicals production activities	90273	566993

[Fixed row]

(7.22) Break down your gross Scope 1 and Scope 2 emissions between your consolidated accounting group and other entities included in your response.

	Scope 1 emissions (metric tons CO2e)	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Consolidated accounting group	2386214	846144	793816
All other entities	0	0	0

[Fixed row]

(7.23) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?

Select from:

No

(7.25) Disclose the percentage of your organization's Scope 3, Category 1 emissions by purchased chemical feedstock.

Row 1

(7.25.1) Purchased feedstock

Select from:

High Value Chemicals (Steam cracking)

(7.25.2) Percentage of Scope 3, Category 1 tCO₂e from purchased feedstock

9.11

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO₂ emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO₂ converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO₂ emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO₂ intensity of these database by raw material purchase price or usage amount.

Row 2

(7.25.1) Purchased feedstock

Select from:

Ammonia

(7.25.2) Percentage of Scope 3, Category 1 tCO₂e from purchased feedstock

8.31

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO₂ emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO₂ converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO₂ emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO₂ intensity of these database by raw material purchase price or usage amount.

Row 3

(7.25.1) Purchased feedstock

Select from:

Aromatics extraction

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

16.65

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

Row 4

(7.25.1) Purchased feedstock

Select from:

Methanol

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

3.95

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

Row 5

(7.25.1) Purchased feedstock

Select from:

Propylene (FCC)

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

26.06

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA

v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

Row 6

(7.25.1) Purchased feedstock

Select from:

Butadiene (C4 sep.)

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

6.24

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

Row 7

(7.25.1) Purchased feedstock

Select from:

Polymers

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

12.73

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

Row 8

(7.25.1) Purchased feedstock

Select from:

- Specialty chemicals

(7.25.2) Percentage of Scope 3, Category 1 tCO₂e from purchased feedstock

2.18

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO₂ emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO₂ converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO₂ emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO₂ intensity of these database by raw material purchase price or usage amount.

Row 9

(7.25.1) Purchased feedstock

Select from:

- Other base chemicals :Sodium Hydroxide

(7.25.2) Percentage of Scope 3, Category 1 tCO₂e from purchased feedstock

1.38

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO₂ emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO₂ converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO₂ emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO₂ intensity of these database by raw material purchase price or usage amount.

Row 10

(7.25.1) Purchased feedstock

Select from:

- Other base chemicals :Hydrogen

(7.25.2) Percentage of Scope 3, Category 1 tCO2e from purchased feedstock

0.15

(7.25.3) Explain calculation methodology

In FY2023, we referred to the Embodied Energy and Emission Intensity Data for Japan Using Input-Output Tables (3EID) (2015): Inventory Data for LCA prepared by the National Institute for Environmental Studies, Japan, IDEA v2.3 by the National Institute of Advanced Industrial Science and Technology. In 3EID database, CO2 emission factor per purchase price calculated using the input-output table is recorded. We also use ""CO2 converted equivalent unit basic database for Carbon Footprint System trial project"" of the Japan Environmental Management Association of Industry as necessary. In this database, CO2 emission factors of raw materials disclosed by industrial associations of each material industry group in Japan, including Ministry of Economy, Trade and Industry. Input-output table is covered. We calculate the emission by multiplying CO2 intensity of these database by raw material purchase price or usage amount.

[Add row]

(7.25.1) Disclose sales of products that are greenhouse gases.

Carbon dioxide (CO2)

(7.25.1.1) Sales, metric tons

0

Methane (CH4)

(7.25.1.1) Sales, metric tons

0

Nitrous oxide (N2O)

(7.25.1.1) Sales, metric tons

0

Hydrofluorocarbons (HFC)

(7.25.1.1) Sales, metric tons

0

Perfluorocarbons (PFC)

(7.25.1.1) Sales, metric tons

0

Sulphur hexafluoride (SF6)

(7.25.1.1) Sales, metric tons

0

Nitrogen trifluoride (NF3)

(7.25.1.1) Sales, metric tons

0

[Fixed row]

(7.29) What percentage of your total operational spend in the reporting year was on energy?

Select from:

More than 0% but less than or equal to 5%

(7.30) Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertook this energy-related activity in the reporting year
Consumption of fuel (excluding feedstocks)	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired electricity	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired heat	Select from: <input checked="" type="checkbox"/> No
Consumption of purchased or acquired steam	Select from: <input checked="" type="checkbox"/> Yes
Consumption of purchased or acquired cooling	Select from: <input checked="" type="checkbox"/> No
Generation of electricity, heat, steam, or cooling	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.30.1) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

Consumption of fuel (excluding feedstock)

(7.30.1.1) Heating value

Select from:

HHV (higher heating value)

(7.30.1.2) MWh from renewable sources

412876

(7.30.1.3) MWh from non-renewable sources

7313047

(7.30.1.4) Total (renewable and non-renewable) MWh

7725923

Consumption of purchased or acquired electricity

(7.30.1.2) MWh from renewable sources

30139

(7.30.1.3) MWh from non-renewable sources

1462137

(7.30.1.4) Total (renewable and non-renewable) MWh

1492276

Consumption of purchased or acquired steam

(7.30.1.2) MWh from renewable sources

0

(7.30.1.3) MWh from non-renewable sources

863642

(7.30.1.4) Total (renewable and non-renewable) MWh

863642

Consumption of self-generated non-fuel renewable energy

(7.30.1.2) MWh from renewable sources

51906

(7.30.1.4) Total (renewable and non-renewable) MWh

51906

Total energy consumption

(7.30.1.2) MWh from renewable sources

494921

(7.30.1.3) MWh from non-renewable sources

9638826

(7.30.1.4) Total (renewable and non-renewable) MWh

10133747

[Fixed row]

(7.30.3) Report your organization's energy consumption totals (excluding feedstocks) for chemical production activities in MWh.

Consumption of fuel (excluding feedstocks)

(7.30.3.1) Heating value

Select from:

HHV (higher heating value)

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

412876

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

6476194

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

6889070

Consumption of purchased or acquired electricity

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

30139

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

1201621

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

1231760

Consumption of purchased or acquired steam

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

0

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

854630

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

854630

Consumption of self-generated non-fuel renewable energy

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

51906

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

51906

Total energy consumption

(7.30.3.2) MWh consumed from renewable sources inside chemical sector boundary

494921

(7.30.3.3) MWh consumed from non-renewable sources inside chemical sector boundary (excluding recovered waste heat/gases)

8532444

(7.30.3.5) Total MWh (renewable + non-renewable + MWh from recovered waste heat/gases) consumed inside chemical sector boundary

9027365

[Fixed row]

(7.30.6) Select the applications of your organization's consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	Select from: <input checked="" type="checkbox"/> No
Consumption of fuel for the generation of heat	Select from: <input checked="" type="checkbox"/> Yes
Consumption of fuel for the generation of steam	Select from: <input checked="" type="checkbox"/> Yes
Consumption of fuel for the generation of cooling	Select from: <input checked="" type="checkbox"/> No
Consumption of fuel for co-generation or tri-generation	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.30.7) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Sustainable biomass

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

412876

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

412876

Other biomass

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Other renewable fuels (e.g. renewable hydrogen)

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

0

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

0

Coal

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

1578142

(7.30.7.4) MWh fuel consumed for self-generation of heat

0

(7.30.7.5) MWh fuel consumed for self-generation of steam

0

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

1578142

Oil

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

893815

(7.30.7.4) MWh fuel consumed for self-generation of heat

89382

(7.30.7.5) MWh fuel consumed for self-generation of steam

268146

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

536289

Gas

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

3010805

(7.30.7.4) MWh fuel consumed for self-generation of heat

301081

(7.30.7.5) MWh fuel consumed for self-generation of steam

903242

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

1806483

Other non-renewable fuels (e.g. non-renewable hydrogen)

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

2243160

(7.30.7.4) MWh fuel consumed for self-generation of heat

224316

(7.30.7.5) MWh fuel consumed for self-generation of steam

672948

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

1345896

Total fuel

(7.30.7.1) Heating value

Select from:

HHV

(7.30.7.2) Total fuel MWh consumed by the organization

8138799

(7.30.7.4) MWh fuel consumed for self-generation of heat

614778

(7.30.7.5) MWh fuel consumed for self-generation of steam

1844334

(7.30.7.7) MWh fuel consumed for self- cogeneration or self-trigeneration

5679687
[Fixed row]

(7.30.9) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

Electricity

(7.30.9.1) Total Gross generation (MWh)

5695683

(7.30.9.2) Generation that is consumed by the organization (MWh)

5695683

(7.30.9.3) Gross generation from renewable sources (MWh)

51906

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

51906

Heat

(7.30.9.1) Total Gross generation (MWh)

1823650

(7.30.9.2) Generation that is consumed by the organization (MWh)

1823650

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

Steam

(7.30.9.1) Total Gross generation (MWh)

2614414

(7.30.9.2) Generation that is consumed by the organization (MWh)

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

Cooling

(7.30.9.1) Total Gross generation (MWh)

0

(7.30.9.2) Generation that is consumed by the organization (MWh)

0

(7.30.9.3) Gross generation from renewable sources (MWh)

0

(7.30.9.4) Generation from renewable sources that is consumed by the organization (MWh)

0

[Fixed row]

(7.30.11) Provide details on electricity, heat, steam, and cooling your organization has generated and consumed for chemical production activities.

Electricity

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

4985486

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

4985486

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

51906

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel

feedstocks inside chemical sector boundary (MWh)

0

Heat

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

1626116

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

1626116

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

0

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

1105739

Steam

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

2415762

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

2415762

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

0

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

Cooling

(7.30.11.1) Total gross generation inside chemicals sector boundary (MWh)

0

(7.30.11.2) Generation that is consumed inside chemicals sector boundary (MWh)

0

(7.30.11.3) Generation from renewable sources inside chemical sector boundary (MWh)

0

(7.30.11.4) Generation from waste heat/gases recovered from processes using fuel feedstocks inside chemical sector boundary (MWh)

0

[Fixed row]

(7.30.14) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero or near-zero emission factor in the market-based Scope 2 figure reported in 7.7.

Row 1

(7.30.14.1) Country/area

Select from:

Japan

(7.30.14.2) Sourcing method

Select from:

Physical power purchase agreement (physical PPA) with a grid-connected generator

(7.30.14.3) Energy carrier

Select from:

Electricity

(7.30.14.4) Low-carbon technology type

Select from:

Large hydropower (>25 MW)

(7.30.14.5) Low-carbon energy consumed via selected sourcing method in the reporting year (MWh)

30139

(7.30.14.6) Tracking instrument used

Select from:

Contract

(7.30.14.7) Country/area of origin (generation) of the low-carbon energy or energy attribute

Select from:

Japan

(7.30.14.8) Are you able to report the commissioning or re-powering year of the energy generation facility?

Select from:

Yes

(7.30.14.9) Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)

2021

(7.30.14.10) Comment

*Aqua premium supplied by Tokyo Energy Partner
[Add row]*

(7.30.16) Provide a breakdown by country/area of your electricity/heat/steam/cooling consumption in the reporting year.

Australia

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Austria

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Brazil

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

China

(7.30.16.1) Consumption of purchased electricity (MWh)

142303

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

190271

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

332574.00

Czechia

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

France

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Germany

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

India

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Italy

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Japan

(7.30.16.1) Consumption of purchased electricity (MWh)

681513

(7.30.16.2) Consumption of self-generated electricity (MWh)

51906.07

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

341846

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

1075265.07

Mexico

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Morocco

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Poland

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Republic of Korea

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Romania

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Singapore

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Spain

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Sweden

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Taiwan, China

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Thailand

(7.30.16.1) Consumption of purchased electricity (MWh)

116605

(7.30.16.2) Consumption of self-generated electricity (MWh)

0

(7.30.16.4) Consumption of purchased heat, steam, and cooling (MWh)

22768

(7.30.16.5) Consumption of self-generated heat, steam, and cooling (MWh)

0

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

139373.00

United States of America

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

Viet Nam

(7.30.16.6) Total electricity/heat/steam/cooling energy consumption (MWh)

0.00

[Fixed row]

(7.31) Does your organization consume fuels as feedstocks for chemical production activities?

Select from:

No

(7.39) Provide details on your organization's chemical products.

Row 1

(7.39.1) Output product

Select from:

Other base chemicals

(7.39.2) Production (metric tons)

500000

(7.39.3) Capacity (metric tons)

600000

(7.39.4) Direct emissions intensity (metric tons CO2e per metric ton of product)

0.8

(7.39.5) Electricity intensity (MWh per metric ton of product)

0.27

(7.39.6) Steam intensity (MWh per metric ton of product)

0.8

(7.39.7) Steam/ heat recovered (MWh per metric ton of product)

0.42

(7.39.8) Comment

We disclose data about a basic chemical. The basic unit data is exemplified with one of the bases having multiple bases in the world as a representative. Since it is different for each base such as manufacturing method and catalyst, it is meaningless to summarize everything.

[Add row]

(7.45) Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Row 1

(7.45.1) Intensity figure

0.00000114

(7.45.2) Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)

3180030

(7.45.3) Metric denominator

Select from:

unit total revenue

(7.45.4) Metric denominator: Unit total

2784878000000

(7.45.5) Scope 2 figure used

Select from:

Market-based

(7.45.6) % change from previous year

15.5

(7.45.7) Direction of change

Select from:

Decreased

(7.45.8) Reasons for change

Select all that apply

Change in renewable energy consumption

Change in output

Change in physical operating conditions

(7.45.9) Please explain

We managed to achieve this by continual implementation of energy-saving initiatives (such as optimizing the operating conditions of diesel electricity generators and steam boilers), as well as active deployment of renewable energy technology (hydroelectric and photovoltaic power generation). In this way, we were successful in reducing our CO2 emissions per unit of sales by 15.5%.

[Add row]

(7.52) Provide any additional climate-related metrics relevant to your business.

Row 1

(7.52.1) Description

Select from:

Other, please specify :“10 Growth Gears” (GG10)operating income

(7.52.2) Metric value

50

(7.52.3) Metric numerator

GG10 operating income for a single year (yen)

(7.52.4) Metric denominator (intensity metric only)

Total operating income in a single year (yen)

(7.52.7) Please explain

Asahi Kasei has defined “10 Growth Gears” (GG10), i.e., businesses to drive the next wave of growth, selecting various products that contribute to climate change. As an indicator of business portfolio transformation, we have taken the ratio of GG10 operating income to total operating income as a KPI, setting targets of 50% for fiscal 2024.
[Add row]

(7.53) Did you have an emissions target that was active in the reporting year?

Select all that apply

Absolute target

(7.53.1) Provide details of your absolute emissions targets and progress made against those targets.

Row 1

(7.53.1.1) Target reference number

Select from:

Abs 1

(7.53.1.2) Is this a science-based target?

Select from:

No, but we anticipate setting one in the next two years

(7.53.1.5) Date target was set

05/24/2021

(7.53.1.6) Target coverage

Select from:

- Organization-wide

(7.53.1.7) Greenhouse gases covered by target

Select all that apply

- Methane (CH4)
- Nitrous oxide (N2O)
- Carbon dioxide (CO2)
- Perfluorocarbons (PFCs)
- Hydrofluorocarbons (HFCs)
- Sulphur hexafluoride (SF6)
- Nitrogen trifluoride (NF3)

(7.53.1.8) Scopes

Select all that apply

- Scope 1
- Scope 2

(7.53.1.9) Scope 2 accounting method

Select from:

- Market-based

(7.53.1.11) End date of base year

03/31/2014

(7.53.1.12) Base year Scope 1 emissions covered by target (metric tons CO2e)

3880000

(7.53.1.13) Base year Scope 2 emissions covered by target (metric tons CO2e)

1230000

(7.53.1.31) Base year total Scope 3 emissions covered by target (metric tons CO2e)

0.000

(7.53.1.32) Total base year emissions covered by target in all selected Scopes (metric tons CO2e)

5110000.000

(7.53.1.33) Base year Scope 1 emissions covered by target as % of total base year

emissions in Scope 1

100

(7.53.1.34) Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2

100

(7.53.1.53) Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes

100

(7.53.1.54) End date of target

03/30/2031

(7.53.1.55) Targeted reduction from base year (%)

30

(7.53.1.56) Total emissions at end date of target covered by target in all selected Scopes (metric tons CO2e)

3577000.000

(7.53.1.57) Scope 1 emissions in reporting year covered by target (metric tons CO2e)

2386214

(7.53.1.58) Scope 2 emissions in reporting year covered by target (metric tons CO2e)

793816

(7.53.1.77) Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)

3180030.000

(7.53.1.78) Land-related emissions covered by target

Select from:

No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

(7.53.1.79) % of target achieved relative to base year

125.89

(7.53.1.80) Target status in reporting year

Select from:

Underway

(7.53.1.82) Explain target coverage and identify any exclusions

"Target Coverage: The GHG emissions of all consolidated companies are financially aggregated. This applies to companies in which we hold more than 50% of the voting rights or substantial management rights. Exclusions: Our non-manufacturing facilities such as small sales offices, which require a very small amount of energy, are excluded."

(7.53.1.83) Target objective

Asahi Kasei has adopted a policy regarding efforts toward the ambition of becoming carbon neutral by 2050. To achieve this goal, we have set a reduction target based on the idea that we need to reduce GHG emissions by at least 30% by 2030 as compared to fiscal 2013. From the perspective of "Care for Earth," we will address both reducing the amount of GHGs emitted by our own business activities and reducing the amount of GHGs emitted by our own business activities.

(7.53.1.84) Plan for achieving target, and progress made to the end of the reporting year

We plan to reduce Scope 1 and 2 GHG emissions (CO₂e equivalent) to net zero by 2050 for group companies in Japan and overseas. More specifically: (1) We plan to gradually renovate aging equipment at company-owned drop-type hydroelectric power plants to increase the efficiency of hydroelectric power generation substantially. Four hydroelectric power plants will be upgraded in 2025. Combined with existing hydroelectric power plants, this effort is expected to cut our CO₂ emissions by approximately 81,000 tons per year. (2) We plan to gradually shut down our coal-fired power plants for self-generation of electricity and replace them with LNG systems that include high-efficiency natural gas cogeneration. The switchover to LNG fuel at our Nobeoka No. 3 coal-fired thermal power plant has been completed. The plant began commercial operation in March 2022. (3) We also plan to build large-scale photovoltaic solar panel installations on unused land within our facilities. (4) Efforts are being expanded to lease the roofs of Asahi Kasei-developed "Hebel Mason" multi-dwelling homes from the owner, install solar panels, and utilize the solar power generated within the Asahi Kasei Group. Through various such bold initiatives, we plan to accelerate the decarbonization process immediately.

(7.53.1.85) Target derived using a sectoral decarbonization approach

Select from:

No

[Add row]

(7.54) Did you have any other climate-related targets that were active in the reporting year?

Select all that apply

Net-zero targets

(7.54.3) Provide details of your net-zero target(s).

Row 1

(7.54.3.1) Target reference number

Select from:

NZ1

(7.54.3.2) Date target was set

05/24/2021

(7.54.3.3) Target Coverage

Select from:

- Organization-wide

(7.54.3.4) Targets linked to this net zero target

Select all that apply

- Abs1

(7.54.3.5) End date of target for achieving net zero

03/31/2051

(7.54.3.6) Is this a science-based target?

Select from:

- No, but we anticipate setting one in the next two years

(7.54.3.8) Scopes

Select all that apply

- Scope 1
- Scope 2

(7.54.3.9) Greenhouse gases covered by target

Select all that apply

- Methane (CH4)
- Nitrous oxide (N2O)
- Carbon dioxide (CO2)
- Perfluorocarbons (PFCs)
- Hydrofluorocarbons (HFCs)
- Sulphur hexafluoride (SF6)
- Nitrogen trifluoride (NF3)

(7.54.3.10) Explain target coverage and identify any exclusions

Target Coverage: The GHG emissions of all consolidated companies are financially aggregated. This applies to companies in which we hold more than 50% of voting rights or substantial management rights. Exclusions: Our non-manufacturing facilities such as small sales offices which require a very small amount of energy are excluded.

(7.54.3.11) Target objective

Asahi Kasei has set a policy to become carbon-neutral by 2050. From the perspective of Care for Earth, we will work both to reduce our GHG emissions and to contribute to reducing GHGs in society through our businesses.

(7.54.3.12) Do you intend to neutralize any residual emissions with permanent carbon removals at the end of the target?

Select from:

Unsure

(7.54.3.13) Do you plan to mitigate emissions beyond your value chain?

Select from:

No, but we plan to within the next two years

(7.54.3.17) Target status in reporting year

Select from:

Underway

[Add row]

(7.55) Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

Select from:

Yes

(7.55.1) Identify the total number of initiatives at each stage of development, and for those in the implementation stages, the estimated CO₂e savings.

	Number of initiatives	Total estimated annual CO ₂ e savings in metric tonnes CO ₂ e (only for rows marked *)
Under investigation	1	<i>Numeric input</i>
To be implemented	4	26565
Implementation commenced	3	9397
Implemented	4	104510
Not to be implemented	0	<i>Numeric input</i>

[Fixed row]

(7.55.2) Provide details on the initiatives implemented in the reporting year in the table below.

Row 1

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

Large hydropower (>25 MW)

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

13171

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 2 (market-based)

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

0

(7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

(7.55.2.7) Payback period

Select from:

No payback

(7.55.2.8) Estimated lifetime of the initiative

Select from:

<1 year

(7.55.2.9) Comment

In 2023, we purchased Aqua Premium (30,139MWh) Electricity produced by hydropower The reduction of CO2 emissions is calculated as follows: The amount purchased as FIT non-fossil fuel energy certificates (MWh) x the actual emission factor of The Electric Power Council for a Low Carbon Society (0.437 t/MWh). 13,171 t-CO2e : 30,139 MWh x 0.437 t-CO2e/MWh.

Row 2

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy generation

Large hydropower (>25 MW)

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

22683

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 1

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

0

(7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

(7.55.2.7) Payback period

Select from:

No payback

(7.55.2.8) Estimated lifetime of the initiative

Select from:

>30 years

(7.55.2.9) Comment

We own 9 drop-type hydroelectric power plants. In 2023, a total of 51,906 MWh was generated. CO2 emission reduction was calculated by multiplying the generated power (MWh) by the actual emission factor of The Electric Power Council for a Low Carbon Society (0.437 t/MWh). 22,683 t-CO2e : 51,906 MWh x 0.437 t-CO2e/MWh.

Row 3

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

Solar PV

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

53160

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 2 (location-based)

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

0

(7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

(7.55.2.7) Payback period

Select from:

No payback

(7.55.2.8) Estimated lifetime of the initiative

Select from:

<1 year

(7.55.2.9) Comment

In 2023, we purchased FIT non-fossil fuel energy certificates for 121,648 MWh. The reduction of CO2 emissions is calculated as follows: The amount purchased as FIT non-fossil fuel energy certificates (MWh) x the actual emission factor of The Electric Power Council for a Low Carbon Society (0.437 t/MWh). 53,160 t-CO2e : 121,648MWh x 0.437 t-CO2e/MWh.

Row 5

(7.55.2.1) Initiative category & Initiative type

Low-carbon energy consumption

Solar PV

(7.55.2.2) Estimated annual CO2e savings (metric tonnes CO2e)

15496

(7.55.2.3) Scope(s) or Scope 3 category(ies) where emissions savings occur

Select all that apply

Scope 2 (location-based)

(7.55.2.4) Voluntary/Mandatory

Select from:

Voluntary

(7.55.2.5) Annual monetary savings (unit currency – as specified in C0.4)

0

(7.55.2.6) Investment required (unit currency – as specified in C0.4)

0

(7.55.2.7) Payback period

Select from:

<1 year

(7.55.2.8) Estimated lifetime of the initiative

Select from:

>30 years

(7.55.2.9) Comment

In cooperation with Asahi Kasei's housing division, we are promoting an initiative to purchase the solar power generated at Hebel House through Non-FIT non-fossil fuel energy certificates. In 2023, we purchased Non-FIT non-fossil fuel energy certificates for 35,460 MWh. The reduction of CO2 emissions is calculated as follows: The amount purchased as Non-FIT non-fossil fuel energy certificates (MWh) x the actual emission factor of The Electric Power Council for a Low Carbon Society (0.437 t/MWh). 15,496 t-CO2e : 35,460MWh x 0.437 t-CO2e/MWh.

[Add row]

(7.55.3) What methods do you use to drive investment in emissions reduction activities?

Row 1

(7.55.3.1) Method

Select from:

Internal price on carbon

(7.55.3.2) Comment

To implement GHG emission reductions efficiently: In addition to applying internal carbon pricing (ICP) to our GHG emission reduction investments, we began in 2020 to apply ICP to all investments valued at 100 million yen or more (excluding those generating less than 100 t-CO2e/year of emissions), as well as to all investments generating additional emissions of 1,000 t-CO2e/year or more. The ICP price was revised from 10,000 yen (100 USD)/CO2-t to 15,000 yen (140 USD)/CO2-t, an equivalent level to the carbon tax price forecast of 140 USD/CO2-t in 2030 under net zero scenario of WEO by IEA, from July 2023. We have utilized the ICP to evaluate the profitability of capital investments and to make investment decisions, furthering action towards regulatory compliance with carbon neutrality.

[Add row]

(7.72) Does your organization assess the life cycle emissions of new construction or major renovation projects?

(7.72.1) Assessment of life cycle emissions

Select from:

- Yes, quantitative assessment

(7.72.2) Comment

- The CO2 emissions for the "construction" and "repair, renewal, and demolition" phases are determined using Comprehensive Assessment System for Built Environment Efficiency (CASBEE) evaluations and reference values.
- For the "usage" phase, CO2 emissions are calculated according to the "Top Runner Program" for homes established by the Ministry of Land, Infrastructure, Transport and Tourism.

[Fixed row]

(7.72.1) Provide details of how your organization assesses the life cycle emissions of new construction or major renovation projects.

(7.72.1.1) Projects assessed

Select from:

- New construction and major renovation projects meeting certain criteria (please specify) :All new construction projects only

(7.72.1.2) Earliest project phase that most commonly includes an assessment

Select from:

- Design phase

(7.72.1.3) Life cycle stage(s) most commonly covered

Select from:

- Use stage

(7.72.1.4) Methodologies/standards/tools applied

Select all that apply

- Other, please specify : "Top Runner Program" for homes established by the Ministry of Land, Infrastructure, Transport and Tourism

[Fixed row]

(7.72.2) Can you provide embodied carbon emissions data for any of your organization's new construction or major renovation projects completed in the last three years?

	Ability to disclose embodied carbon emissions
	Select from: <input checked="" type="checkbox"/> Yes

[Fixed row]

(7.72.3) Provide details of the embodied carbon emissions of new construction or major renovation projects completed in the last three years.

Row 1

(7.72.3.1) Year of completion

2023

(7.72.3.2) Property sector

Select from:

Residential

(7.72.3.3) Type of project

Select from:

New construction

(7.72.3.5) Life cycle stage(s) covered

Select from:

Use stage

(7.72.3.6) Normalization factor (denominator)

Select from:

IPMS 2 – Residential

(7.72.3.7) Denominator unit

Select from:

square meter

(7.72.3.8) Embodied carbon (kg/CO2e per the denominator unit)

922

(7.72.3.9) % of new construction/major renovation projects in the last three years covered by this metric (by floor area)

(7.72.3.10) Methodologies/standards/tools applied

Select all that apply

Other, please specify :CASBEE(Comprehensive Assessment System for Built Environment Efficiency)

[Add row]

(7.74) Do you classify any of your existing goods and/or services as low-carbon products?

Select from:

Yes

(7.74.1) Provide details of your products and/or services that you classify as low-carbon products.

Row 1

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Buildings construction and renovation

Other, please specify :Highly insulated housing including ZEH (net Zero Energy House)

(7.74.1.4) Description of product(s) or service(s)

By supplying highly energy-efficient homes with improved insulation performance, we are promoting the spread of homes that exceed the baseline of the "Top Runner Program" for housing established by the Ministry of Land, Infrastructure, Transport and Tourism. A ZEH (net Zero Energy House) is a house that achieves a net annual primary energy consumption of zero (or less) through energy-saving measures using high-performance insulation and high-efficiency equipment, and "smart energy" using solar panels and other power generation technologies. The Japanese government is promoting ZEH homes to encourage more environmentally conscious lifestyles. * The sales percentages below apply to our whole housing segment.*

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify : "Top Runner Program" for housing

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Use stage

(7.74.1.8) Functional unit used

10 years of use (residence): Assumed to be the typical renewal period for equipment and appliances.

(7.74.1.9) Reference product/service or baseline scenario used

Comparison with baseline standard of the "Top Runner Program" for homes established by the Ministry of Land, Infrastructure, Transport and Tourism (energy-saving standard based on the Building Energy Conservation Act)

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

183860

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

The energy-saving performance of each residence and room was calculated according to the "Top Runner Program" for homes established by the Ministry of Land, Infrastructure, Transport and Tourism. The energy consumption in the use stage of all applicable properties was summed up, and the contribution to reducing emissions was calculated by comparing Hebel Haus with the baseline (homes with energy-saving standards set by the Ministry of Land, Infrastructure, Transport and Tourism). (The contribution to reduction was calculated by multiplying the number of houses for which a notice of verification was issued within the applicable fiscal year.)

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

13.4

Row 2

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

- No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Heating and cooling

- Other, please specify :CO2 sensors for HVAC(Heating, Ventilation, Air Conditioning) Advanced ventilation systems

(7.74.1.4) Description of product(s) or service(s)

A small, high-precision, low-power gas sensor that can measure the concentration of CO2 in the air. Installing this product in a commercial air conditioning system and optimizing ventilation while monitoring CO2 concentrations will help to reduce power consumption for air conditioning and heating.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

- Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

- Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

- Use stage

(7.74.1.8) Functional unit used

Used for 13.7-year product life

(7.74.1.9) Reference product/service or baseline scenario used

The power consumption of HVAC equipment was compared against commercial air conditioners used in conjunction with ventilation systems not equipped with CO2 sensors.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

- Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit)

compared to reference product/service or baseline scenario

4120000

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

To determine the impact of CO2 sensors on CO2 emissions per HVAC unit (compared to not having CO2 sensors), we assumed the annual reduction using reference value given in the ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers) Journal. The average annual electricity consumption of commercial HVAC equipment was calculated using average periodic power consumption in the Energy-saving Performance Catalogue of the Ministry of Economy, Trade and Industry. The period of use was calculated to be 13.7 years, based on a 2022 consumer trends survey by the Cabinet Office. (Contribution to emission reduction was calculated by multiplying the number of unit sales during the applicable fiscal year.)

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.1

Row 3

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Other

Other, please specify :flexographic photopolymer plates (photosensitive resin for flexographic printing)

(7.74.1.4) Description of product(s) or service(s)

This printing plate material does not use any VOC (Volatile Organic Compound) solvents, which cause deterioration of the atmospheric environment, for the development process. The material also helps to lower CO2 emissions by reducing energy consumption, thanks to a simplified drying process. It also contributes to cutting CO2 emissions by reducing printing losses due to its excellent printing quality and printing productivity.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Cradle-to-gate + end-of-life stage

(7.74.1.8) Functional unit used

1 plate unit used for printing an average of 100,000 m²

(7.74.1.9) Reference product/service or baseline scenario used

Comparisons were made with plates developed with solvent.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Cradle-to-gate + end-of-life stage

(7.74.1.11) Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

7850

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

Calculation for use stage (production, sales, and printing by customers) was based on test data from customer facilities and calculation for disposal stage was made with reference to data from the Ministry of the Environment. (Contribution to emission reduction was calculated by multiplying the number of unit sales during the applicable fiscal year.)

Row 4

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Buildings construction and renovation

Foam, caulk, tape or gaskets

(7.74.1.4) Description of product(s) or service(s)

*Insulation materials are used in external walls, roofs, ceilings, and floors to improve the thermal insulation performance of buildings. Insulation performance is expressed by the value of thermal conductivity. Our "Neoma FOAM" boasts an industry-leading thermal conductivity of 0.020 W/(m-K), which is vastly superior to competing insulation materials. In other words, for the same thickness, it offers higher thermal insulation performance than other materials. Due to concerns about the global environment, we do not use any fluorocarbons in our products. (Fluorocarbons are powerful greenhouse gases used as a foaming gas to create the fine bubbles that enhance the thermal insulation of foam materials. * The sales percentages below apply to our whole building material segment.*

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

Row 5

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Power

Other, please specify :Separator for Lithium-Ion Battery

(7.74.1.4) Description of product(s) or service(s)

Lithium-ion batteries (LIBs) are very important components of electric vehicle (EVs). Separators of extremely high quality are absolutely essential for the manufacture of LIBs, to ensure both sufficient ion conductivity and separation of positive and negative electrodes to prevent short circuits. Since we are the first company in the world to successfully mass produce separators for current batteries, thereby establishing a de facto standard and accumulating technology and know-how cultivated through long years of business activities, we are making a huge contribution to shaping a more sustainable society through these products.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s)

or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

Row 7

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Other

Other, please specify : UVC-LED for Water Sterilization

(7.74.1.4) Description of product(s) or service(s)

In the past, mercury lamps have been used as light sources emitting deep ultraviolet rays for sterilization methods, including water sterilization. UVC-LEDs are a family of products that emit deep ultraviolet light without using mercury, offering an alternative to mercury lamps. Mercury lamps require a warm-up time before they can emit ultraviolet light, resulting in mercury lamps frequently being left on at all times for applications such as water sterilization. This leads to higher frequency of lamp replacement and more CO2 emissions over the life-cycle flow. Meanwhile, as LEDs emit ultraviolet light immediately when powered on, the power can be turned on only when necessary. This results in lower power consumption during use and, due to their longer life-span, lower replacement rates and CO2 emissions in the collection and manufacture of raw materials for LEDs. Also, LEDs do not contain mercury, so no mercury is discarded.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify : Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Cradle-to-gate + end-of-life stage

(7.74.1.8) Functional unit used

Used water dispensers for five-year product life

(7.74.1.9) Reference product/service or baseline scenario used

The calculation scope is limited to “raw material extraction and manufacturing” and “usage.” For water sterilization modules, one mercury lamp is compared to two LEDs. Mercury lamps need to be replaced annually, resulting in five lamps over the five-year lifespan of a water dispenser. In contrast, the cumulative operating time of LEDs over five years is shorter than their lifespan, so no replacements are needed.

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Cradle-to-gate + end-of-life stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

1987

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

The calculation range is limited to “raw material collection/production” and “time of use”. Results are compared using a water sterilization module with one mercury lamp and the same module with two LEDs. The mercury lamps require replacement once a year, and it is assumed that five mercury lamps will be used over the five-year life-span of the water dispenser. As the cumulative lighting time of five years is shorter than the life-span of an LED, figures were calculated as having no replacement required.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.01

Row 8

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Other

Other, please specify : A timing device for asynchronous synchronization used for mobile communication base stations IC for TCXO* for base stations (*Temperature Compensated Cristal (Xtal) Oscillator)

(7.74.1.4) Description of product(s) or service(s)

In the past, timing devices with thermostatic control were used for asynchronous synchronization. However, in more recent years, devices that do not require thermostatic control have become more widespread. TCXOs that do not require thermostatic control can reduce power consumption and help to lower power consumption in mobile communication base stations.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Use stage

(7.74.1.8) Functional unit used

Used asynchronous synchronization timing device that does not require thermostatic control used for mobile communication base stations for 12.5-year product life

(7.74.1.9) Reference product/service or baseline scenario used

An asynchronous synchronization timing device that requires thermostatic control used for mobile communication base stations

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit)

compared to reference product/service or baseline scenario

17000

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

The difference in power consumption between timing devices requiring and not requiring thermostatic control was calculated from our own knowledge. With operating time of 24 hours a day, 365 days a year, and service life generally said to be 10-15 years, usage time was calculated assuming 12.5 years.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.05

Row 9

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Heating and cooling

Other, please specify :Hall Elements/Hall ICs For inverter control of fan motor in home-use air conditioners

(7.74.1.4) Description of product(s) or service(s)

Prior to the advent of the inverter, temperature control was achieved by turning the motor on/off. Inverter control enables rotation at an appropriate speed to achieve energy-efficient temperature control. It helps to reduce power consumption for air conditioners and heaters.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Use stage

(7.74.1.8) Functional unit used

Used cross-flow fan motors as used in inverter home air conditioners for a 13.7-year product life

(7.74.1.9) Reference product/service or baseline scenario used

A cross-flow fan motor as used in inverter-less home air conditioners

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario

52000

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

The energy saving effect of using a fan motor for inverter control was estimated at the Japan Management Association's (JMA) Motortech Japan forum, and air conditioner usage time was estimated from the average daily temperature in the target area (Weather Spark), JIS standards, Japan Refrigeration and Air Conditioning Industry Association standards, and the Cabinet Office Consumption Trend Survey. In addition, the contribution rate from Asahi Kasei parts was determined from the configuration of the inverter control mechanism. The reduction contribution amount was calculated from the energy saving effect, air conditioner usage time, and contribution rate.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.05

Row 10

(7.74.1.1) Level of aggregation

Select from:

Product or service

(7.74.1.2) Taxonomy used to classify product(s) or service(s) as low-carbon

Select from:

No taxonomy used to classify product(s) or service(s) as low carbon

(7.74.1.3) Type of product(s) or service(s)

Heating and cooling

Other, please specify :Current sensor For inverter control of compressor motor in packaged air conditioner

(7.74.1.4) Description of product(s) or service(s)

Prior to the advent of the inverter, temperature control was achieved by turning the motor on/off. Inverter control enables rotation at an appropriate speed to achieve energy-efficient temperature control. It helps to reduce power consumption for air conditioners and heaters.

(7.74.1.5) Have you estimated the avoided emissions of this low-carbon product(s) or service(s)

Select from:

Yes

(7.74.1.6) Methodology used to calculate avoided emissions

Select from:

Other, please specify :Guidelines for Assessing the Contribution of Products to Avoided Greenhouse Gas Emissions, Ver. 2, The Institute of Life Cycle Assessment, Japan

(7.74.1.7) Life cycle stage(s) covered for the low-carbon product(s) or services(s)

Select from:

Use stage

(7.74.1.8) Functional unit used

Compressor motor used in packaged air conditioner (inverter), product life: 13 years

(7.74.1.9) Reference product/service or baseline scenario used

Compressor motor used in packaged air conditioner (inverter-less)

(7.74.1.10) Life cycle stage(s) covered for the reference product/service or baseline scenario

Select from:

Use stage

(7.74.1.11) Estimated avoided emissions (metric tons CO₂e per functional unit) compared to reference product/service or baseline scenario

900000

(7.74.1.12) Explain your calculation of avoided emissions, including any assumptions

The energy saving effect of using a compressor motor for inverter control was estimated from data released by air conditioner manufacturers, and air conditioner usage time was estimated from the average daily temperature in the target area (Weather Spark), JIS standards, Japan Refrigeration and Air Conditioning Industry Association

standards, and depreciation periods as determined by Japan. In addition, the contribution rate from Asahi Kasei parts was determined from the configuration of the inverter control mechanism. The reduction contribution amount was calculated from the energy saving effect, air conditioner usage time, and contribution rate.

(7.74.1.13) Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year

0.05
[Add row]

(7.77) Did your organization complete new construction or major renovations projects designed as net zero carbon in the last three years?

Select from:

Yes

(7.77.1) Provide details of new construction or major renovations projects completed in the last 3 years that were designed as net zero carbon.

Row 1

(7.77.1.1) Property sector

Select from:

Residential

(7.77.1.2) Definition(s) of net zero carbon applied

Select all that apply

National/local government standard, please specify :CASBEE(Comprehensive Assessment System for Built Environment Efficiency)

(7.77.1.3) % of net zero carbon buildings in the total number of buildings completed in the last 3 years

0.1

(7.77.1.4) Have any of the buildings been certified as net zero carbon?

Select from:

No

[Add row]

(7.79) Has your organization canceled any project-based carbon credits within the reporting year?

Select from:

No

C9. Environmental performance - Water security

(9.1) Are there any exclusions from your disclosure of water-related data?

Select from:

Yes

(9.1.1) Provide details on these exclusions.

Row 1

(9.1.1.1) Exclusion

Select from:

Facilities

(9.1.1.2) Description of exclusion

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.1.1.3) Reason for exclusion

Select from:

Small volume [rainwater]

(9.1.1.7) Percentage of water volume the exclusion represents

Select from:

Less than 1%

(9.1.1.8) Please explain

Data are collected for facilities with high water intake and wastewater discharge.

Row 2

(9.1.1.1) Exclusion

Select from:

Country/geographical area

(9.1.1.2) Description of exclusion

Countries and regions where no rules or policies are set for measuring water intake and wastewater discharge in the area, as well as those where it is difficult to obtain data because of inadequate equipment and environments, have been excluded from the aggregates for aspects including our desire to collect reliable data.

(9.1.1.3) Reason for exclusion

Select from:

- Data is not available

(9.1.1.4) Primary reason why data is not available

Select from:

- Challenges associated with data collection and/or quality

(9.1.1.7) Percentage of water volume the exclusion represents

Select from:

- Unknown

(9.1.1.8) Please explain

Data are collected for countries and regions where reliable data are available.

[Add row]

(9.2) Across all your operations, what proportion of the following water aspects are regularly measured and monitored?

Water withdrawals – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

- 100%

(9.2.2) Frequency of measurement

Select from:

- Continuously

(9.2.3) Method of measurement

Each of our plants measures and monitors the volume of water withdrawal continuously, with flow meters and/or based on invoices.

(9.2.4) Please explain

We regularly measure and monitor the total volume of water withdrawal at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water withdrawal continuously, with flow meters and/or based on invoices, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

Water withdrawals – volumes by source

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants measures and monitors the volume of water withdrawal by source continuously, with flow meters and/or based on invoices.

(9.2.4) Please explain

We regularly measure and monitor the volume of water withdrawal by sources at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water withdrawal by source continuously, with flow meters and/or based on invoices, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

Water withdrawals quality

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants monitors the quality of water withdrawn to ensure good quality freshwater is always available. The monitoring method and frequency depend on individual plants' facts and circumstances such as legal requirements and types of water withdrawn. Typically, many of our plants continuously monitor the quality of water withdrawn with turbidity and pH meters, and periodically refer to water analysis reports obtained from public water utilities.

(9.2.4) Please explain

We regularly monitor the quality of water used at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water withdrawn to ensure good quality freshwater is always available. When a plant encounters any issues concerning the quality of water withdrawn, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water withdrawn.

Water discharges – total volumes

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants measures and monitors the volume of water discharge continuously, typically with flow meters and a flow measurement weir.

(9.2.4) Please explain

We regularly measure and monitor the total volume of water discharge at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

Water discharges – volumes by destination

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants measures and monitors the volume of water discharge by destination continuously, typically with flow meters and a flow measurement weir.

(9.2.4) Please explain

We regularly measure and monitor the volume of water discharge by destination at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge by destination continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

Water discharges – volumes by treatment method

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants measures and monitors the volume of water discharge by treatment method continuously, typically with flow meters and a flow measurement weir.

(9.2.4) Please explain

We regularly measure and monitor the volume of water discharge by treatment method at all of our plants according to our internal regulations. Each of our plants measures and monitors the volume of water discharge by treatment method continuously, typically with flow meters and a flow measurement weir, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

Water discharge quality – by standard effluent parameters

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants continuously monitor parameters such as pH and COD with our own analyzers to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month.

(9.2.4) Please explain

We regularly measure and monitor the water discharge quality by standard effluent parameters at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water discharge to ensure that it complies with all applicable effluent standards or limits. Many of our plants continuously monitor parameters such as pH and COD with our own analyzers to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month to demonstrate that we meet any effluent standards or limits. When a plant encounters any issues concerning the quality of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water discharge.

Water discharge quality – emissions to water (nitrates, phosphates, pesticides, and/or other priority substances)

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants continuously monitor parameters such as nitrates, phosphates to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any effluent standards or limits.

(9.2.4) Please explain

We regularly measure and monitor the water discharge quality by standard effluent parameters at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the quality of water discharge to ensure that it complies with all applicable effluent standards or limits. Many of our plants continuously monitor parameters such as nitrates, phosphates to detect any issues, and ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any effluent standards or limits. When a plant encounters any issues concerning the quality of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the quality of water discharge.

Water discharge quality – temperature

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Monthly

(9.2.3) Method of measurement

Each of our plants regularly monitors the effluent temperature with our own thermometers to detect any issues, typically one to two times a month.

(9.2.4) Please explain

We regularly measure and monitor the temperature of water discharge at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor the temperature of water discharge to ensure that it complies with all applicable requirements. Many of our plants continuously monitor the effluent temperature with our own thermometers to detect any issues, and all the plants ask external laboratories to take and analyze effluent samples periodically, typically one to two times a month, to demonstrate that we meet any relevant requirements. When a plant encounters any issues concerning the temperature of water discharge, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the temperature of water discharge.

Water consumption – total volume

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

We measure and monitor the total volume of water consumption continuously, based on the water withdrawal and water discharge data collected from our plants. The volume of water withdrawal is measured by flow meters or based on invoices and the volume of water discharge is measured with flow meters and a flow measurement weir.

(9.2.4) Please explain

We measure and monitor the total volume of water consumption continuously, based on the water withdrawal and water discharge data collected from our plants. The volume of water withdrawal is measured by flow meters or based on invoices and the volume of water discharge is measured with flow meters and a flow measurement weir. The method for measurement is the simple subtraction: Water consumption (Water withdrawal - Water discharge)

Water recycled/reused

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Continuously

(9.2.3) Method of measurement

Each of our plants calculates the volume of water recycled/reused, based on the readings of flow meters and some estimates continuously.

(9.2.4) Please explain

We regularly measure and monitor the volume of water recycled/reused at all of our plants according to our internal regulations. Each of our plants calculates the volume of water recycled/reused, based on the readings of flow meters and some estimates, and reports the yearly data to the Asahi Kasei headquarters once a year, using our proprietary system. The Asahi Kasei headquarters monitors the group-wide data annually.

The provision of fully-functioning, safely managed WASH services to all workers

(9.2.1) % of sites/facilities/operations

Select from:

100%

(9.2.2) Frequency of measurement

Select from:

Monthly

(9.2.3) Method of measurement

Each of our plants monitors whether we provide fully-functioning, safely managed WASH services to all workers. The monitoring is done through water supply and sanitation facilities inspections conducted at each plant regularly, typically every month.

(9.2.4) Please explain

We regularly monitor whether we provide fully-functioning, safely managed WASH services to all workers at all of our plants according to our internal regulations. It is principally the responsibility of each of our plants to monitor whether we provide fully-functioning, safely managed WASH services to all workers. The monitoring is done through water supply and sanitation facilities inspections conducted at each plant regularly, typically every month. However, when a plant encounters any issues concerning the provision of WASH services, that it cannot resolve on its own, it shall seek advice and support from the Asahi Kasei headquarters, by letting it know what has happened and is currently happening. The Asahi Kasei headquarters determines annually whether there have been any issues concerning the provision of WASH services.

[Fixed row]

(9.2.2) What are the total volumes of water withdrawn, discharged, and consumed across all your operations, how do they compare to the previous reporting year, and how are they forecasted to change?

Total withdrawals

(9.2.2.1) Volume (megaliters/year)

242402

(9.2.2.2) Comparison with previous reporting year

Select from:

Lower

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.2.6) Please explain

The total withdrawals decreased by 1.75% compared to the previous fiscal year, because of the sluggish global economic condition. Since the total withdrawals mainly depend on the change in the production amount, we anticipate that it will increase next year with economic recovery.

Total discharges

(9.2.2.1) Volume (megaliters/year)

214930

(9.2.2.2) Comparison with previous reporting year

Select from:

Lower

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Divestment from water intensive technology/process

(9.2.2.6) Please explain

The total discharges decreased by 1.71%, due to the decrease of total withdrawals as a result of decrease in production in addition to our challenge to use water efficiently. Because of the change in total discharges depends on the total withdrawals, we anticipate that it will increase next year with economic recovery.

Total consumption

(9.2.2.1) Volume (megaliters/year)

27472

(9.2.2.2) Comparison with previous reporting year

Select from:

Lower

(9.2.2.3) Primary reason for comparison with previous reporting year

Select from:

Divestment from water intensive technology/process

(9.2.2.6) Please explain

The total consumption decreased by 2.09%, due to the decrease in production during the sluggish global economic condition in 2023 in addition to our challenge to use water efficiently. Since the change in total consumption depends on change in the total withdrawals, we anticipate that it will increase next year with economic recovery.

[Fixed row]

(9.2.4) Indicate whether water is withdrawn from areas with water stress, provide the volume, how it compares with the previous reporting year, and how it is forecasted to change.

(9.2.4.1) Withdrawals are from areas with water stress

Select from:

Yes

(9.2.4.2) Volume withdrawn from areas with water stress (megaliters)

33.42

(9.2.4.3) Comparison with previous reporting year

Select from:

Lower

(9.2.4.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.4.5) Five-year forecast

Select from:

Lower

(9.2.4.6) Primary reason for forecast

Select from:

Increase/decrease in efficiency

(9.2.4.7) % of total withdrawals that are withdrawn from areas with water stress

0.01

(9.2.4.8) Identification tool

Select all that apply

WRI Aqueduct

(9.2.4.9) Please explain

We understand that the plant in Mexico located in areas designated as "high" water stress by the WRI Aqueduct. The volume of water withdrawn at this plant represents only a tiny fraction of the Asahi Kasei Group's total water withdrawals, but the plant has been striving to reduce their water use. This has contributed to the year-on-year decrease in the volume of water withdrawn at these plants.

[Fixed row]

(9.2.7) Provide total water withdrawal data by source.

Fresh surface water, including rainwater, water from wetlands, rivers, and lakes

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

185406.47

(9.2.7.3) Comparison with previous reporting year

Select from:

Lower

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.7.5) Please explain

Fresh surface water is relevant because many of our plants use a significant amount of good quality freshwater for cooling and washing. Mainly because of decreased production volume by the sluggish global economic condition throughout FY2023, the volume of fresh surface water we withdrew in FY2023 decreased by 3.91% from the previous year.

Brackish surface water/Seawater

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

29491.69

(9.2.7.3) Comparison with previous reporting year

Select from:

Lower

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.7.5) Please explain

Brackish surface water is not relevant since our plants are located where freshwater resources are abundant. Seawater is relevant because several of our plants in Japan rely on seawater as water for cooling. The volume of seawater we withdrew in FY2023 decreased by 10.63% from the previous year.

Groundwater – renewable

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

25163.22

(9.2.7.3) Comparison with previous reporting year

Select from:

Higher

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.7.5) Please explain

Renewable groundwater is relevant because several of our plants rely on renewable groundwater as water for cooling and washing. Because more renewable groundwater was used in FY2023 for cooling and rinse water for power at large-scale production bases, the volume of seawater we withdrew in FY2023 increased from the previous year by 41.39%.

Groundwater – non-renewable

(9.2.7.1) Relevance

Select from:

Not relevant

(9.2.7.5) Please explain

Non-renewable groundwater is not relevant because none of our plants are located where it is available and has to be relied on. It will continue to be irrelevant for us unless we set up a plant where non-renewable groundwater is available and has to be relied on.

Produced/Entrained water

(9.2.7.1) Relevance

Select from:

Not relevant

(9.2.7.5) Please explain

Produced water is not relevant because we are not involved in the mining of gas, oil or metals. It will continue to be irrelevant for us unless we enter into any mining business.

Third party sources

(9.2.7.1) Relevance

Select from:

Relevant

(9.2.7.2) Volume (megaliters/year)

2034.86

(9.2.7.3) Comparison with previous reporting year

Select from:

About the same

(9.2.7.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.7.5) Please explain

Water from third-party sources is relevant because we use it where drinkable quality water is required. The volume of water from third-party sources, mainly municipal water, we withdrew in FY2023 was as low as that in the previous year. In FY2022, drinking water consumption decreased as a result of an increase in working from home because of the COVID-19 pandemic, and we believe that this trend continued in FY2023.

[Fixed row]

(9.2.8) Provide total water discharge data by destination.

Fresh surface water

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

183122.75

(9.2.8.3) Comparison with previous reporting year

Select from:

Higher

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.8.5) Please explain

Fresh surface water is relevant as a wastewater destination because several of our plants discharge wastewater into fresh surface water. The volume of wastewater discharged into fresh surface water in FY2023 increased from the previous year by 12.47%. We attribute this to more renewable groundwater being used for cooling and rinse water for power at large-scale production bases in FY2023.

Brackish surface water/seawater

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

29491.69

(9.2.8.3) Comparison with previous reporting year

Select from:

Lower

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.8.5) Please explain

Seawater is relevant as a wastewater destination because several of our plants use seawater as non-contact cooling water and discharge it directly into the sea. The volume of wastewater discharged into the sea in FY2023 decreased by 10.63% from the previous year. The change rate was the same as the change in the volume of sea water withdrawals. (The volume of wastewater discharged into the sea is exactly the same as the volume of water withdrawn from the sea, because there is no evaporation in indirect cooling systems using seawater.)

Groundwater

(9.2.8.1) Relevance

Select from:

Not relevant

(9.2.8.5) Please explain

Groundwater is and will continue to be irrelevant as a wastewater destination because none of our plants discharge and will not need to discharge wastewater into groundwater.

Third-party destinations

(9.2.8.1) Relevance

Select from:

Relevant

(9.2.8.2) Volume (megaliters/year)

2009.8

(9.2.8.3) Comparison with previous reporting year

Select from:

About the same

(9.2.8.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.8.5) Please explain

The volume of wastewater discharged into third-party destinations in FY2023 was as low as that in the previous year. In FY2022, drinking water consumption decreased as a result of an increase in working from home because of the COVID-19 pandemic, and we believe that this trend continued in FY2023.

[Fixed row]

(9.2.9) Within your direct operations, indicate the highest level(s) to which you treat your discharge.

Tertiary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

111985

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

51-60

(9.2.9.6) Please explain

The amount processed increased by 1.19% compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.

Secondary treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

40408

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

Lower

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

11-20

(9.2.9.6) Please explain

The amount processed decreased by 4.53% compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.

Primary treatment only

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

402

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

Lower

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

Less than 1%

(9.2.9.6) Please explain

The amount processed decreased by 50.25 % compared to the previous year. The basis for selecting the specific processing level: All discharge are subject to increasingly stringent country-specific laws and regulations relating to water pollution and regional regulations aimed at protecting rivers and lakes before being released to receiving water bodies.

Discharge to the natural environment without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

39096

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

Lower

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

11-20

(9.2.9.6) Please explain

The amount processed decreased by 6.97% compared to the previous year.

Discharge to a third party without treatment

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Relevant

(9.2.9.2) Volume (megaliters/year)

23038

(9.2.9.3) Comparison of treated volume with previous reporting year

Select from:

About the same

(9.2.9.4) Primary reason for comparison with previous reporting year

Select from:

Increase/decrease in business activity

(9.2.9.5) % of your sites/facilities/operations this volume applies to

Select from:

1-10

(9.2.9.6) Please explain

The amount processed increased by 0.82% compared to the previous year.

Other

(9.2.9.1) Relevance of treatment level to discharge

Select from:

Not relevant

[Fixed row]

(9.2.10) Provide details of your organization's emissions of nitrates, phosphates, pesticides, and other priority substances to water in the reporting year.

(9.2.10.1) Emissions to water in the reporting year (metric tons)

5720

(9.2.10.2) Categories of substances included

Select all that apply

Nitrates

Phosphates

(9.2.10.4) Please explain

The amount processed increased by 26.55% compared with the previous year, mainly because of textile mill production returning almost to normal in FY2023 after being halted in FY2022.

[Fixed row]

(9.3) In your direct operations and upstream value chain, what is the number of facilities where you have identified substantive water-related dependencies, impacts, risks, and opportunities?

Direct operations

(9.3.1) Identification of facilities in the value chain stage

Select from:

Yes, we have assessed this value chain stage and identified facilities with water-related dependencies, impacts, risks, and opportunities

(9.3.2) Total number of facilities identified

8

(9.3.3) % of facilities in direct operations that this represents

Select from:

Less than 1%

(9.3.4) Please explain

Using Aqueduct, we have identified eight sites among those we operate directly at a high risk of riverine flooding in the river basin.

Upstream value chain

(9.3.1) Identification of facilities in the value chain stage

Select from:

No, we have not assessed this value chain stage for facilities with water-related dependencies, impacts, risks, and opportunities, but we are planning to do so in the next 2 years

[Fixed row]

(9.3.1) For each facility referenced in 9.3, provide coordinates, water accounting data, and a comparison with the previous reporting year.

Row 1

(9.3.1.1) Facility reference number

Select from:

Facility 1

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

Thailand

Chao Phraya

(9.3.1.8) Latitude

13.597547

(9.3.1.9) Longitude

100.776666

(9.3.1.10) Located in area with water stress

Select from:

No

Row 2

(9.3.1.1) Facility reference number

Select from:

Facility 2

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

China

Yangtze River (Chang Jiang)

(9.3.1.8) Latitude

31.334597

(9.3.1.9) Longitude

121.602021

(9.3.1.10) Located in area with water stress

Select from:

No

Row 3

(9.3.1.1) Facility reference number

Select from:

Facility 3

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

India

Other, please specify :Mithi River

(9.3.1.8) Latitude

19.063854

(9.3.1.9) Longitude

72.862165

(9.3.1.10) Located in area with water stress

Select from:

No

Row 4

(9.3.1.1) Facility reference number

Select from:

Facility 4

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

Yes, withdrawals only

(9.3.1.7) Country/Area & River basin

Republic of Korea

Other, please specify :Oehwanggang

(9.3.1.8) Latitude

35.496011

(9.3.1.9) Longitude

129.331124

(9.3.1.10) Located in area with water stress

Select from:

No

(9.3.1.13) Total water withdrawals at this facility (megaliters)

3839.07

(9.3.1.14) Comparison of total withdrawals with previous reporting year

Select from:

Much lower

(9.3.1.15) Withdrawals from fresh surface water, including rainwater, water from wetlands, rivers and lakes

3839.07

(9.3.1.16) Withdrawals from brackish surface water/seawater

0

(9.3.1.17) Withdrawals from groundwater - renewable

0

(9.3.1.18) Withdrawals from groundwater - non-renewable

0

(9.3.1.19) Withdrawals from produced/entrained water

0

(9.3.1.20) Withdrawals from third party sources

0

(9.3.1.27) Total water consumption at this facility (megaliters)

3839.07

(9.3.1.28) Comparison of total consumption with previous reporting year

Select from:

Much lower

(9.3.1.29) Please explain

Reduction in water usage through effective utilization of water resources and reduced operation rates

Row 5

(9.3.1.1) Facility reference number

Select from:

Facility 5

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

China

Other, please specify :JinJiang

(9.3.1.8) Latitude

28.422036

(9.3.1.9) Longitude

115.374275

(9.3.1.10) Located in area with water stress

Select from:

No

Row 6

(9.3.1.1) Facility reference number

Select from:

Facility 6

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

Sweden

Other, please specify :Stomnesjon

(9.3.1.8) Latitude

61.796586

(9.3.1.9) Longitude

16.56008

(9.3.1.10) Located in area with water stress

Select from:

No

Row 7

(9.3.1.1) Facility reference number

Select from:

Facility 7

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

United States of America

Other, please specify :Lake Ontario

(9.3.1.8) Latitude

43.536621

(9.3.1.9) Longitude

-79.607825

(9.3.1.10) Located in area with water stress

Select from:

No

Row 8

(9.3.1.1) Facility reference number

Select from:

Facility 8

(9.3.1.3) Value chain stage

Select from:

Direct operations

(9.3.1.4) Dependencies, impacts, risks, and/or opportunities identified at this facility

Select all that apply

Risks

(9.3.1.5) Withdrawals or discharges in the reporting year

Select from:

No

(9.3.1.6) Reason for no withdrawals and/or discharges

Our non-manufacturing facilities such as headquarters and sales offices as well as some of our assembly/processing plants, which require a very small amount of water for production, are excluded. These non-manufacturing facilities are excluded because their water withdrawals and wastewater discharges are considerably small, and hence their water risks are negligible.

(9.3.1.7) Country/Area & River basin

Viet Nam

Other, please specify :song Bac Hung Hai

(9.3.1.8) Latitude

20.906712

(9.3.1.9) Longitude

106.080155

(9.3.1.10) Located in area with water stress

Select from:

No

[Add row]

(9.3.2) For the facilities in your direct operations referenced in 9.3.1, what proportion of water accounting data has been third party verified?

Water withdrawals – total volumes

(9.3.2.1) % verified

Select from:

Not verified

Water withdrawals – volume by source

(9.3.2.1) % verified

Select from:

Not verified

Water withdrawals – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:

Not verified

Water discharges – total volumes

(9.3.2.1) % verified

Select from:

Not verified

Water discharges – volume by destination

(9.3.2.1) % verified

Select from:

Not verified

Water discharges – volume by final treatment level

(9.3.2.1) % verified

Select from:

Not verified

Water discharges – quality by standard water quality parameters

(9.3.2.1) % verified

Select from:

Not verified

Water consumption – total volume

(9.3.2.1) % verified

Select from:

Not verified

[Fixed row]

(9.5) Provide a figure for your organization's total water withdrawal efficiency.

(9.5.1) Revenue (currency)

2784878074000

(9.5.2) Total water withdrawal efficiency

11488676.14

(9.5.3) Anticipated forward trend

The water withdrawal efficiency is going to be improved in the near future because of our divestment from water intensive technology/processes in addition to our challenge to use water more efficiently.

[Fixed row]

(9.6) Do you calculate water intensity for your activities in the chemical sector?

Select from:

Yes

(9.6.1) For your top five products by production weight/volume, provide the following water intensity information associated with your activities in the chemical sector.

Row 1

(9.6.1.1) Product type

Other chemicals

Specialty organic chemicals

(9.6.1.2) Product name

Chemical Monomer 1 (We think we should not provide the water intensity for each product because this is confidential information.)

(9.6.1.3) Water intensity value (m3/denominator)

58.87

(9.6.1.4) Numerator: water aspect

Select from:

Total water withdrawals

(9.6.1.5) Denominator

Select from:

Ton

(9.6.1.6) Comparison with previous reporting year

Select from:

Higher

(9.6.1.7) Please explain

We use water unit (m3/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m3/t) of Chemical Monomer 1 has worsened by 5.5%. The reason is that production volume decreased by 17.4% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Row 2

(9.6.1.1) Product type

Bulk organic chemicals

Aromatics

(9.6.1.2) Product name

Chemical Monomer 2 (We think we should not provide the water intensity for each product because this is confidential information.)

(9.6.1.3) Water intensity value (m3/denominator)

(9.6.1.4) Numerator: water aspect

Select from:

 Total water withdrawals**(9.6.1.5) Denominator**

Select from:

 Ton**(9.6.1.6) Comparison with previous reporting year**

Select from:

 Higher**(9.6.1.7) Please explain**

We use water unit (m³/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m³/t) of Chemical Monomer 2 has worsened by 28.7%. The reason is that production volume decreased by 20.6% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Row 3**(9.6.1.1) Product type****Bulk organic chemicals** Polymers**(9.6.1.2) Product name**

Chemical Polymer 1 (We think we should not provide the water intensity for each product because this is confidential information.)

(9.6.1.3) Water intensity value (m³/denominator)

3.44

(9.6.1.4) Numerator: water aspect

Select from:

Total water withdrawals

(9.6.1.5) Denominator

Select from:

Ton

(9.6.1.6) Comparison with previous reporting year

Select from:

Higher

(9.6.1.7) Please explain

We use water unit (m³/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m³/t) of Chemical Polymer 1 has worsened by 1.8%. The reason is that production volume decreased by 29.6% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Row 4

(9.6.1.1) Product type

Bulk organic chemicals

Polymers

(9.6.1.2) Product name

Chemical Polymer 2 (We think we should not provide the water intensity for each product because this is confidential information.)

(9.6.1.3) Water intensity value (m³/denominator)

2.79

(9.6.1.4) Numerator: water aspect

Select from:

Total water withdrawals

(9.6.1.5) Denominator

Select from:

Ton

(9.6.1.6) Comparison with previous reporting year

Select from:

Higher

(9.6.1.7) Please explain

We use water unit (m³/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m³/t) of Chemical Polymer 2 has worsened by 5.9%. The reason is that production volume decreased by 14.4% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

Row 5

(9.6.1.1) Product type

Other chemicals

Specialty organic chemicals

(9.6.1.2) Product name

Chemical Polymer 3 (We think we should not provide the water intensity for each product because this is confidential information.)

(9.6.1.3) Water intensity value (m³/denominator)

123.48

(9.6.1.4) Numerator: water aspect

Select from:

Total water withdrawals

(9.6.1.5) Denominator

Select from:

Ton

(9.6.1.6) Comparison with previous reporting year

Select from:

Higher

(9.6.1.7) Please explain

We use water unit (m³/t) as one of the parameters for productivity improvement. In the near future, we are actively working to improve water unit, as water shortages and rising water prices are expected and the impact of water on commodity manufacturing costs is expected to be greater than it is now. Compared to the previous year, the water intensity (m³/t) of Chemical Polymer 3 has worsened by 37.7%. The reason is that production volume decreased by 28.1% and production efficiency deteriorated significantly. Large-size chemical plants cannot be stopped once they are put into operation. Therefore, to be honest, it is very difficult for us to improve the water intensity of the specific product listed here in a short period except by rebuilding the plant itself. However, we are devoting ourselves to improving the water intensity and are working diligently on an ongoing basis. Specific approaches to improve the water intensity of the products include the introduction of updated IT technology that enables optimization of plant operation according to production volume, high-efficiency pumps, and measures against water leakage mainly due to pipe deterioration. Our strategy is to continue to aggressively seek ways and measures to improve the water intensity of each product from all aspects. It is expected that the forecast of water units in the future will be gradually improved by implementing the above measures.

[Add row]

(9.13) Do any of your products contain substances classified as hazardous by a regulatory authority?

	Products contain hazardous substances
	Select from: <input checked="" type="checkbox"/> No

[Fixed row]

(9.14) Do you classify any of your current products and/or services as low water impact?

(9.14.1) Products and/or services classified as low water impact

Select from:

Yes

(9.14.2) Definition used to classify low water impact

The Asahi Kasei Group defines products that contribute to the improvement of the environment over their entire life cycle when compared to products considered to be the standard in the current market, and products that contribute to the improvement of the environment when compared with our existing products, as Environmental Contribution Products. The Group has conducted life cycle assessments (LCAs) for its products to assess their environmental impact over their entire life cycle, and has defined and certified products that can contribute to water reduction at the stage of product use as "Environmental Contribution Products".

(9.14.4) Please explain

Our water-related “Environmental Contribution Products” are as follows:Microza UF/MF:Microza UF and MF hollow fiber products are providing the most advanced membrane filtration technology for water processing, separations and purifications in a global market. Eutec TM:Eutec TM is a filtration system developed by Asahi Kasei using microfilament nonwoven material. Eutec filter systems can meet your needs, for example, oil-water separation, solid-liquid separation, etc.

[Fixed row]

(9.15) Do you have any water-related targets?

Select from:

Yes

(9.15.1) Indicate whether you have targets relating to water pollution, water withdrawals, WASH, or other water-related categories.

Water pollution

(9.15.1.1) Target set in this category

Select from:

Yes

Water withdrawals

(9.15.1.1) Target set in this category

Select from:

No, and we do not plan to within the next two years

(9.15.1.2) Please explain

Asahi Kasei supplies products that help to improve water sustainability. Given the importance of the continued supply of these products for addressing water risks in society, we are focusing our efforts on eliminating legal violations, including pollution prevention. We have Guidelines on Wastewater Management in place to ensure this. In addition to affirming our commitment to wastewater management based on this, we are also working on enhancing the capacity of wastewater treatment facilities and other equipment. In FY2023, there were neither instances of leakage as related to the Water Pollution Prevention Act nor violations or fines related to environmental laws and regulations.

Water, Sanitation, and Hygiene (WASH) services

(9.15.1.1) Target set in this category

Select from:

No, and we do not plan to within the next two years

(9.15.1.2) Please explain

Asahi Kasei supplies products that help to improve water sustainability. Given the importance of the continued supply of these products for addressing water risks in society, we are focusing our efforts on eliminating legal violations, including pollution prevention. We have Guidelines on Wastewater Management in place to ensure this.

In addition to affirming our commitment to wastewater management based on this, we are also working on enhancing the capacity of wastewater treatment facilities and other equipment. In FY2023, there were neither instances of leakage as related to the Water Pollution Prevention Act nor violations or fines related to environmental laws and regulations.

Other

(9.15.1.1) Target set in this category

Select from:

Yes

[Fixed row]

(9.15.2) Provide details of your water-related targets and the progress made.

Row 1

(9.15.2.1) Target reference number

Select from:

Target 1

(9.15.2.2) Target coverage

Select from:

Business division

(9.15.2.3) Category of target & Quantitative metric

Water recycling/reuse

Increase in water use met through recycling/reuse

(9.15.2.4) Date target was set

04/01/2019

(9.15.2.5) End date of base year

03/31/2016

(9.15.2.6) Base year figure

540000000

(9.15.2.7) End date of target year

03/31/2026

(9.15.2.8) Target year figure

7590000000

(9.15.2.9) Reporting year figure

6370000000

(9.15.2.10) Target status in reporting year

Select from:

Underway

(9.15.2.11) % of target achieved relative to base year

83

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

None, alignment not assessed

(9.15.2.13) Explain target coverage and identify any exclusions

All markets in which Microza is supplied are targeted with no exceptions.

(9.15.2.14) Plan for achieving target, and progress made to the end of the reporting year

Plans are to increase the distribution volume in the market so as to increase the number of modules actually used. We are increasing the supply of modules in FY2023 to meet the target compared with the FY2015 base year.

(9.15.2.16) Further details of target

The accumulated water treatment volume with Microza from the base year 2015 to 2023 is 6.370 billion tons. Since the accumulated water treatment volume by the target year 2025 is 7.590 billion tons, the current progress rate is 83.93% ($6.370 / 7.590 \times 100$).

Row 2

(9.15.2.1) Target reference number

Select from:

Target 2

(9.15.2.2) Target coverage

Select from:

Organization-wide (direct operations only)

(9.15.2.3) Category of target & Quantitative metric

Water pollution

Other water pollution, please specify :No breaches or penalties related on standards of Japan's Water Pollution Control Law and the regional regulations

(9.15.2.4) Date target was set

03/31/2023

(9.15.2.5) End date of base year

03/30/2024

(9.15.2.6) Base year figure

0.0

(9.15.2.7) End date of target year

03/30/2024

(9.15.2.8) Target year figure

0.0

(9.15.2.9) Reporting year figure

0

(9.15.2.10) Target status in reporting year

Select from:

Achieved

(9.15.2.12) Global environmental treaties/initiatives/ frameworks aligned with or supported by this target

Select all that apply

None, alignment not assessed

(9.15.2.13) Explain target coverage and identify any exclusions

All consolidated companies are subject to the Water Pollution Prevention Act. This applies to companies in which we hold more than 50% of voting rights or substantial management rights.

(9.15.2.15) Actions which contributed most to achieving or maintaining this target

The Asahi Kasei Group is thorough in its water discharge management and leakage countermeasures to prevent contamination of bodies of water and groundwater. In addition, as an annual goal for group-wide environmental safety activities, we have set zero instances of leakage as covered by the Water Pollution Prevention Act. In 2012, we issued our Guidelines on Wastewater Management. In addition to affirming our commitment to wastewater management based on this, we are also working on enhancing the capacity of wastewater treatment facilities and other equipment. The Asahi Kasei Group sets voluntary management targets for the quality of wastewater from our offices and plants, managing water quality to a higher level than wastewater regulation standards. We believe that

these measures have led to the achievement of our target.

(9.15.2.16) Further details of target

*Target achievement is based on the existence of violations of water-related environmental laws and regulations. No breaches or penalties occurred during the period from 1 April 2023 to 31 March 2024 related to the emission standards of Japan's Water Pollution Control Law and the regional regulations in which manufacturing facilities exist.
[Add row]*

C13. Further information & sign off

(13.1) Indicate if any environmental information included in your CDP response (not already reported in 7.9.1/2/3, 8.9.1/2/3/4, and 9.3.2) is verified and/or assured by a third party?

	Other environmental information included in your CDP response is verified and/or assured by a third party
	Select from: <input checked="" type="checkbox"/> Third-party verification/assurance is currently in progress

[Fixed row]

(13.1.1) Which data points within your CDP response are verified and/or assured by a third party, and which standards were used?

Row 1

(13.1.1.1) Environmental issue for which data has been verified and/or assured

Select all that apply

- Climate change

(13.1.1.2) Disclosure module and data verified and/or assured

Introduction

- Facility geolocation data

(13.1.1.3) Verification/assurance standard

General standards

- International Sustainability and Carbon Certification (ISCC)

(13.1.1.4) Further details of the third-party verification/assurance process

ISCC PLUS is a third-party certification system that aims to control and guarantee the sustainability of biomass raw material and products and recycled raw materials and products worldwide in the supply chain. Renewal reviews are conducted once a year by a third-party certification body through checking documentation, such as certificates for raw materials and manufacturing plans, as well as through on-site factory audits of the product manufacturing process. Applicable scope is tied to bases, covering 10 in-house manufacturing bases, five outsourced processing bases, 37 logistics bases, and one trader base. Chain of Custody: When opting to mix raw materials with sustainable characteristics (e.g., waste-derived raw materials) and raw materials without such characteristics (virgin raw materials) in processes of fabrication and distribution from raw materials to products, certification is maintained

using the mass balance approach, in which the sustainable characteristics are allotted to product portions according to the input amount of the characteristic raw materials. (Attached as an example is the certificate for the Tokyo Head Office, which is the trader base)

(13.1.1.5) Attach verification/assurance evidence/report (optional)

ISCC-PLUS-Cert.pdf

[Add row]

(13.3) Provide the following information for the person that has signed off (approved) your CDP response.

(13.3.1) Job title

Senior Managing Executive Senior General Manager, Sustainability Strategy

(13.3.2) Corresponding job category

Select from:

Environment/Sustainability manager

[Fixed row]

(13.4) Please indicate your consent for CDP to share contact details with the Pacific Institute to support content for its Water Action Hub website.

Select from:

Yes, CDP may share our Disclosure Submission Lead contact details with the Pacific Institute

