FUJI SEAL - Climate Change 2021

C0. Introduction

C0.1

(C0.1) Give a general description and introduction to your organization.

Fuji Seal Group started manufacturing and selling cap seals in 1958. Since that time, we have continuously developed our products in response to changes in customers, markets, and product containers. Fuji Seal provides shrink sleeve labels, self-adhesive labels (pressure sensitive labels), spouted pouches, and packaging machinery in a global scale. Utilizing the technology and capabilities of the Group, we provide total packaging solutions to meet our customers needs in a wide range of areas, such as food, beverages, dairy, home & personal care and pharmaceutical products.

・Shrink Sleeve Labels

Fuji Seal is a global pioneer in the development of distinctive shrink labels, a core product of its business. Utilizing the characteristics of film, which shrink when heat is applied, Fuji Seal's unique shrink sleeve labels are able to fit perfectly to containers of any shape or material. Applying attractive printing and various processing techniques to transparent plastic film, Fuji Seal shrink sleeve labels become the face of customer products. Our shrink sleeve labels contribute to product quality as well as further environmental protection efforts thanks to the addition of special functions such as light-shielding and weight-saving.

・Self-adhesive Labels (Pressure Sensitive Labels)

Self-adhesive labels are pre-glued labels that are also known as pressure sensitive labels. Fuji Seal's self-adhesive labels contribute to the promotion of customer products. Our POP (point of purchase) labels and campaign seals enhance the effectiveness of store advertising. Our self-adhesive labels also boast a high share of the battery label market. With the addition of Pago to the Group, we will offer a wider range of self-adhesive label solutions on a global scale.

・Soft Pouches (Spouted Pouches)

Soft Pouches, which are generally called spouted pouches, combine the features of a flexible pouch with the functionality of bottles. In addition to their lightweight and space-saving features, the attachment of spouts to soft pouches makes packaging more user friendly. Helping to reduce waste after use, spouted pouches are used in a wide array of areas, such as beverages, food, home & personal care and pharmaceuticals.

・Machinery

Fuji Seal listens attentively to customer needs and proposes an optimized combination of packaging machinery such as label feeders, label applicators and peripheral production line equipment. We provide technical support and services at every location to meet global demands.

C0.2

(C0.2) State the start and end date of the year for which you are reporting data.

	Start date	End date	Indicate if you are providing emissions data for past reporting years	Select the number of past reporting years you will be providing emissions data for
Reporting year	April 1 2020	March 31 2021	No	<Not Applicable>

C0.3

(C0.3) Select the countries/areas for which you will be supplying data.

France
Germany
India
Indonesia
Italy
Japan
Mexico
Netherlands
Poland
Spain
Switzerland
Thailand
United Kingdom of Great Britain and Northern Ireland
United States of America
Viet Nam

C0.4

(C0.4) Select the currency used for all financial information disclosed throughout your response.

JPY

C0.5

(C0.5) Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this option should align with your chosen approach for consolidating your GHG inventory.

Financial control

C1. Governance

C1.1

(C1.1) Is there board-level oversight of climate-related issues within your organization?

Yes

C1.1a

(C1.1a) Identify the position(s) (do not include any names) of the individual(s) on the board with responsibility for climate-related issues.

Position of individual(s)	Please explain
Board Chair	Board of Directors at Fuji Seal Group has formulated the Group Basic Environmental Policy in relation to climate-related issues (environmental issues). The Chairman of the Board of Directors and the Directors are responsible for deliberating and formulating this Group Policy, and based on this policy, they are also responsible for the following: Board of Directors deliberates and decides on the medium-term management plan, which includes targets for reducing our production waste. The Chairman reviews and guides the strategy and key action plans to position ESG as a top management priority. Specifically, in December 2020, Board of Directors decided to completely revise our environmental policy, which had been in place since 2008 and was fully revised in January 2021. In addition, under the supervision of Board of Directors, the Group Sustainability Committee, chaired by the COO, is responsible for setting environment-related goals, promoting action plans, monitoring progress, and evaluating achievements. The Executive Officers in charge of regions, business operations, and functions, as well as their organizations, are responsible for addressing climate-related issues as follows: The Chairperson of Board of Directors (Representative Executive Officer, Chairperson and CEO) shall determine and monitor the monthly reporting requirements for environmental initiatives by the Executive Officers in charge of the regions. Executive Officers in charge of the regions shall report on how environmental issues are being addressed at board meetings and in monthly reports. Executive Officer in charge of business operations shall reduce the environmental impact of the manufacturing processes of each business. Executive Officer in charge of development shall promote product development that contributes to reducing environmental impact, hold regular development meetings four times a year.

C1.1b

(C1.1b) Provide further details on the board's oversight of climate-related issues.

Frequency with which climate-related issues are a scheduled agenda item	Governance mechanisms into which climate-related issues are integrated	Scope of board-level oversight	Please explain
Scheduled – some meetings	Reviewing and guiding strategy Reviewing and guiding major plans of action Reviewing and guiding risk management policies Reviewing and guiding business plans Setting performance objectives Monitoring implementation and performance of objectives Monitoring and overseeing progress against goals and targets for addressing climate-related issues	<Not Applicable>	The Board of Directors confirms and follows up on the progress of initiatives related to waste reduction, CO2 emission reduction, and other targets and risk management in the Medium-Term Management Plan (announced in May 2018) at each meeting, and monitors and supervises the progress of the initiatives. In addition, the Board of Directors deliberated and formulated a new medium-term management plan (announced in February 2021), taking into account the risks and opportunities associated with climate change, the marine plastic issue, and resource depletion, and determined new environmental KPIs, including increasing the sales ratio of environmentally friendly products, reducing CO2 emissions, and reducing waste.

C1.2

(C1.2) Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Reporting line	Responsibility	Coverage of responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	<Not Applicable>	Both assessing and managing climate-related risks and opportunities	<Not Applicable>	More frequently than quarterly

C1.2a

(C1.2a) Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored (do not include the names of individuals).

'Under the direction of CEO, the following Executive Officers and organizations are working on climate-related issues. FSG appoints four Executive Officers for Regions, who are responsible for the execution of operations in each Region, as well as Executive Officers responsible for Shrink Label Business , Pressure Sensitive Label Business, Spout Pouch Business, and Machinery Business, and Executive Officer responsible for Development to manage each business and function.

Executive Officers responsible for Regions (Japan, US, Europe and ASEAN) report how they address environmental issues at Board of Directors meetings and in monthly reports (as the regional executive officer is responsible for the overall operation of the business, including addressing environmental issues).

Executive Officers for Business Sectors are responsible for promoting the reduction of the environmental impact from manufacturing processes (both in terms of assessing and managing climate-related risks and opportunities), and monitors them as part of their duties (as efforts to reduce the environmental impact of manufacturing processes vary from business to business and Executive Officers for Business Sectors are appropriate for review and implementation to mitigate such problems).

The COO is responsible for promoting product development that contributes to reducing environmental impact, etc. (both assessing and managing climate-related risks and opportunities), and for monitoring through meetings and deliberations (since the executive officer in charge of development needs to take the lead in reducing environmental impact in new product development, etc.). The Executive Officers hold regular development meetings four times a year.

Under the supervision of the Board of Directors, the Group Sustainability Committee, chaired by the COO, sets environment-related goals, promotes action plans, monitors progress, and evaluates achievements, thereby clarifying the management risks of climate change and setting issues to be addressed. The Group Sustainability Committee consists of a chairperson, committee members, and a secretariat. The chairman in the committee is the COO, and the committee members are the General Manager of the Environmental Sustainability Promotion Office, the executive officer in charge of human resources, the executive officer in charge of safety and disaster prevention and purchasing, and others appointed by the chairperson as necessary. The committee members examine and decide on the organization and promotion system for sustainability, establish new regulations, and examine and promote action plans.

C1.3

(C1.3) Do you provide incentives for the management of climate-related issues, including the attainment of targets?

	Provide incentives for the management of climate-related issues	Comment
Row 1	Yes	The "performance-linked compensation" has been introduced to its executive officers. The percentage of total remuneration varies from 0% to 30%, and the calculation items include consolidated net sales and operating income ratio for a single year, financial indicators important for management strategy, and non-financial indicators such as environmental indicators and human resource development.

C1.3a

(C1.3a) Provide further details on the incentives provided for the management of climate-related issues (do not include the names of individuals).

Entitled to incentive	Type of incentive	Activity inventivized	Comment
Chief Executive Officer (CEO)	Monetary reward	Supply chain engagement	
Chief Operating Officer (COO)	Monetary reward	Emissions reduction target Supply chain engagement	
Other C-Suite Officer	Monetary reward	Emissions reduction target Supply chain engagement	Other C-Suite officer means Executive Officer in charge of each region (Japan, Americas, Europe and ASEAN)

C2. Risks and opportunities

C2.1

(C2.1) Does your organization have a process for identifying, assessing, and responding to climate-related risks and opportunities?

Yes

C2.1a

(C2.1a) How does your organization define short-, medium- and long-term time horizons?

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	5	
Long-term	5		Longer term means more than five years for us, and we do not specify an end date as we are conscious of sustainability in the future.

C2.1b

(C2.1b) How does your organization define substantive financial or strategic impact on your business?

A significant financial or strategic impact on our business is defined as the inability to provide a stable supply of our label or pouch products, both in normal times and in emergencies, to those products that are positioned as part of our Essential Business, which are essential to society. One example of this is the restriction on the supply of product labels, including those for essential businesses, after the Great East Japan Earthquake in 2011. The scope of the impact can include both direct operation and supply chains, where we would not be able to carry out our manufacturing activities in the normal course of business, from purchasing raw materials to manufacturing products and shipping them to our customers. This would result in a significant expenditure to address potential or actual risks, a significant decrease in revenues due to emerging risks, and a reduction in business over the medium to long term.

C2.2

(C2.2) Describe your process(es) for identifying, assessing and responding to climate-related risks and opportunities.

Value chain stage(s) covered
Direct operations

Risk management process
Integrated into multi-disciplinary company-wide risk management process

Frequency of assessment
Annually

Time horizon(s) covered
Short-term
Medium-term
Long-term

Description of process
Description of the process of climate-related risk management: Using our proprietary "risk map" method, risk assessment is carried out regularly for climate-related risks as a main part of risk management. 1) Create a risk map by evaluating the degree of impact and the likelihood of occurrence for each possible risk to visualize their importance. 2) Estimate the impact and occurence of each risk item onto management over the short, medium, and long terms. Then, identify the most important risk items and determine their priority as a part of risk assessment. 3) The completed risk map is reviewed and approved by Board of Directors at the beginning of every fiscal year, and each division and region then formulates and implements countermeasures to manage their own risks based on the approved risk map. Description of the process of managing climate-related opportunities: (1) At the end of every fiscal year, the impact of each opportunity and feasibility of action are reviewed in a global development meeting attended by R&D members from each region, and key opportunity items are identified based on customer/market needs and technical challenges. (2) The identified key opportunity items are reviewed by Board of Directors and approved as global development projects. (3) The remained development proposals are handled by the relevant regional development departments as local development projects. Case Studies/Examples of Process Application to Physical Risks In recent years, extreme weather events such as typhoons and torrential rains have increased due to climate change. These physical risks are defined in our Risk Map 2020 as high in impact and moderate in frequency. Therefore, we mitigate the identified risks by applying insurance coverage against such natural disasters. In fact, the torrential rains in Hiroshima in June 2018 caused a significant damage to a customer's factory and a subcontractor located near the factory, while our manufacturing machinery installed at the subcontractor was also damaged by the floods. The damage, which amounted to 2,459 million yen, was fully covered by insurance, which helped to minimize the financial damage. Case Study/Example of Applying the Process to Transitional Opportunities We see the development of new markets by solving problems related to climate change as one of the major opportunities. Anticipating the market impact of reducing CO2 emissions in our customers' production and delivery, we decided to follow our opportunity management process to develop a higher volume-efficiency pouch. As a result, we succeeded in developing "Fuji Pouch" (a bottle-like soft pouch with a faucet) and its production machinery in Japan. Compared to conventional bottle containers, Fuji Pouch can reduce the amount of plastic used by more than 70%, and with a 50% improvement in volumetric efficiency, it can also improve transportation efficiency by 50%, contributing to CO2 reduction. These products were launched in the market in 2016 and are widely used in daily necessities such as shampoo, conditioner, and food products, and have been adopted by many customers including major global customers who are focusing on environmental measures such as climate change, as they can greatly contribute to reducing the weight and weight of containers.

C2.2a

(C2.2a) Which risk types are considered in your organization's climate-related risk assessments?

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	According to the risk map for fiscal 2020 approved by Board of Directors, among the climate-related risks, inappropriate responses to legal and regulatory issues are considered to have moderate impact on management and low likelihood of occurrence. For this reason, regional environmental managers monitor GHG emissions and energy use in accordance with the laws and regulations in each country or region, under the direction of the executive officer in charge of each region (Japan, America, Europe and ASEAN). However, if changes in laws and regulations, such as CFC emission control laws and energy conservation laws, were to be made, there would be a risk that our business, financial condition and operational results may be affected materially and adversely if we fail to take appropriate actions. For example, if these environmental standards were to reduce allowed emission levels of hazardous substances that we currently report for under the PRTR Act, we may be required to install more sophisticated treatment equipment, which could have an adverse financial impact. In addition, we pay an annual recycling fee of approximately 19 million yen as a consignment fee for packaging recycling under the Containers and Packaging Recycling Law, but if this fee were to increase due to further emission controls or mandatory recycling in order to mitigate climate change, there would be a risk that our financial condition could be affected adversely. In addition, if we were unable to comply with these laws and regulations, there would be a risk that our reputation for corporate social responsibility could be damaged, resulting in decine of our sales turnover.
Emerging regulation	Relevant, always included	According to the risk map for fiscal 2020 approved by Board of Directors, among the climate-related risks, inappropriate responses to legal and regulatory issues are considered to have moderate impact on management and low likelihood of occurrence. While we generally benefit from enhanced regulations of our customers' products, demand for our services and products could be adversely affected by amendments or repeals of laws or changes in regulatory enforcement policies regarding those laws. An example of regulations that may affect our business is the financial impact risk from carbon taxes. If a carbon price is implemented to the level recommended by the Carbon Pricing Leadership Coalition ("CPLC") ($40 to $100 per tonne of CO2 in 2030), an additional annual expenditure of approximately 0.7-1.6 billion yen would be required, which would impact our financial status significantly. In addition, there is a risk that our business, which manufactures and sells labels for PET bottle beverage, will be significantly affected by the certification of environmentally friendly products and the requirement for businesses to reduce emissions and recycle resources under the Law for Promotion of Sorted Collection and Recycling of Plastic Resources, which is scheduled to be enforced by June 2022. Therefore, under the leadership of the Executive Officer, we are working to reduce the emission of greenhouse gases and strengthen the development and supply of environmentally friendly products.
Technology	Relevant, always included	The risk map for fiscal 2020 approved by Board of Directors defines the risk of business transformation due to rising environmental issues, including climate change, as having high impact on management and low likelihood of occurrence. Specifically, in the absence of technological innovation in such areas as the development of low-carbon products and systems, we may not be able to provide products that meet the standards demanded by the markets and customers, which could lead to a decline in sales. Therefore, investment in technological innovation, such as the development of low-carbon products and systems, is considered to be the key to our market expansion, and the risks and impacts are discussed at the global development meetings based on market conditions, customer requirements and technical difficulties, with the Board of Directors making the final decisions.
Legal	Relevant, always included	According to the risk map for fiscal 2020 approved by Board of Directors, among the climate-related risks, inappropriate responses to legal and regulatory issues are considered to have moderate impact on management and low likelihood of occurrence. In this area, the risk is considered to be lawsuits from citizens and other stakeholders due to inappropriate responses to CFC emission control laws and energy conservation laws. Therefore, under the direction of the executive officers in charge of each region (Japan, the United States, Europe and ASEAN), our environmental and manufacturing managers are working to reduce CFC and energy emissions in accordance with the laws and regulations in each country.
Market	Relevant, always included	The risk map for fiscal 2020 approved by Board of Directors defines the risk of business transformation due to rising environmental issues, including climate change, as having high impact on management and low likelihood of occurrence. In this category, there is a possibility that the market shift to more sustainable packaging, such as biomass, which emits less CO2 in total over its life cycle, will be more demanding and rapid, and there is also a risk of business continuity against a shift to paper products. Therefore, we are introducing products such as RecShrinkTM, which was developed as a recyclable plastic packaging label with lower environmental impact to meet or exceed market expectations.
Reputation	Relevant, always included	In the risk map for fiscal 2020 approved by Board of Directors, among the climate-related risks, reputational damage is identified as having high impact on management and low likelihood of occurrence. Poor publicity from investors, consumers, employees and other stakeholders due to a lack of action on climate change issues could result in a decline in stock value and employee shortages, among other risks. IR, HR and corporate planning departments monitor this risk under the guidance of the CEO. And related key issues are discussed at board meetings. The methods to disclose non-financial information of FSG include statutory financial statements and business reports for General Meeting of Shareholders, the publications in our website such as Integrated Reports, Sustainability Reports and Environmental Reports as well as environmental rating platforms such as CDP, EcoVadis and Sedex.
Acute physical	Relevant, always included	The risk map for fiscal year 2020 approved by Board of Directors indicates that among climate-related risks, natural disasters, which are physical risks of an urgent nature, have high impact on management and moderate likelihood of occurrence. Loss of sales due to inability to produce due to natural disasters such as typhoons and floods, and loss of confidence due to inability to supply essential products are considered as such risks. Therefore, a business continuity plan is prepared under the direction of CEO and discussed in Board of Directors.
Chronic physical	Relevant, always included	In the risk map for fiscal 2020 approved by Board of Directors, chronic physical risks have high impact on management and are considered to have moderate likelihood of occurrence. As our main product, shrink sleeve labels are made of heat-shrinkable film. One of the chronic physical risks where the average temperature increases due to the greenhouse gas effect will make the product shrunk before use and therefore the product will lose its value as a packaging product. This makes it impossible to supply products that meet the customer specifications, and there is a risk that we may be in breach of contract with our customers and suppliers. To mitigate this risk, we continue to implement energy-saving activities such as updating large energy-consuming production and air-conditioning equipment and replacing lighting equipment with LEDs.

C2.3

(C2.3) Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

Yes

C2.3a

(C2.3a) Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

Identifier

Risk 1

Where in the value chain does the risk driver occur?

Direct operations

Risk type & Primary climate-related risk driver

Emerging regulation	Carbon pricing mechanisms

Primary potential financial impact

Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification

<Not Applicable>

Company-specific description

Demand for our services and products can be at risk of being adversely affected by the amendment or repeal of laws related to new regulations or changes in regulatory enforcement policies. The imposition of a new carbon tax of $40-100/t-CO2eq, for example, could have a significant impact on our business, resulting in additional spending of between 0.7 and 1.8 billion yen annually, assuming we maintain our current CO2 emissions levels. For this reason, we have set a global CO2 emissions reduction target for the entire Fuji Seal Group, aiming to achieve a 1% reduction in emissions every year. As a concrete example in 2020, Nabari Plant optimized the ventilation frequency in the ink warehouse in order to reduce energy consumption, and as a result, we were able to increase the efficiency of energy use and reduce CO2

emissions by 307.1 tons per year. In addition, more oil-based printing inks, which are a major source of volatile organic compounds along with organic solvents, are being replaced with water-based inks to reduce CO2 emissions as well as potential risks of fire accidents and environmental pollutions.

Time horizon
Long-term

Likelihood
More likely than not

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, an estimated range

Potential financial impact figure (currency)
<Not Applicable>

Potential financial impact figure – minimum (currency)
700000000

Potential financial impact figure – maximum (currency)
1800000000

Explanation of financial impact figure
The financial impact is based on our CO2 emissions in 2020. If the new carbon tax of $40-100/t-CO2eq is imposed on our CO2 emissions in Scope 1+Scope 2, and we maintain the emission level as it is, the new tax will result in an additional USD6-15M/year where Scope 1+Scope 2=160,000t-CO2/year x USD40-100/t-CO2, which is an additional payment of JPY 0.7-1.8 billion annually.

Cost of response to risk
2024000000

Description of response and explanation of cost calculation
Under the direction of executive officer in charge of each region (Japan, the United States, Europe and ASEAN), the environmental and production managers are working to reduce and control GHG emissions and energy use in order to comply with the laws and regulations in each country and region. In particular, FSG is installing equipment for water-based printing technology to reduce the use of organic solvents, which are the main source of CO2 emissions, as well as to reduce the risk of fires. In Japan, we have invested about 24 million yen in 2020 to reduce our environmental impact, and in several regions we have invested more than 2 billion yen in equipment over the past three years. As an example in 2020, our Nabari factory was able to reduce 307.1 tons of CO2 per year by optimizing the ventilation frequency in the ink storage warehouse. Currently, various measures are being proposed to procure renewable energy and/or offset credits, as well as to reduce CO2 emissions under Scope 3 through collaboration with the supply chain.

Comment

Identifier
Risk 2

Where in the value chain does the risk driver occur?
Downstream

Risk type & Primary climate-related risk driver

Reputation	Increased stakeholder concern or negative stakeholder feedback

Primary potential financial impact
Decreased access to capital

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
Risks of poor reputation and reputational damage related to environmental issues such as climate change are one of the risks identified in the risk map approved by Board of Directors. As institutional investors and shareholders around the world are increasingly interested in ESG investments, there is a risk that delays in addressing climate change could lead to a decline in corporate value as well as in share price. For example, foreign corporations and other financial institutions hold approximately 53.85% (March 2021) of the Company's shares, and if the Company's disclosure of risks and opportunities related to climate change and its business strategy is inadequate, there is a risk that these institutional investors could sell their shares and have a significant impact on its market capitalization.

Time horizon
Medium-term

Likelihood
More likely than not

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
8000000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure

The financial impact is calculated based on the Company's share price. If we are unable to meet the environmental requirements of our stakeholders and are excluded from investments, there is a risk that our corporate value will decline and our share price will decline. If institutional investors were to sell their shares and the share price declined by 10%, the total market value as of March 2020 would be approximately 8.0 billion yen. Share price JPY2474 x 10% x number of shares issued 60,161,956×53.85% = 8.0 billion yen (as of March 2021)

Cost of response to risk
2900000

Description of response and explanation of cost calculation
To avoid this risk, we will focus on demonstrating our stance on climate change to institutional investors, and from 2019, we conduct a third-party verification of CO2 emissions (at a cost of JPY 1,100,000) with the aim of understanding GHG emissions across the entire group, and will reduce energy consumption at 28 sites (15 overseas and 13 in Japan). We have also prepared an environmental report using an external consultant (approx. 1.8 million yen) and published it on our website. We are disclosing financial and non-financial information to our stakeholders in an integrated report. In addition, we are working to enhance our corporate value by disclosing our environmental initiatives and non-financial information in response to various questionnaires from CDP, ECOVADIS, FETE, S&P and other platforms/organizations.

Comment

Identifier
Risk 3

Where in the value chain does the risk driver occur?
Direct operations

Risk type & Primary climate-related risk driver

Acute physical	Increased severity and frequency of extreme weather events such as cyclones and floods

Primary potential financial impact
Increased indirect (operating) costs

Climate risk type mapped to traditional financial services industry risk classification
<Not Applicable>

Company-specific description
In recent years, climate change has led to an increase in typhoons, torrential rains, and other extreme weather events. In Japan, which is particularly vulnerable to heavy rainfall, FSG has six plants in Nabari, Tsukuba, Yuki, Yamagata, Ube, and Hyogo, and has a variety of customers and partner companies. There is a risk of damage to buildings, products and employees in these areas due to extreme weather events caused by climate change and other factors. We use Global Diagnostic Reports from insurance brokerage firms to assess the risk of such natural disasters and physical risks (e.g., infectious diseases) at each site. This risk information is then evaluated under the direction of CEO and reviewed by Board of Directors. Specifically, as a result of the heavy rainfall disaster in Hiroshima in June 2018, our manufacturing machinery located at our customer's plant and at a subcontractor located near our customer's plant was also damaged by flooding. As a result, the machines were scrapped and we were forced to suspend production. The damage caused by the flooding amounted to 2,459 million yen, but all of the damage was covered by insurance and the financial impact was essentially zero.

Time horizon
Short-term

Likelihood
Likely

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
0

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
Regarding the financial impact of the torrential rains that occurred in Hiroshima in June 2018, our manufacturing equipment installed at a customer's plant or at a subcontractor located near the customer's plant was also damaged by flooding, amounting to 2,459 million yen. Despite the physical damage, the insurance coverage reduced the financial impact to practically zero.

Cost of response to risk
226000000

Description of response and explanation of cost calculation
On our risk map, we use Global Diagnostic Reports from insurance brokerage firms to evaluate the risk situation at each site to cover potential physical damages caused by natural disasters and infectious diseases, for example. The risk information is prepared under the direction of CEO and reviewed by Board of Directors. A Business Continuity Plan has been in place to supply any type of products globally, not only for the country affected, but also for all other regions, in case of an emergency. Insurance premium and brokerage fees in 2020: 226 million yen

Comment

C2.4

(C2.4) Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?
Yes

C2.4a

(C2.4a) Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

Identifier
Opp1

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Resource efficiency

Primary climate-related opportunity driver
Use of more efficient production and distribution processes

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
We are working to reduce CO2 emissions by reducing waste and improving transportation efficiency in various ways to keep costs down and reduce our environmental impact. In particular, we recognize that the recent market demand for CO2 emission reduction by reducing plastic usage is one of the opportunities related to climate change. In order to take advantage of this opportunity, we have been working on the development of higher volume-efficiency pouches, and as a result, we have succeeded in developing the "Fuji Pouch" (a bottle-shaped soft pouch container with a faucet) and its production machinery in Japan. Compared to conventional bottle containers, Fuji Pouch can reduce the amount of plastic used by more than 70%, and with a 50% improvement in volumetric efficiency, it can also improve transportation efficiency by 50%, contributing to CO2 reduction. These products were launched in the market in 2016 and are widely used in daily necessities such as shampoo, conditioner, and food products, and have been adopted by many customers including major global customers who are focusing on environmental measures such as climate change, as they can greatly contribute to reducing the weight and weight of containers.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
Medium-high

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
6812000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
As the demand for sustainable products increases, so do the opportunities for our business. Fuji Pouch, which was launched in 2016, was adopted by a major daily necessities manufacturer and contributed significantly to the increase in sales of the pouch business. Subsequently, the number of manufacturers adopting the product increased in 2020, and annual sales increased by 170% compared to before the operation of Fuji Pouch, and the financial impact is shown as the increase in sales. Increase in sales of Japan Soft Pouch 16,454 - 9,642= 6,812 million yen

Cost to realize opportunity
2400000000

Strategy to realize opportunity and explanation of cost calculation
We are working to reduce CO2 emissions by reducing waste and improving transportation efficiency in various ways to keep costs down and reduce our environmental impact. To ensure that we do not miss any opportunities, we hold a global development meeting once a year at the beginning of each fiscal year to discuss the impact on our business and the feasibility of technical innovations. Research and development members from each region participate in this meeting to estimate and identify important opportunity items based on customer and market needs and technical issues. In particular, we have been working on the development of more volumetrically-efficient pouches from the perspective of production at our company and customers, and delivery from our plant to our customer sites. We have identified this development as one of the opportunities related to climate change. For example, in 2016, we successfully developed a bottle-like soft pouch called "Fuji Pouch" (a bottle-shaped pouch container with a faucet) and its production machinery. Since then, we have been continuously developing new products for more efficient production and easier use. We cannot disclose the breakdown due to confidentiality, but the R&D cost for FY2020 is 2.4 billion yen, and we are conducting environmentally friendly activities in all of our R&D activities as a cost to realize the opportunities.

Comment

Identifier
Opp2

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Products and services

Primary climate-related opportunity driver

Development and/or expansion of low emission goods and services

Primary potential financial impact
Increased revenues resulting from increased demand for products and services

Company-specific description
We are committed to developing eco-friendly packaging to reduce our environmental impact. We are constantly developing low CO2-emission products for shrink labels, tack labels and pouches used in beverage and food packaging, including thin-walled labels, labels made from biomass materials, and packaging with recycled plastics and renewable functions. We see the increased demand for products that can reduce the environmental impact of these products as an opportunity. Specifically, we have developed and are offering the industry's thinnest shrink labels and a machine (TLS) that rapidly places labels in the container for thermal shrinking. As the thickness is less than half that of conventional labels, the amount of plastic used can be reduced by about 50%. The reduction in the amount of plastic used by this label in fiscal 2020, both in Japan and overseas, was 3,682 tons. By offering products with such a low impact on climate change, we aim to capture the intentions of our customers and consumers to increase sales.

Time horizon
Medium-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
11000000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
As the demand for sustainable products increases, so do our business opportunities. Sales of thin-walled labels, biomass labels and other products related to environmental issues account for more than 20% of sales turnover in shrink label business in Japan. In particular, in Japan, a synergetic combination of thinner shrink labels and their dedicated application machines has contributed positively to the increase in sales of both packaging labels and machinery; therefore, the increase in sales turnover of shrink labels and application machines in Japan is shown as a financial impact. Increase in sales of shrink labels in Japan 44,862-36,568 = 8,294 million yen Increase in sales of machinery in Japan 6,812-4,081=2,731 million yen Increase in sales of shrink labels and machinery 8,294 + 2,731 = 11,025 million yen

Cost to realize opportunity
2400000000

Strategy to realize opportunity and explanation of cost calculation
We are making environmentally friendly actions for all R&D actions for all of our products (shrink labels, pressure sensitive labels, pouch containers and packaging application machinery) to reduce costs and environmental impact. We are also focusing on increasing the speed of development in each region, both domestically and internationally, through joint research with outside companies and industry-academic partnerships with several universities. To ensure that we do not miss any of these opportunities, we hold an annual global development meeting at the beginning of each fiscal year to assess the impact on our business and the feasibility of our technical challenges. Research and development expenses for fiscal 2020 was 2.4 billion yen, and all of our research and development activities were meant for environmentally friendly purposes. We are committed to environmentally friendly activities in all of our research and development activities. Specifically, we have simultaneously developed and are providing our system with the industry's thinnest shrink labels and a specialized machine (product name: TLS) that allows labels to be applied to containers at high speed and heat-shrunk. As the thickness is less than half that of conventional labels, the amount of plastic used can be reduced by about 50%. The reduction in the amount of plastic used by thinner labels in fiscal 2020, both in Japan and overseas, was 3,682 tons.

Comment

Identifier
Opp3

Where in the value chain does the opportunity occur?
Direct operations

Opportunity type
Markets

Primary climate-related opportunity driver
Access to new markets

Primary potential financial impact
Increased revenues through access to new and emerging markets

Company-specific description
Our basic management vision is "to understand our customers' needs for packaging and provide differentiated products (development, proposal, and supply), and to be the first choice partner for our customers". We are strengthening cooperation within the Group, and through the exchange of technology and market information, we are striving to improve quality and productivity, develop new products and explore new markets. In recent years, many of our customers have begun to consider the sustainability of their products in relation to climate change. Against this backdrop, in September 2019, our U.S. subsidiary American Fuji Seal Inc. successfully developed a shrink label that can be recycled into plastic bottles (RecShrink™). The RecShrink™ label and washable ink system has been evaluated according to the APR (American Plastics Recycling Association) protocol, "Critical Guidance Protocol for Clear PET Articles with Labels and Closures" ("PET-CG-02"). Approved by the standard recycling protocol, the special shrink label has been adopted by many customers, including global dairy and beverage manufacturers, as a new material that allows for recycling of PET bottles and of itself. These efforts have been featured in the Packaging Digest and have attracted a great deal of attention, and we regard the product as an important part of our marketing strategy. In addition, we have strengthened our promotion of the product in our environmental report and other publications on our website, which has led to an increase in sales.

Time horizon
Short-term

Likelihood
Virtually certain

Magnitude of impact
High

Are you able to provide a potential financial impact figure?
Yes, a single figure estimate

Potential financial impact figure (currency)
4500000000

Potential financial impact figure – minimum (currency)
<Not Applicable>

Potential financial impact figure – maximum (currency)
<Not Applicable>

Explanation of financial impact figure
As the demand for sustainable products increases, so do our business opportunities. Our U.S. subsidiary, American Fuji Seal Inc.'s successful RecShrink™ label and washable ink system has been a significant contributor to our shrink business sales in the Americas. Sales from our shrink business in the Americas were approximately 29 billion yen in 2020, increased by approximately 4.5 billion yen compared to 24.5 billion yen in 2017. Therefore, we are presenting this increase as a financial impact.

Cost to realize opportunity
2400000000

Strategy to realize opportunity and explanation of cost calculation
We are strengthening our intra-group cooperation and are working to improve quality and productivity, develop new products and explore new markets through the exchange of technology and market information. In recent years, many of our customers have begun to consider the sustainability of their products in relation to climate change. The development of these new markets and others is one of the opportunities we have identified in relation to climate change. To ensure that we do not miss these opportunities, we hold an annual global development meeting at the beginning of each year to assess the business impact and feasibility of our technology challenges. The cost of realizing the opportunities is 2.4 billion yen in fiscal 2020, and we are using these development costs to explore new markets and develop new products. As a specific example, in September 2019, our U.S. subsidiary, American Fuji Seal Inc. successfully developed a new product, a shrink label that can be recycled into plastic bottles (RecShrink™). RecShrink™ is a new material that can be recycled at the same time as recycling PET bottles and is being used by many customers, including global dairy and beverage companies.

Comment

C3. Business Strategy

C3.1

(C3.1) Have climate-related risks and opportunities influenced your organization's strategy and/or financial planning?
Yes, and we have developed a low-carbon transition plan

C3.1a

(C3.1a) Is your organization's low-carbon transition plan a scheduled resolution item at Annual General Meetings (AGMs)?

	Is your low-carbon transition plan a scheduled resolution item at AGMs?	Comment
Row 1	No, and we do not intend it to become a scheduled resolution item within the next two years	In 2021, the Board of Directors in Fuji Seal Group decided to aim for Net Zero in 2050. We will continue to work towards the carbon transition plan under the direction of the CEO, regardless of the shareholders' request. For this reason, we do not plan to include it as an agenda item at the General Meeting of Shareholders. However, if we receive a shareholder proposal to set a higher target or to include a person with knowledge of climate change as a full-time director selection criterion etc. , we will respond appropriately.

C3.2

(C3.2) Does your organization use climate-related scenario analysis to inform its strategy?
Yes, qualitative

C3.2a

(C3.2a) Provide details of your organization's use of climate-related scenario analysis.

Climate-related scenarios and models applied	Details
2DS	How the selected scenarios were identified, with reference to the inputs, assumptions, and analytical methods used: in accordance with the Ministry of Environment guidelines, 2°C and 4°C scenarios were assumed; for the 2°C scenario, the transition risk manifested from the 2DS, and for the 4°C scenario, the physical risk from RCP 8.6 and other sources. Assuming that manifestations would occur, the impact on the business was analyzed with the involvement of relevant departments such as corporate planning and finance. A description of the time horizons considered and why they are relevant to your company: we have established a long-term time horizon over which the risk factors in each scenario are likely to materialise and identified risks and opportunities to the Group's overall business activities over that period. A description of the areas of your organization that have been considered as part of the scenario analysis: Our business is located in the packaging industry, as we manufacture and sell packaging materials and their attaching machines. The entities that affect our business include upstream energy suppliers and raw material manufacturers, and downstream buyers - customers and consumers - as well as other competitors and new entrants who supply substitute products, end-processing recyclers, and relevant government and industry organizations. A company-specific description summary of the results of the conducted scenario analysis: impact factors common to each industry, such as the introduction of a carbon tax, competition for the development of low-carbon emission products, stock price weakness due to reputational decline, increased raw material costs and the increasing severity and frequency of extreme weather events, as well as the plastic waste issue, which is deeply relevant to the packaging industry, and Label-lessness is expected to become more apparent in the future, and it was found that reducing GHG emissions requires not only a series of energy-saving measures, but also more urgent efforts to reduce environmental impact, such as reducing the use of organic solvents and converting to water-based products. A description of how the results of the scenario analysis have informed your business objectives and strategies: By estimating the potential financial impact on your specific business, you were able to provide management with a basis for prioritizing response measures and calculating an appropriate amount to spend. The results of these analyses can be reflected in the next and subsequent mid-term management plans. A case study of how the results of the scenario analysis have directly influenced your business objectives and strategy: Reducing group-wide GHG emissions is becoming a strategic imperative as additional annual expenditures of between 0.7 and 1. 8 billion yen are expected to be made due to carbon taxes being considered for introduction in many countries in the future. In addition to existing energy reductions, we are also looking at renewable energy-related investments such as solar power generation equipment and offset credits, and the introduction of carbon pricing to promote green investments within the company. In addition to existing energy reduction practices, we have begun discussions on future emission reduction action plans, with an eye to renewable energy-related investments such as solar power generation equipment and offset credits, as well as the introduction of carbon pricing to promote internal green investments.

C3.3

(C3.3) Describe where and how climate-related risks and opportunities have influenced your strategy.

	Have climate-related risks and opportunities influenced your strategy in this area?	Description of influence
Products and services	Yes	The risks and opportunities associated with "development and/or expansion of low-emission products and services" have a significant impact on the medium- to long-term business strategy to provide systematic solutions: for the purpose of reducing CO2 emissions, thinner shrink labels would reduce the materials used, but it would also weaken the rigidity of the labels, and it would be difficult to apply labels onto containers with conventional labeling machines. To address this issue, our Machinery Division has developed a new machine ("TLS" model) that enables high-speed application, and by combining our thinnest shrink labels with the TLS model, the customers have been able to reduce both CO2 emissions and to improve labeling efficiency at the same time. With a thickness of less than half of conventional labels, our shrink labels can reduce plastic use by about 50%. The reduction in the amount of plastic used by adopting this thinner label in FY2020, both in Japan and overseas, was 3,682 tons.
Supply chain and/or value chain	Yes	The risks and opportunities associated with "development and/or expansion of low-emission products and services" have a significant impact on medium- and long-term business strategies in terms of our product, technology and business development policies. Up until now, FSG has grown by adopting its own in-house development policy in order to respond quickly to customer requests; however, as the impact of its products on society has increased, there have been cases where FSG has not always met all the demands from all the stakeholders. By changing the way we think and actively working in collaboration with other companies, we have been able to develop products that we could not achieve before. For example, RecShrinkTM, developed by our US subsidiary American Fuji Seal, Inc. was commercialized in 2019 in collaboration with the customer Nestle, the supplier Eastman, and the recycler organization APR. The developed shrink labels are recognized as a new material that can be recycled along with plastic bottle containers, and have been adopted by many customers, including global dairy and beverage manufacturers. These efforts have not only been published in the company's environmental report, but have also been featured in the industry's Packaging Digest, which has attracted a great deal of attention and led to further sales increases.
Investment in R&D	Yes	The risks and opportunities associated with "entering new markets" have a significant impact on medium- and long-term business strategies to invest in research and development of products that can reduce their environmental impact. Increasing concerns about climate change enlarge the demand for environmentally friendly products, not only for functions such as the display of legal information and eye-catching decorations for customers, but also for the use of recycled and biomass-derived raw materials as well as reduced raw materials for sustainable circular sourcing. In order to respond to these market demands in a timely manner, FSG now requires to incorporate the latest environmentally friendly technologies in all global development projects. As a result of this policy, the ratio of environmentally friendly products, which account for more than 41% of total sales, is increasing every year. In response, the company has set new targets for 2020 regarding renewable design and use of recycled materials, and is actively investing in research and development.
Operations	Yes	The risks and opportunities associated with "use of more efficient production and logistics processes" have a significant impact on our medium-term business strategy to reduce waste emissions from the Fuji Seal Group. Conventional environmental protection policies, such as pollution prevention, are not enough; the establishment and achievement of specific targets for energy use, CO2 emissions and waste emissions are requested in order to reduce the impact of manufacturing processes, materials, products and waste on our planet. For example, in the Fuji Seal Group's 2018-2020 Medium-Term Management Plan, a target has been set to reduce waste by 5% globally compared to 2017. In addition, in order to address climate change from a medium- to long-term perspective, we have introduced ISO 14001 at many of our plants to monitor and reduce CO2 emissions. Year 2019 saw our Ube Plant newly acquired ISO 14001 certification. In addition, we have invested a total of 5.9 billion yen in installation of equipment in 2020 to reduce the environmental impact of our shrink labels, pressure sensitive labels and soft pouches businesses through enhancing latest production facilities.

C3.4

(C3.4) Describe where and how climate-related risks and opportunities have influenced your financial planning.

	Financial planning elements that have been influenced	Description of influence
Row 1	Revenues Direct costs Indirect costs Access to capital Assets	Access to capital:With more ESG-focused investments now than ever before, we have incorporated ESG investment into our financial plans in order to ensure that investors will hold our stock shares for longer periods of time from the medium to long term. From an ESG perspective our focus has mainly been on to products launch that meet customer needs, but now more on collaboration with our customers, suppliers, recyclers and other supply chain partners (e.g., Nestle/Eastman/APR for the development of RecShrinkTM). In order for our multi-stakeholders to understand such activities, we are actively disclosing non-financial information through integrated reports and environmental reports. Direct costs: we incorporate climate change-related risks and opportunities into our financial planning and report the results as part of our annual report. Opportunities to reduce operating costs related to sustainability have had a very positive impact on our financial planning. Increased awareness and consideration of our environmental impact has enabled us to reduce our operating costs by using energy-efficient technologies, processes and building materials to reduce our resource consumption. Indirect costs: We recognize that environmental issues are common to all humanity, and we continue to be creative and to challenge ourselves to manufacture products with environmental aspects in mind. In addition to reducing our environmental impact, we aim to develop and produce environmentally friendly products and solve environmental problems through our business activities. We also aim to contribute positively to society with people-friendly packaging, and to this end we faciitate investment in R&D and the development of human resources to encourage them to do so. In particular, we are focusing on strengthening research and development of low-carbon emission products and services and introducing equipment to reduce GHG emissions. In 2020, research and development expenditures will reach more than 2.4 billion, and energy-saving related capital expenditures reached more than 2 billion, increasing the budget amounts every year.

C3.4a

(C3.4a) Provide any additional information on how climate-related risks and opportunities have influenced your strategy and financial planning (optional).

No additional information

C4. Targets and performance

C4.1

(C4.1) Did you have an emissions target that was active in the reporting year?

Intensity target

C4.1b

(C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

Target reference number
Int 1

Year target was set
2019

Target coverage
Company-wide

Scope(s) (or Scope 3 category)
Scope 1+2 (market-based)

Intensity metric
Metric tons CO2e per unit revenue

Base year
2017

Intensity figure in base year (metric tons CO2e per unit of activity)
0.907

% of total base year emissions in selected Scope(s) (or Scope 3 category) covered by this intensity figure
100

Target year
2023

Targeted reduction from base year (%)
6

Intensity figure in target year (metric tons CO2e per unit of activity) [auto-calculated]
0.85258

% change anticipated in absolute Scope 1+2 emissions
24

% change anticipated in absolute Scope 3 emissions
0

Intensity figure in reporting year (metric tons CO2e per unit of activity)
0.9207

% of target achieved [auto-calculated]
-25.1745681734655

Target status in reporting year
Underway

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

Target ambition
<Not Applicable>

Please explain (including target coverage)
We have set a target of reducing CO2 emissions per unit of sales by 6% over six years based on the effort target for rationalization of energy use required by the Energy Conservation Law, etc., with fiscal 2017 as the base year for all sites including our group companies, and we aim to achieve the emission intensity target of 0.8529 in fiscal 2023. The unit of sales used to calculate the emission intensity is the million yen. Last fiscal year, all regions were able to reduce CO2 emissions by a total of 8,294 tons compared to fiscal 2017, and we were able to reduce the emission intensity by 5.7% compared to fiscal 2017. However, due to the impact of the global pandemic this year, the emission intensity increased by 1.5% compared to fiscal 2017. Although we were able to reduce local emission intensities by more than 10% in all regions, resulted in the increase in total. In addition, we have set a new net-zero target for 2050 and are planning to raise the target step by step to achieve it.

C4.2

(C4.2) Did you have any other climate-related targets that were active in the reporting year?
Net-zero target(s)
Other climate-related target(s)

C4.2b

(C4.2b) Provide details of any other climate-related targets, including methane reduction targets.

Target reference number
Oth 1

Year target was set
2018

Target coverage
Company-wide

Target type: absolute or intensity

Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management	metric tons of waste generated

Target denominator (intensity targets only)
unit revenue

Base year
2017

Figure or percentage in base year
166.5

Target year
2020

Figure or percentage in target year
158.2

Figure or percentage in reporting year
164.6

% of target achieved [auto-calculated]
22.8915662650603

Target status in reporting year
Expired

Is this target part of an emissions target?
No, this target is not part of an emissions target

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We are aiming to reduce waste per unit revenue (t/billion yen) from our manufacturing plants related to label manufacturing by 5% over three years starting in fiscal 2018. (Base year: fiscal 2017) The scope of the target covers all regions in Fuji Seal Group. Four types of waste are specified as targeted: waste plastic, waste ink, waste solvents and waste paper, and this target and the progress made in achieving it is one of the Company's key environmental actions and is made available to shareholders, including investors.

Target reference number
Oth 2

Year target was set
2020

Target coverage
Company-wide

Target type: absolute or intensity
Intensity

Target type: category & Metric (target numerator if reporting an intensity target)

Waste management	metric tons of waste generated

Target denominator (intensity targets only)
unit revenue

Base year
2017

Figure or percentage in base year
33.63

Target year
2025

Figure or percentage in target year
30.27

Figure or percentage in reporting year
28.62

% of target achieved [auto-calculated]
149.107142857143

Target status in reporting year
New

Is this target part of an emissions target?
No, this target is not part of an emissions target

Is this target part of an overarching initiative?
No, it's not part of an overarching initiative

Please explain (including target coverage)
We have set a new target for 2020 to reduce the waste by 10% that is not used effectively by FY2025 in terms of the weight per sales turnover compared to FY2017. We will adopt sustainable product design to reduce landfill disposal and other wastes that are not used effectively. The target scope covers all regions in Fuji Seal Group. Four types of waste are specified in the target: waste plastic, waste ink, waste solvent, and paper waste. This target and its achievement are disclosed to shareholders, including investors, as one of our major environmental actions.

C4.2c

(C4.2c) Provide details of your net-zero target(s).

Target reference number
NZ1

Target coverage
Company-wide

Absolute/intensity emission target(s) linked to this net-zero target
Int1

Target year for achieving net zero
2050

Is this a science-based target?
No, but we anticipate setting one in the next 2 years

Please explain (including target coverage)
Fuji Seal Group considers climate change as one of the most critical environmental issues and has set mid-term targets (described in INT1) for the entire group. We aim to achieve virtually zero GHG emissions in 2050 while reviewing our targets in multiple stages.

C4.3

(C4.3) 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.
Yes

C4.3a

(C4.3a) 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 CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	0	0
To be implemented*	24	129.5
Implementation commenced*	0	0
Implemented*	3	388.9
Not to be implemented	0	0

C4.3b

(C4.3b) Provide details on the initiatives implemented in the reporting year in the table below.

Initiative category & Initiative type

Energy efficiency in buildings	Heating, Ventilation and Air Conditioning (HVAC)

Estimated annual CO2e savings (metric tonnes CO2e)
307.1

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
10371875

Investment required (unit currency – as specified in C0.4)
0

Payback period
No payback

Estimated lifetime of the initiative
6-10 years

Comment
By improving the energy efficiency of the building, we were able to reduce the amount of energy used and thus reduce CO2 emissions. Specifically, after consulting with the fire department, we reduced the number of ventilation times in the ink warehouse from five times an hour to once, which dramatically reduced the amount of gas used for air conditioning and reduced energy use.

Initiative category & Initiative type

Energy efficiency in buildings	Insulation

Estimated annual CO2e savings (metric tonnes CO2e)
48.8

Scope(s)
Scope 1

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
900000

Investment required (unit currency – as specified in C0.4)
2400000

Payback period
1-3 years

Estimated lifetime of the initiative
6-10 years

Comment
We were able to reduce CO2 emissions by reducing the energy consumption by air conditioning system in the factory. Specifically, by insulating ducts that discharge gas generated by UV lamps in the drying process of printing, we were able to reduce operating time of the cold and hot water generator used for air conditioning in the summer time. This has reduced the amount of heavy oil used, leading to energy savings.

Initiative category & Initiative type

Energy efficiency in production processes	Machine/equipment replacement

Estimated annual CO2e savings (metric tonnes CO2e)
33

Scope(s)
Scope 2 (market-based)

Voluntary/Mandatory
Voluntary

Annual monetary savings (unit currency – as specified in C0.4)
1551000

Investment required (unit currency – as specified in C0.4)
11658000

Payback period
4-10 years

Estimated lifetime of the initiative
6-10 years

Comment
Renewal of the chiller for heating and cooling has improved energy efficiency and reduced CO2 emissions. The previous chiller was inefficient due to age and deterioration, and its temperature was controlled through a bypass from another system chiller, which greatly reduced energy efficiency. By upgrading the chiller, energy efficiency was improved and electricity consumption was reduced by 1.6%.

C4.3c

(C4.3c) What methods do you use to drive investment in emissions reduction activities?

Method	Comment
Internal incentives/recognition programs	Ideas specific on energy-saving have been awarded according to management evaluation results
Dedicated budget for low-carbon product R&D	Development of new markets by providing solutions to climate change-related issues is considered as one of our beneficial opportunities. In fiscal 2020, our R & D expenses reached 2400 million yen where environmental friendly products were researched and developed in all international projects.

C4.5

(C4.5) Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?
Yes

C4.5a

(C4.5a) Provide details of your products and/or services that you classify as low-carbon products or that enable a third party to avoid GHG emissions.

Level of aggregation
Product

Description of product/Group of products
In addition to our recyclable shrink labels, we offer a series of shrink labels, pressure sensitive labels and soft pouches made from recycled materials. These types of labels offered by our company can greatly contribute positively to the reduction of CO2 emissions when they are disposed of by consumers.

Are these low-carbon product(s) or do they enable avoided emissions?
Low-carbon product

Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions
Estimating and Reporting the Comparative Emissions Impacts of Products (WRI)

% revenue from low carbon product(s) in the reporting year
41

% of total portfolio value
<Not Applicable>

Asset classes/ product types
<Not Applicable>

Comment
The above sales ratios are calculated based on the ratio of sales of shrink labels, pressure sensitive labels, and soft pouches, including biomass materials, recycled materials, and thin-wall labels, to all sales turnover in the group, including machinery division.

C5. Emissions methodology

C5.1

(C5.1) Provide your base year and base year emissions (Scopes 1 and 2).

Scope 1

Base year start
April 1 2017

Base year end
March 31 2018

Base year emissions (metric tons CO2e)
45186

Comment
CO2 emission in fisical 2017

Scope 2 (location-based)

Base year start
April 1 2017

Base year end
March 31 2018

Base year emissions (metric tons CO2e)
93217

Comment
CO2 emission in fisical 2017

Scope 2 (market-based)

Base year start
April 1 2017

Base year end
March 31 2018

Base year emissions (metric tons CO2e)
87332

Comment
The data for Germany, France, Poland, the Netherlands and Vietnam use location-based emission factors.

C5.2

(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.
Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superceded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)

C6. Emissions data

C6.1

(C6.1) What were your organization's gross global Scope 1 emissions in metric tons CO2e?

Reporting year

Gross global Scope 1 emissions (metric tons CO2e)
49778

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
CO2 emission in fisical 2020

C6.2

(C6.2) Describe your organization's approach to reporting Scope 2 emissions.

Row 1

Scope 2, location-based
We are reporting a Scope 2, location-based figure

Scope 2, market-based
We are reporting a Scope 2, market-based figure

Comment
With regard to market-based emission calculations, location-based emission factors are used for the data in Germany, France, Poland, the Netherlands, Italy ,Vietnam, and Thailand as the market-based emission factors were difficult to obtain.

C6.3

(C6.3) What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Reporting year

Scope 2, location-based
122394

Scope 2, market-based (if applicable)
112200

Start date
<Not Applicable>

End date
<Not Applicable>

Comment
With regard to market-based emission calculations, location-based emission factors are used for the data in Germany, France, Poland, the Netherlands, Italy ,Vietnam, and Thailand as the market-based emission factors were difficult to obtain.

C6.4

(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?
Yes

C6.4a

(C6.4a) Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure.

Source
Sales offices in US, Europe, ASEAN and India where independent from production factories.

Relevance of Scope 1 emissions from this source
Emissions are not relevant

Relevance of location-based Scope 2 emissions from this source
Emissions are not relevant

Relevance of market-based Scope 2 emissions from this source (if applicable)
Emissions are not relevant

Explain why this source is excluded
We have excluded sales offices in US, Europe, ASEAN, and India (independent from production factories) because they employ fewer than 10 people in their offices with negligible CO2 emissions.

C6.5

(C6.5) Account for your organization's gross global Scope 3 emissions, disclosing and explaining any exclusions.

Purchased goods and services

Evaluation status
Relevant, calculated

Metric tonnes CO2e
431662

Emissions calculation methodology
CO2 emissions by products and servicies are calculated from the CO2 emissions from our major suppliers using our own supplier questionnaire, and the results are classified as Category 1.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
100

Please explain

Capital goods

Evaluation status
Relevant, calculated

Metric tonnes CO2e
15701

Emissions calculation methodology
CO2 emissions are calculated by the amount of fixed assets obtained by each group company during the fiscal year from the fixed asset increase/decrease table at the beginning and end of each fiscal year, and by emission intensity provided in the database from The Ministry of the Environment ("Emissions intensity database for calculating the greenhouse gas emissions of an organization through its supply chain (Ver. 3.0)")

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

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

Evaluation status
Relevant, calculated

Metric tonnes CO2e
27185

Emissions calculation methodology
We calculate Category 3 emissions based on the amount of fuel used by each Group company in Scope 1 and the amount of electricity used in Scope 2 for each fiscal year with emission intensity from the IDEA database.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

Upstream transportation and distribution

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We will set up a system to calculate this category in Scope3 from next year.

Waste generated in operations

Evaluation status
Relevant, calculated

Metric tonnes CO2e
18490

Emissions calculation methodology
We have asked waste disposal companies to identify the final treatment method of waste discharged from each plant, and use emission factors to calculate the weight of each treatment method.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

Business travel

Evaluation status
Relevant, calculated

Metric tonnes CO2e
748

Emissions calculation methodology
Since it is difficult to calculate based on the number of business trip days in the global standard, we use the estimated emission intensity based on the number of employees.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

Employee commuting

Evaluation status
Relevant, calculated

Metric tonnes CO2e
2326

Emissions calculation methodology
Calculations are based on Basic Guidelines by The Ministry of the Environment, using the number of employees x emissions intensity by work type and city size.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

Upstream leased assets

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Upstream leased assets include office equipment (copiers and PCs) under lease agreements, but emissions from their electricity consumption are not included in this category because they are included in Scope 1 and 2.

Downstream transportation and distribution

Evaluation status
Relevant, not yet calculated

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We will set up a system to calculate this category in Scope3 from next year.

Processing of sold products

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
Shrink labels would require further processes at customer site; therefore, they can be regarded as intermediate products for this category, but they are not included because they are accounted for category 11.

Use of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
252124

Emissions calculation methodology
Lifetime CO2 emissions are estimated for each model based on catalog data and expected service years from the machinery department.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

End of life treatment of sold products

Evaluation status
Relevant, calculated

Metric tonnes CO2e
90897

Emissions calculation methodology
Calculation was made based on the amount of products shipped, subtracting the use of non-CO2 emitting products such as recycled materials and plant-derived materials as well as on the emission intensity of incineration to avoid underestimation.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
26

Please explain

Downstream leased assets

Evaluation status
Relevant, calculated

Metric tonnes CO2e
513

Emissions calculation methodology
Annual CO2 emissions for each model were estimated from catalog data and the number of labelers leased, as provided by the machinery department.

Percentage of emissions calculated using data obtained from suppliers or value chain partners
0

Please explain

Franchises

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We do not have any form of franchise in our business.

Investments

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We do not conduct project financing or investment with stock or security.

Other (upstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We do not consider any other forms of emissions in Scope 3.

Other (downstream)

Evaluation status
Not relevant, explanation provided

Metric tonnes CO2e
<Not Applicable>

Emissions calculation methodology
<Not Applicable>

Percentage of emissions calculated using data obtained from suppliers or value chain partners
<Not Applicable>

Please explain
We do not consider any other forms of emissions in Scope 3.

C6.7

(C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?
No

C6.10

(C6.10) 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.

Intensity figure
9.2e-7

Metric numerator (Gross global combined Scope 1 and 2 emissions, metric tons CO2e)
1616978

Metric denominator
unit total revenue

Metric denominator: Unit total
175693653370

Scope 2 figure used
Market-based

% change from previous year
7.7

Direction of change
Increased

Reason for change
Last fiscal year, all regions were able to reduce CO2 emissions by a total of 8,294 tons compared to fiscal 2017, and we were able to reduce the emission intensity by 5.7% compared to fiscal 2017. However, due to the impact of the global pandemic this year, the emission intensity increased by 1.5% compared to fiscal 2017. Although we were able to reduce local emission intensities by more than 10% in all regions, resulted in the increase in total. In addition, we have set a new net-zero target for 2050 and are planning to raise the target step by step to achieve it.

C7. Emissions breakdowns

C7.1

(C7.1) Does your organization break down its Scope 1 emissions by greenhouse gas type?
Yes

C7.1a

(C7.1a) Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse gas	Scope 1 emissions (metric tons of CO2e)	GWP Reference
CO2	49561	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	217	IPCC Fourth Assessment Report (AR4 - 100 year)

C7.2

(C7.2) Break down your total gross global Scope 1 emissions by country/region.

Country/Region	Scope 1 emissions (metric tons CO2e)
Japan	24852
US, Latin America and Caribbean (USLAC)	9503
Europe	10304
Other, please specify (ASEAN)	5119

C7.3

(C7.3) Indicate which gross global Scope 1 emissions breakdowns you are able to provide.

By facility

C7.3b

(C7.3b) Break down your total gross global Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO2e)	Latitude	Longitude
Nabari factory	15655.7	34.649673	136.102592
Tukuba factory	7899	36.013611	140.245988
Yuki factory	853	36.275294	139.86695
Yamagata factory	393.8	38.384513	140.255367
S×S Center (Technical Center)	46	34.736669	135.423824
Nara factory	0.08	34.546198	135.80233
Bardstown factory	5981	37.824895	-85.430142
UK factory	1687	51.36532	0.571919
Poland factory	7095	52.221972	19.428832
France factory	1078	47.875583	6.391704
German factory	256	48.630235	9.229911
Switzerland factory	63	47.183151	9.460857
Vietnam factory	718	11.107112	106.697588
Indonesia factory	0	-7.614465	112.81646
Netherland office	125	51.451123	5.795653
Indiana factory	202	38.375989	-85.682223
Mexico factory	3320	20.786993	-101.335652
Sapporo office	4	43.05818	141.347658
Sinsakhon Factory	1332	13.539465	100.623063
Bangpoo Factory	3047	13.539465	100.623063
Samutprakarn	22	13.564156	100.777379
Italy factory	0.02	45.170202	10.673188
Ube factory	0.6	34.044394	131.312628

C7.5

(C7.5) Break down your total gross global Scope 2 emissions by country/region.

Country/Region	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted for in Scope 2 market-based approach (MWh)
Japan	22518	20869	46143	0
Europe	22976	22421	40112	0
US, Latin America and Caribbean (USLAC)	50699	42730	70275	0
Other, please specify (ASEAN)	26200	26180	40280	0

C7.6

(C7.6) Indicate which gross global Scope 2 emissions breakdowns you are able to provide.
By facility

C7.6b

(C7.6b) Break down your total gross global Scope 2 emissions by business facility.

Facility	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)
Nabari factory	6359	5551
Tukuba factory	8421	7627
Yuki factory	2253	2040
Nara factory	689	601
Yamagata factory	1298	1088
Ube factory	2913	3492
S×S Center (Technical Center)	347	291
Osaka office	141	92
Tokyo office	51	45
DDC (Design Center)	35	32
Nagoya office	5	5
Kyushuu office	4	3
Sapporo office	2	2
Bardstown factory	38782	31514
UK factory	2619	2044
Poland factory	18944	18944
France factory	126	126
German factory	963	963
Switzerland factory	43	62
Vietnam factory	5834	5834
Indonesia Factory	373	353
Netherland office	253	253
Indiana factory	2896	1291
Mexico factory	9021	9926
Sinsakhon Factory	5797	5797
Bangpoo Factory	14174	14174
Samutprakarn	22	22
Italy factory	28	28

C7.9

(C7.9) How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?
Increased

C7.9a

(C7.9a) 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 emissions (metric tons CO2e)	Direction of change	Emissions value (percentage)	Please explain calculation
Change in renewable energy consumption	0	No change	0	Currently, we do not use any renewable energy and our consumption does not change from last year. We plan to consider the introduction of renewable energy sources in the future.
Other emissions reduction activities	388.9	Decreased	0.24	The total reduction of the implemented and under implementation through emission reduction activities described in C4.3b was 388.9 t-CO2. In previous year, the GHG emission was 161978 t-CO2. 388.9 ÷ 161978 × 100 = 0.24 %
Divestment		<Not Applicable>		
Acquisitions		<Not Applicable>		
Mergers		<Not Applicable>		
Change in output		<Not Applicable>		
Change in methodology		<Not Applicable>		
Change in boundary	20639	Increased	12.7	The total emissions have increased due to the expansion of the boundary as a result of the operation of the new plant in Thailand(Sinsakhon, Bangpoo, Samutprakarn) from fiscal year 2020.
Change in physical operating conditions		<Not Applicable>		
Unidentified		<Not Applicable>		
Other		<Not Applicable>		

C7.9b

(C7.9b) Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

Market-based

C8. Energy

C8.1

(C8.1) What percentage of your total operational spend in the reporting year was on energy?

More than 5% but less than or equal to 10%

C8.2

(C8.2) 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)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	No
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	No
Generation of electricity, heat, steam, or cooling	Yes

C8.2a

(C8.2a) Report your organization's energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable sources	Total (renewable and non-renewable) MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	236069	236069
Consumption of purchased or acquired electricity	<Not Applicable>	0	196810	196810
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	0	<Not Applicable>	0
Total energy consumption	<Not Applicable>	0	432879	432879

C8.2b

(C8.2b) 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	Yes
Consumption of fuel for the generation of heat	Yes
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	Yes
Consumption of fuel for co-generation or tri-generation	Yes

C8.2c

(C8.2c) State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)
Crude Oil

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
1720

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
1720

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
0.00271

Unit
metric tons CO2e per liter

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Motor Gasoline

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
8

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
8

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
0.00232

Unit
metric tons CO2e per liter

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Town Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
26574

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
26574

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
0.00223

Unit
metric tons CO2e per m3

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Kerosene

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
1306

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
1306

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
0.00249

Unit
metric tons CO2e per liter

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Natural Gas

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
122340

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
122340

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
0.00222

Unit
metric tons CO2e per m3

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Liquefied Petroleum Gas (LPG)

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
14093

MWh fuel consumed for self-generation of electricity
14093

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
0

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
3

Unit
metric tons CO2e per metric ton

Emissions factor source
Ministry of the Environment in Japanese government "List of calculation methods and emission coefficients in calculation, reporting and publication system" https://ghg-santeikohyo.env.go.jp/files/calc/itiran_2020.pdf

Comment

Fuels (excluding feedstocks)
Other, please specify (Volatile Organic Compounds (VOC) from printing inks and solvents)

Heating value
HHV (higher heating value)

Total fuel MWh consumed by the organization
70028

MWh fuel consumed for self-generation of electricity
0

MWh fuel consumed for self-generation of heat
0

MWh fuel consumed for self-generation of steam
70028

MWh fuel consumed for self-generation of cooling
0

MWh fuel consumed for self-cogeneration or self-trigeneration
0

Emission factor
2.1

Unit
metric tons CO2e per metric ton

Emissions factor source
We use emission factors that we have independently estimated.

Comment

C8.2d

(C8.2d) Provide details on the electricity, heat, steam, and cooling your organization has generated and consumed in the reporting year.

	Total Gross generation (MWh)	Generation that is consumed by the organization (MWh)	Gross generation from renewable sources (MWh)	Generation from renewable sources that is consumed by the organization (MWh)
Electricity	14093	14093	0	0
Heat	1314	1314	0	0
Steam	220662	220662	0	0
Cooling	0	0	0	0

C8.2e

(C8.2e) Provide details on the electricity, heat, steam, and/or cooling amounts that were accounted for at a zero emission factor in the market-based Scope 2 figure reported in C6.3.

Sourcing method
None (no purchases of low-carbon electricity, heat, steam or cooling)

Low-carbon technology type
<Not Applicable>

Country/area of consumption of low-carbon electricity, heat, steam or cooling
<Not Applicable>

MWh consumed accounted for at a zero emission factor
<Not Applicable>

Comment

C9. Additional metrics

C9.1

(C9.1) Provide any additional climate-related metrics relevant to your business.

Description
Waste

Metric value
164.6

Metric numerator
Metric tons of waste generated

Metric denominator (intensity metric only)
Revenue in billion

% change from previous year
104

Direction of change
Increased

Please explain
We monitor the amount of waste from label manufacturing factory. The target is 5% reduction compared to fiscal year 2017 in 3 years from fiscal year 2018. The scope of application covers all regions worldwide. The types of waste were limited to those that make up the majority of waste plastic, waste ink, waste solvent, and paper waste. This KPI is published for shareholders including investors as one of our main corporate environmental actions. As a result of FY2020, there is a decrease from the FY2017 level, but an increase from last year.

C10. Verification

C10.1

(C10.1) Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No third-party verification or assurance

C10.1a

(C10.1a) Provide further details of the verification/assurance undertaken for your Scope 1 emissions, and attach the relevant statements.

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
検証意見書　英文.pdf

Page/ section reference
Page 1 to 2: A letter of opinion from SGS regarding emission verification is attached.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
99

C10.1b

(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 2 emissions and attach the relevant statements.

Scope 2 approach
Scope 2 location-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
検証意見書　英文.pdf

Page/ section reference
Page 1 to 2: A letter of opinion from SGS regarding emission verification is attached.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

Scope 2 approach
Scope 2 market-based

Verification or assurance cycle in place
Annual process

Status in the current reporting year
Complete

Type of verification or assurance
Limited assurance

Attach the statement
検証意見書　英文.pdf

Page/ section reference
Page 1 to 2: A letter of opinion from SGS regarding emission verification is attached.

Relevant standard
ISO14064-3

Proportion of reported emissions verified (%)
100

C10.2

(C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?
No, but we are actively considering verifying within the next two years

C11. Carbon pricing

C11.1

(C11.1) Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?
Yes

C11.1a

(C11.1a) Select the carbon pricing regulation(s) which impacts your operations.
Japan carbon tax

C11.1c

(C11.1c) Complete the following table for each of the tax systems you are regulated by.

Japan carbon tax

Period start date
April 1 2020

Period end date
March 31 2021

% of total Scope 1 emissions covered by tax
50

Total cost of tax paid
7119515

Comment
Global Warming Tax (formerly oil and coal tax) 289 yen/t-CO2e. According to Japan's Scope 1 = 24635 tons in 2020, 24635 x Global Warming Tax (formerly Oil and Coal Tax) 289 yen per t-CO2. Carbon tax 24635 x 289 = 7119515 (JPY) was paid according to Japan's Scope 1 emissions = 24635t x 289 = 7,119,515 (JPY) carbon tax paid.

C11.1d

(C11.1d) What is your strategy for complying with the systems you are regulated by or anticipate being regulated by?

To avoid increasing carbon taxation burdens as a result of increased energy use, we continue to actively collect ideas for energy-saving ideas through an award system. In Japan, we have been ranked S for five years in a row in the business classification system administered by the Ministry of Economy, Trade and Industry, and have set a target of a 1% annual reduction in CO2 emissions.

C11.2

(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?
No

C11.3

(C11.3) Does your organization use an internal price on carbon?
No, but we anticipate doing so in the next two years

C12. Engagement

C12.1

(C12.1) Do you engage with your value chain on climate-related issues?
Yes, our suppliers
Yes, our customers

C12.1a

(C12.1a) Provide details of your climate-related supplier engagement strategy.

Type of engagement
Innovation & collaboration (changing markets)

Details of engagement
Run a campaign to encourage innovation to reduce climate impacts on products and services

% of suppliers by number
100

% total procurement spend (direct and indirect)
100

% of supplier-related Scope 3 emissions as reported in C6.5
0

Rationale for the coverage of your engagement
In order to reduce CO2 emissions, we are working on the development of new materials and products in cooperation with suppliers who can reduce environmental impacts. Specifically, we are working more actively with film and ink manufacturers for shrink labels, pressure sensitive labels and spouted pouches to develop new environmentally friendly products. In addition, we are also working to reduce the environmental impact of secondary materials because the market is demanding that we should reduce the environmental impact of our products as a whole. This is why we are collaborating with all of our suppliers.

Impact of engagement, including measures of success
We expect synergetic collaborations with multi-stakeholders to result in CO2 emission reduction in Scope 3. We define a success of collaboration as a realization of specifications that meet target customer's requirements in a timely manner. For example, one of our target markets, beverage manufacturers, demanded a high-speed application machine for thinner flexible labels to achieve CO2 reduction as high as 50% in total. Such high expectations had not been met until we launched the product combination where the thinnest shrink labels in the packaging industry (co-developed with film suppliers) are applied onto beverage containers at higher speeds by our newly developed machines (product name: TLS). With less than half the thickness of conventional labels, both total plastic usage and CO2 emissions can be reduced by 50%, with satisfying customer production demands at the same time. Our combinatorial solution has reduced total plastic usage by 3,682 tons of CO2 in fiscal 2020 both domestically and internationally. The shrink labels and application machines are being deployed mainly in Japan, where a large quantity of our labels are supplied to the beverage industry, and sales turnover of the labels and application machines increases each year in recognition of our contribution to CO2 reduction.

Comment

Type of engagement
Information collection (understanding supplier behavior)

Details of engagement
Collect climate change and carbon information at least annually from suppliers

% of suppliers by number
27

% total procurement spend (direct and indirect)
24

% of supplier-related Scope 3 emissions as reported in C6.5
51

Rationale for the coverage of your engagement
In order to reduce our CO2 emissions, we conduct an annual supplier survey on our collaboration with suppliers to determine their CO2 emissions and use of recycled and plant-based materials. The percentage of our Scope 3 emissions from products and services purchased from suppliers is 51%, which is the highest category in our Scope 3 data.

Impact of engagement, including measures of success
We believe that working together with our suppliers to overcome issues will lead to solutions to social issues. We conduct supplier questionnaires to understand ESG-related initiatives of our suppliers, to assess their risks, and to resolve related issues. By collecting this information, we believe that we can share each other's issues openly and reduce the amount of CO2 emissions, including Scope 3 emissions, as a result of these collaborative efforts.

Comment

C12.1b

(C12.1b) Give details of your climate-related engagement strategy with your customers.

Type of engagement
Collaboration & innovation

Details of engagement
Run a campaign to encourage innovation to reduce climate change impacts

% of customers by number
100

% of customer - related Scope 3 emissions as reported in C6.5
0

Portfolio coverage (total or outstanding)
<Not Applicable>

Please explain the rationale for selecting this group of customers and scope of engagement
We are committed to solving the problems associated with climate change. Regardless of customer demands, we are always developing energy-efficient production machinery, including shrink tunnels that can reduce the amount of steam required to shrink the labels. Therefore, the scope of this collaboration with customers is 100%. In addition, we develop and supply spouted pouches and their production machines that can reduce plastic use and emissions during production. Through our products and solutions, we see it as our mission to contribute to relevant environmental issues, including climate change issues in all of our customers' processes.

Impact of engagement, including measures of success
We believe that these collaborations can be expected to reduce CO2 emissions in Scope 1 and Scope 3. A measure for success is the achieved quantity of CO2 reductions. As a concrete example, in collaboration with our customers, we have successfully developed Fuji Pouch, a bottle-like spouted pouch that reduces CO2 emissions through reduced production waste and improved transportation efficiency. By using this refillable spouted pouch, the total plastic usage can be reduced by about 70% compared to ordinary bottle containers, making it possible to make a significant contribution to reducing the environmental impact at our plant and our customer sites.

C12.3

(C12.3) Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?
Trade associations

C12.3b

(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?
No

C12.3f

(C12.3f) What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

FSG operates globally and locally. In order to catch up with state-of-the-art industrial trends, requirements and sustainability tools, we have joined membership of packaging industries in relevant regions such as PETCORE in Europe and APR in US. This activity is to maintain consistency in our corporate strategy along with climate change policies.

C12.4

(C12.4) Have you published information about your organization's response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication
In mainstream reports

Status
Complete

Attach the document
有価証券報告書_2020.pdf

Page/Section reference
P11-14 : Management Policy, Operating Environment, Tasks and Targets to Address, Risks and Opportunities P22 : Research and development and reduction of CO2 emissions related to the environment

Content elements
Governance
Strategy
Risks & opportunities
Emission targets

Comment

C15. Signoff

C-FI

(C-FI) Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

C15.1

(C15.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Director, Chairman and CEO	Chief Executive Officer (CEO)

SC. Supply chain module

SC0.0

(SC0.0) If you would like to do so, please provide a separate introduction to this module.

SC0.1

(SC0.1) What is your company's annual revenue for the stated reporting period?

	Annual Revenue
Row 1	163635934000

SC0.2

(SC0.2) Do you have an ISIN for your company that you would be willing to share with CDP?

Yes

SC0.2a

(SC0.2a) Please use the table below to share your ISIN.

	ISIN country code (2 letters)	ISIN numeric identifier and single check digit (10 numbers overall)
Row 1	JP	3813800004

SC1.1

(SC1.1) Allocate your emissions to your customers listed below according to the goods or services you have sold them in this reporting period.

Requesting member
KAO Corporation

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
3362.8

Uncertainty (±%)
20

Major sources of emissions
Fuel combustion to produce shrink label, pressure sensitive label and spouted pouch at all of our global sites

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual fuel usage as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

Requesting member
KAO Corporation

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
7579.7

Uncertainty (±%)
20

Major sources of emissions
Electricity consumption to produce shrink label, pressure sensitive label and spouted pouch at all of our global sites

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual electricity consumption as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

Requesting member
The Coca-Cola Company

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
3144.9

Uncertainty (±%)
20

Major sources of emissions
Fuel combustion to produce shrink label, pressure sensitive label and spouted pouch at all of our global sites

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual fuel usage as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

Requesting member
The Coca-Cola Company

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
7088.7

Uncertainty (±%)
20

Major sources of emissions
Electricity consumption to produce shrink label, pressure sensitive label and spouted pouch at all of our global sites

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual electricity consumption as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

Requesting member
Clorox Company

Scope of emissions
Scope 1

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
409.8

Uncertainty (±%)
20

Major sources of emissions
Fuel combustion to produce shrink label in US

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual fuel usage as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

Requesting member
Clorox Company

Scope of emissions
Scope 2

Allocation level
Company wide

Allocation level detail
<Not Applicable>

Emissions in metric tonnes of CO2e
923.6

Uncertainty (±%)
20

Major sources of emissions
Electricity consumption to produce shrink label in US

Verified
No

Allocation method
Allocation based on the market value of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made
The GHG emission was calculated based on annual electricity consumption as verified by a third-party auditor, and the CO2 emission associated with your products was calculated using CO2 eimssion intensity (total CO2 tons / total sales turnover).

SC1.2

(SC1.2) Where published information has been used in completing SC1.1, please provide a reference(s).

The emission data and total sales turnover to calculate Scope 1 and Scope 2 data are reported in our integrated report. Please note that we do not disclose sales by customer.

SC1.3

(SC1.3) What are the challenges in allocating emissions to different customers, and what would help you to overcome these challenges?

Allocation challenges	Please explain what would help you overcome these challenges
Diversity of product lines makes accurately accounting for each product/product line cost ineffective	The GHG emissions associated with your products were calculated based on customer sales turnover with average CO2 emission intensity. Our total GHG emissions were derived from all disclosed sites that may not be related to your products. We strive to give the best possible answer in our operations, but the data accuracy may not be the best in theory. If greater accuracy is needed, additional resources and capital investment to monitor may be required.

SC1.4

(SC1.4) Do you plan to develop your capabilities to allocate emissions to your customers in the future?

No

SC1.4b

(SC1.4b) Explain why you do not plan to develop capabilities to allocate emissions to your customers.

Such additional resources and capital investment required for better accuracy may not be justified due to the limited amount of business and expected cost effectiveness.

SC2.1

(SC2.1) Please propose any mutually beneficial climate-related projects you could collaborate on with specific CDP Supply Chain members.

Requesting member
KAO Corporation

Group type of project
Change to provision of goods and services

Type of project
Reduced packaging weight

Emissions targeted
Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

Estimated payback
Cost/saving neutral

Details of proposal
Shrink labels, spouted pouches and pressure sensitive labels that promote the 4Rs: reduce, reuse, recycle and renewable For example Environmentally friendly inks (e.g. biomass-based and water-based) -Shrink labels containing recycled materials -Recyclable shrink labels -Thinner shrink labels -Spouted pouches for reusable and replacable containers to reduce material -New solutions for specific requests

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Requesting member
The Coca-Cola Company

Group type of project
Change to provision of goods and services

Type of project
Reduced packaging weight

Emissions targeted
Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

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Details of proposal
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Requesting member
Clorox Company

Group type of project
Change to provision of goods and services

Type of project
Reduced packaging weight

Emissions targeted
Actions that would reduce both our own and our customers' emissions

Estimated timeframe for carbon reductions to be realized
1-3 years

Estimated lifetime CO2e savings

Estimated payback
Cost/saving neutral

Details of proposal
Shrink labels, spouted pouches and pressure sensitive labels that promote the 4Rs: reduce, reuse, recycle and renewable For example Environmentally friendly inks (e.g. biomass-based and water-based) -Shrink labels containing recycled materials -Recyclable shrink labels -Thinner shrink labels -Spouted pouches for reusable and replacable containers to reduce material usage -New solutions for specific requests

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SC2.2

(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?
No

SC4.1

(SC4.1) Are you providing product level data for your organization's goods or services?

No, I am not providing data

Submit your response

In which language are you submitting your response?

English

Please confirm how your response should be handled by CDP

	I am submitting to	Public or Non-Public Submission	Are you ready to submit the additional Supply Chain questions?
I am submitting my response	Investors Customers	Public	Yes, I will submit the Supply Chain questions now

Please confirm below

I have read and accept the applicable Terms