

C0. Introduction

C0.1

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

Kao. The Company is a Japan-based company that operates through two business segments: Consumer Product and Chemical. The Consumer Product segment has three divisions. The Cosmetic Business provides cosmetics such as lotion, foundation and lipstick. The Skin Care and hair Care Business offers premium skincare products such as face washes, as well as premium hair care products including shampoos, hair styling products and hair colouring products, among others. The Human Health Care Business provides food and beverage products such as drinks ; sanitary products including hygiene products and paper diapers, as well as personal health products such as bath additives. The Fabric and Home Care Business offers fabric care products including detergents for apparel use, and home care products including detergents for kitchen use. The Chemical Business provides oil and fat products such as fatty acids; functional materials products such as surface acting agents and additives for plastic use, as well as specialty chemical products such as essences, among others.

The Cosmetic Business accounted for 18.1% of total turnover in fiscal 2018; The Skin Care and hair Care Business,22.1%; The Human Health Care Business,17.3%; The Fabric and Home Care Business, 22.3%; and The Chemical Business,20.2%. The Company reported JPY 1,508.0b in revenues and 33,664 permanent employees at December 31,2018.

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
Row 1	January 1 2018	December 31 2018	Please select	<Not Applicable>

C0.3

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

- Australia
- Austria
- Belgium
- Canada
- China
- China, Hong Kong Special Administrative Region
- Czechia
- Democratic People's Republic of Korea
- Denmark
- Finland
- France
- Germany
- Indonesia
- Italy
- Japan
- Malaysia
- Mexico
- Netherlands
- New Zealand
- Norway
- Philippines
- Russian Federation
- Singapore
- South Africa
- Spain
- Sweden
- Switzerland
- Taiwan, Greater China
- 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 consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.**

Operational 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
Chief Executive Officer (CEO)	Since climate change affects Kao's business, it must be monitored as a business management issue and is therefore under the CEO's oversight. CEO is a chairman of the Responsible Care Promotion Committee, which is one of the internal organizations responsible for Kao's response to climate change, a subordinate committee of the Internal Control Committees. This committee is approved by the Board, under the Kao corporate governance system. CEO is also a chairman of the Sustainability Committee, approved by the Management Committee. The Responsible Care Promotion Committee manages progress in risk-management activities, while the Sustainability Committee manages progress in activities related to locating new opportunities. The Responsible Care Promotion Committee is convened annually and reported of the Internal Control Committee.

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	Please explain
Scheduled – some meetings	<ul style="list-style-type: none"> <li>Reviewing and guiding strategy</li> <li>Reviewing and guiding major plans of action</li> <li>Reviewing and guiding risk management policies</li> <li>Monitoring implementation and performance of objectives</li> </ul>	Kao has set up a management structure so that we can swiftly respond to changes, realize efficient management that is sound, fair, and highly transparent, and continuously increase corporate value. Kao's Board of Directors conducts diversified deliberations and decision-making with respect to the medium- to long-term management direction for management strategies and the like, including risk assessment, based on the regulations of the Board of Directors and deliberation and reporting standards for the Board of Directors and the Management Committee. We have established the Internal Control Committee and the ESG Committee, chaired by the CEO directly and under control of the Board of Directors, which are in charge of managing risks and opportunities, respectively, related to climate change. The content of deliberations by the Internal Control Committee and the ESG Committee is reported to the Board of Directors for its final deliberation and decision. Note that with regard to decision-making on the mid- to long-term direction and strategy implementation deliberated on and determined by the Board of Directors, extensive authority is entrusted to the Management Committee. Serving as the main members of this committee are managing executive officers or higher executives who are in charge of Kao's main businesses and divisions. They have a wealth of experience in conducting business, and have a broad scope of authority to make and execute decisions quickly.

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)	Responsibility	Frequency of reporting to the board on climate-related issues
Chief Executive Officer (CEO)	Both assessing and managing climate-related risks and opportunities	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).**

i) Where in the organizational structure that/those position(s) and/or committee(s) lies

The Risk and Crisis Management Committee and the Responsible Care Promotion Committee under the Internal Control Committee, which is under the control of the Board of Directors, manage risks including climate change, water and forest.

The ESG Committee, which is under the control of the Board of Directors, manages EGG visions and its strategy including opportunities related to climate change, water and forest. The CEO serves as the chairman of the Internal Control Committee as well as the ESG Committee.

ii) A clear rationale for why responsibility lies with that/those position(s) and/or committee(s)

The ESG Committee and the Internal Control Committee, chaired by the CEO, deal with our climate-related issues. This is because we recognize that our response to climate change, water, and forestry is an important issue that requires management decisions as part of the Kao Group's business activities. Specifically, the ESG Committee discusses Kao's ESG activity strategy, the "Kirei Lifestyle Plan," including themes to work on and medium-term targets. Results are submitted to the Board of Directors for its approval. In addition, since risks associated with climate change, water, and forestry pose critical risks to the management of the company, the Risk and Crisis Management Committee, a subordinate organization of the Internal Control Committee, evaluates and manages such risks. Moreover, the Responsible Care Promotion Committee, a subordinate organization of the Internal Control Committee, manages legal and regulatory compliance regarding climate change, water, and forestry. Therefore, the person ultimately in charge of climate-related issues at Kao is the CEO, who serves as the chairman of both the ESG Committee and the Internal Control Committee.

iii) A Company specific description of the responsibilities of each position and/or committee with regard to assessment and monitoring of climate-related issues.

Kao has laid out its corporate philosophy, "Kao way" which is the foundation of its corporate activity. The missions stipulating in the Kao way are "realization of enriched lifestyle with joy and satisfaction for people throughout the world" and "contribution to sustainable society". Kao recognizes that climate change is a great threat in the current and future generations' realization of enriched lifestyle. Under such recognition, "ESG committee" has formed 19 prioritized actions to realize "Kirei Lifestyle Plan" ("Decarbonization" is among them) and checks and assess the implementation status. As a major KPI, Scope1+2 emissions and product lifecycle CO2 emissions have set out in "Decarbonization." "Responsible care promotion committee" which is under the "Internal governance committee" monitors the activity status in the divisions, subsidiaries and affiliate companies every month. The monitoring results are reported to "Responsible care promotion committee", "Internal governance committee" and "ESG committee" every month. Furthermore, an audit is conducted yearly and the activities are checked and if delay happens corrective action is carried out accordingly.

### C1.3

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

Yes

### C1.3a

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

**Who is entitled to benefit from these incentives?**

Chief Executive Officer (CEO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate by EVA which is related to all environmental matter such as level of achievement of GHG emission reduction objectives related to variable cost reduction by energy reduction projects and efficiency projects, responses to climate change problems related to variable cost reduction and sales increase, and expansion of sales of low-carbon products related to sales increase itself

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**Who is entitled to benefit from these incentives?**

Executive officer

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate all matters such as level of achievement of GHG emission reduction target and energy reduction target (basic unit and absolute quantity) by emission reduction projects, energy reduction projects and efficiency projects, responses to climate change problems, and expansion of sales of low-carbon products

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**Who is entitled to benefit from these incentives?**

Management group

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate all matters such as level of achievement of GHG emission reduction target and energy reduction target (basic unit and absolute quantity) by emission reduction projects, energy reduction projects and efficiency projects, responses to climate change problems, and expansion of sales of low-carbon products

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**Who is entitled to benefit from these incentives?**

Chief Procurement Officer (CPO)

**Types of incentives**

Monetary reward

**Activity incentivized**

Supply chain engagement

**Comment**

Evaluate all matters of supply chain engagement such as GHG emission reduction activities and water risk management of each supplier.

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**Who is entitled to benefit from these incentives?**

Buyers/purchasers

**Types of incentives**

Monetary reward

**Activity incentivized**

Supply chain engagement

**Comment**

Evaluate all matters of supply chain engagement such as level of GHG emission reduction activities and water risk management of related supplier.

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**Who is entitled to benefit from these incentives?**

Procurement manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Supply chain engagement

**Comment**

Evaluate all matters of supply chain engagement such as level of GHG emission reduction activities and water risk management of related supplier.

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**Who is entitled to benefit from these incentives?**

Environment/Sustainability manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate all matters such as level of achievement of GHG emission reduction target and energy reduction target (basic unit and absolute quantity) by emission reduction projects, energy reduction projects and efficiency projects, responses to climate change problems, and expansion of sales of low-carbon products

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**Who is entitled to benefit from these incentives?**

Facilities manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate applicable matters such as level of achievement of GHG emission reduction target and energy reduction target (basic unit and absolute quantity) and responses to climate change problems

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**Who is entitled to benefit from these incentives?**

Process operation manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction target

**Comment**

Evaluate applicable matters such as level of achievement of GHG emission reduction target and energy reduction target (basic unit and absolute quantity) and responses to climate change problems

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**Who is entitled to benefit from these incentives?**

Risk manager

**Types of incentives**

Monetary reward

**Activity incentivized**

Other, please specify (management of climate-related risks)

**Comment**

Locate climate change risks and determine response measures

**Who is entitled to benefit from these incentives?**

All employees

**Types of incentives**

Monetary reward

**Activity incentivized**

Emissions reduction project

**Comment**

Depending on each employee achievement of some project related to emission reduction, energy reduction and efficiency, responses to climate change problems, and expansion of sales of low-carbon products

**C2. Risks and opportunities**

**C2.1**

**(C2.1) Describe what your organization considers to be short-, medium- and long-term horizons.**

	From (years)	To (years)	Comment
Short-term	0	2	
Medium-term	2	5	
Long-term	5	30	

**C2.2**

**(C2.2) Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.**

Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes

**C2.2a**

**(C2.2a) Select the options that best describe your organization's frequency and time horizon for identifying and assessing climate-related risks.**

	Frequency of monitoring	How far into the future are risks considered?	Comment
Row 1	Six-monthly or more frequently	>6 years	

**C2.2b**

**(C2.2b) Provide further details on your organization's process(es) for identifying and assessing climate-related risks.**

-Description of a process for identifying and assessing climate-related risks

Kao defines a risk that has a particularly significant impact on its management and thus requiring strengthening of the response as a corporate risk. The Risk and Crisis Management Committee, which holds a meeting at least four times a year, reviews the theme of corporate risks every year. The Committee also establishes its management system and operating plan, and reports at a meeting of the Board of Directors or the management meeting for their deliberation at least once a year.

Our process for reviewing corporate risks comprises (1) interviews with top management and in-house risk survey (conducted at each division and subsidiary), (2) deliberation and confirmation by the Risk and Crisis Management Committee, and (3) decision-making during a meeting of the Board of Directors or the management meeting. In addition, since risks related to laws and regulations vary depending on the country in which we operate, every year during a meeting of the Responsible Care Promotion Committee each division and subsidiary evaluates and identifies them at the stage of preparing an implementation.

-Definition of 'substantive financial impact' when identifying or assessing climate change risk

We define an event as having a substantive financial impact if the amount of damage is expected to exceed 1 billion yen.

-The description of a process for identifying and assessing climate-related risk is consistent with answer in C2.2 and C2.2a

The corporate risk theme of "Large earthquakes and natural disasters" continues to include large-scale natural disasters as a result of climate change (torrential downpours causing great damage across a wide area). We still consider this theme as one of Kao's corporate risks even after the review process conducted in 2018. This is due to Risk and Crisis Management Committee recognizing that damage caused by natural disasters as a result of climate change is likely to become increasingly serious over the next six years or more.

**C2.2c**

**(C2.2c) Which of the following risk types are considered in your organization's climate-related risk assessments?**

	Relevance & inclusion	Please explain
Current regulation	Relevant, always included	The Sumida Office in Japan is subject to the cap-and-trade system of the Metropolis of Tokyo. Thus, the plant must keep its emissions amount below the cap. The plant manages monthly emissions, confirms whether or not emission rights must be purchased, and conducts risk assessment on the business impacts.
Emerging regulation	Relevant, always included	Japan, which accounts for approximately 50% of the Kao Group's greenhouse gas (GHG) emissions, has yet to deploy an emission trading system. Once deployed, there will be the risk that achieving sales targets becomes difficult because the production amount cannot be increased as planned due to restrictions imposed on plant operations. Therefore, Kao is monitoring trends with respect to the move toward deploying an emission trading system in Japan while evaluating risks that may arise if such a system is deployed.
Technology	Relevant, always included	Society is shifting to become more energy efficient, so failing to change with the times imposes the risk of lost sales opportunities. Although Kao has already developed products that contribute to reducing GHG emissions, such as a low temperature fixable toner, we must continue to develop highly energy efficient products ahead of other companies. To this end, we investigate market trends, conduct patent surveys, and evaluate risks associated with each technology trend at our offices and laboratories.
Legal	Relevant, always included	Because Kao is engaged in a wide range of business globally, accordingly it is susceptible to various lawsuits including climate-change cases. To prevent environmental lawsuits against us, such as climate-change cases, the Responsible Care Promotion Committee, a subordinate organization of the Internal Control Committee chaired by the CEO, manages the status of compliance with environmental laws, regulations, and amendment information—including those on climate change. Our production sites, in particular, are subject to numerous environmental laws; for Kao's plants to observe environmental laws and regulations, including those on climate change, we invested 1.507 billion yen and spent 2.955 billion yen in 2018.
Market	Relevant, always included	Since approximately 70% of the Kao Group's sales are accounted for by consumer products, seasonal changes in product demand due to temperature increases attributable to climate change pose the risk of lost sales opportunities. Thus, Kao has been conducting sophisticated inventory management while evaluating the risks associated with store stockouts.
Reputation	Relevant, always included	Approximately 50% of Kao's shares are held by investors outside Japan. If we are not actively involved in environmental, social, and governance (ESG) activities, there is a risk that financing, such as issuing of corporate bonds, may not proceed smoothly. For this reason, we must perform ESG activities to the same extent as other companies in our industry around the world. We benchmark such companies while evaluating the risks associated with Kao's ESG activity levels.
Acute physical	Relevant, always included	There is a risk that outdoor workers may suffer heatstroke due to increased temperatures during the summer caused by climate change, significantly reducing work efficiency. Since some Kao plants are chemical plants, they cannot avoid this risk. Therefore, they must take measures such as reducing the number of continuous work hours. Kao evaluates the risks associated with workloads and costs.
Chronic physical	Relevant, always included	If the climate changes, causing the temperature to increase rapidly, people's bodies may not be able to keep up with such changes. This risk is higher for those with a chronic illness such as diabetes, which poses the risk that business efficiency may be reduced. For this reason, Kao has announced the Kao Group Health Declaration and evaluates the risks associated with employees' chronic illnesses.
Upstream	Relevant, always included	If a supplier does not take appropriate climate change countermeasures, procurement of ingredients will be hindered, posing a risk of lost sales opportunities. Since it is necessary to encourage such suppliers to take climate change countermeasures, Kao participates in the CDP SC program and evaluates the risks associated with the status of climate change countermeasures taken by suppliers.
Downstream	Relevant, always included	Since approximately 70% of the Kao Group's sales are accounted for by consumer products, a change in consumer tastes caused by climate change poses a risk of lost sales opportunities. For this reason, we must continue to appropriately keep up with trends in consumer tastes. To evaluate the risks associated with such trends, Kao has established the Consumer Research Department.

**C2.2d**

## **(C2.2d) Describe your process(es) for managing climate-related risks and opportunities.**

### **-Description of a process for managing climate-related risks**

Managing legal and regulatory risks

- 1) The Responsible Care Promotion Committee (chaired by a managing executive officer, RC committee) prepares a list of environmental laws and regulations, including those on climate change, that the company should observe every year.
- 2) The responsible departments are put on the list.
- 3) The secretariat of RC Committee manages the status of legal compliance every month.

Managing critical risks

- 1) The secretariat of the Risk and Crisis Management Committee (chaired by a managing executive officer, Risk Committee), as the responsible committee, interviews management and surveys departments and subsidiaries every year to prepare draft risk themes, including climate change, that should be managed.

Here, risk themes are prepared toward achieving Kao's defined vision for 2030, which is 11 years away.

- 2) The Management Committee deliberates and makes decisions on the draft themes.
- 3) Risk Committee holds four meetings a year to manage the status of risk themes, including climate change.

- 1) We make the matrix chart consisting of financial impact of risk and likelihood of risk in order to assess the level of importance.
- 2) We estimate the impact and likelihood of each risk item and identify important risk items from the chart.
- 3) The extracted important risk items are checked by Risk Committee and some of them are check and managed by management council or board of directors as needed.
- 4) The rest of the risk items are handled by relevant departments.

### **-Description of a process for managing climate-related opportunities**

- 1) We estimate the impact of each opportunity and feasibility of actions to get it making information exchanges among many relevant departments including business units and R&D, and then identify important opportunity items.
- 2) The extracted important opportunity items are discussed by the ESG Committee and reported to management council or board of directors and approved by them.
- 3) The rest of the opportunity items are handled by relevant departments.

### **-Case study/example of how process is applied to physical risks and opportunities**

#### CASE STUDY (1)

The inside of a plant was flooded due to local heavy rains with an amount of rainfall exceeding the design value for rainwater discharging from the plant, causing some electricity equipment to submerge and the plant to experience a power failure. We calculated the number of days the plant would shut down operations due to the incident and estimated the total damage to be 2 billion yen. In addition, we estimated the frequency of the incident to be once in five years. Risk Committee evaluated the adequacy of the risk assessment for this case and confirmed that the total amount of damage would be over 1 billion yen. Risk Committee periodically managed the progress of the risk by placing it under its control under the guidance of the Internal Control Committee, which is a higher-level committee. Risk Committee reports to the board of directors the response status once or more a year and seeks guidance as necessary.

#### CASE STUDY (2)

An increase in temperature due to climate change manifested a continuous increase in demand for antiperspirants. Accordingly, the Beauty Care Business Division(BC Business) and the R&D worked together to significantly change the policies for product improvements that have been implemented on an ongoing basis. Development of a new product that far exceeds the performance of that of competitors was started with a target of bringing it to market in three years. When it was forecast that the impact of an increase in sales of the relevant product would be less than one billion yen, it was decided that the BC Business and R&D manage the status of product development.

### **-Case study/example of how process is applied to transitional risks and opportunities**

#### CASE STUDY (3)

An investigation by the secretariat of RC Committee confirmed that a nationwide cap-and-trade system is highly likely to be deployed in Japan, which accounts for 40% of Kao's Scope 1 emissions. A subsequent detailed investigation found that there is only one plant that is subject to this system, the plant would exceed the limit imposed by the system only slightly, and the additional cost would be about 10 million yen. Accordingly, it was decided that the SCM Division, which controls the plant, play a major role in responding to the risk and the RC Committee confirm the progress.

#### CASE STUDY (4)

An investigation by the secretariat of RC Committee confirmed that a nationwide cap-and-trade system is highly likely to be deployed in Japan, which is Kao's key market. This information was passed to the Chemical Business Division that sells cleansers for metal plated steel sheets that can be used at low temperatures. The sales person at the Chemical Business communicated the same information accurately to a customer, which led to a new business transaction.

## C2.3

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### (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

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### (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

Transition risk

#### Primary climate-related risk driver

Policy and legal: Increased pricing of GHG emissions

#### Type of financial impact

Increased operating costs (e.g., higher compliance costs, increased insurance premiums)

#### Company- specific description

Japan, which accounts for about 70% of Kao's sales, 46% of our energy consumption and 40% of our scope 1 emissions, is considering introduction of a carbon tax. Introducing this regulation is expected to increase energy costs and reduce our productivity due to additional management work to deal with the regulation. These factors will reduce Kao's profits.

#### Time horizon

Short-term

#### Likelihood

Likely

#### Magnitude of impact

Medium

#### Are you able to provide a potential financial impact figure?

Yes, a single figure estimate

#### Potential financial impact figure (currency)

1315000000

#### Potential financial impact figure – minimum (currency)

<Not Applicable>

#### Potential financial impact figure – maximum (currency)

<Not Applicable>

#### Explanation of financial impact figure

Kao's Scope 1 emissions in Japan are 263,000 t-CO<sub>2</sub>. If the carbon tax rate increases by 5,000 yen per t-CO<sub>2</sub>, we will have to pay approximately 1,315,000,000 yen (263,000 t-CO<sub>2</sub> × 5,000 yen/t-CO<sub>2</sub>) in additional tax.

#### Management method

- action that is being implemented – Laws and regulations applicable to individual plants are carefully confirmed by each plant or the secretariat of the Responsible Care Promotion Committee. In addition, we have been upgrading facilities to install the latest equipment with high energy consumption efficiency and recovering heat from used steam in anticipation of the introduction of regulations. - Example or case study At Kao plants, we burn fossil fuel to generate steam which is used for chemical reactions. This steam is collected after use. If the steam traps installed on the collection lines do not work normally, steam will be emitted, resulting in the need to burn additional fossil fuel. Kao invested yen to inspect and replace steam traps at two plants in Malaysia and the Philippines, where there are many Scope 1 emissions (Malaysia: 46,000,000Yen; Philippines: 26,000,000Yen).

#### Cost of management

72000000

#### Comment

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#### Identifier

Risk 2

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

Direct operations

#### Risk type

Physical risk

#### Primary climate-related risk driver

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

#### Type of financial impact

Reduced revenue from decreased production capacity (e.g., delayed planning approvals, supply chain interruptions)

#### Company- specific description

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Stronger tropical cyclones with heavier rainstorms increase the likelihood of flooding and other risks. In 2011, typhoon No. 21 struck Mindanao where Kao's Philippines plant is located, causing flooding and damaging houses. The island was hit by a typhoon in 2017, too. Although the plant was not directly affected by these typhoons, they had no small impact on the lives of the employees. Such natural phenomena impact a plant's production operations and may reduce sales as a result of reduced production amounts.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

675000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

For example, Pilipinas Kao Incorporated produces 100,000 tons of high-grade alcohol products in the Philippines. If it was affected by flooding damage that led to a cut in production and a subsequent decrease in sales from the chemical business in Asia by 1% to 67.5 billion yen, sales would fall by 675 million yen.

**Management method**

- action that is being implemented – Each plant assesses water risks associated with climate change, including drought, flooding, typhoon, and tsunami, and the status of progress is carefully confirmed by the secretariat of the Responsible Care Promotion Committee. At each base, we implement measures including disaster mitigation measures as required. -Example or case study If an unprecedented scale of typhoon hits the area where Kao Philippines is located, it is likely that neighboring rivers will overflow and the plant will be flooded at high tide, making it impossible to continue operating the equipment. To address this issue, we built a breakwater on the river side of the plant premises. In addition, we built a mangrove forest and breakwater on the coast line, which cost 50 million yen.

**Cost of management**

50000000

**Comment**

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**Identifier**

Risk 3

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

Investment chain

**Risk type**

Transition risk

**Primary climate-related risk driver**

Reputation: Increased stakeholder concern or negative stakeholder feedback

**Type of financial impact**

Reduction in capital availability

**Company- specific description**

Kao issued corporate bonds worth 25 billion yen in 2018. Going forward, we will continue to source financing from the markets, such as by issuing corporate bonds, as our business expands. If we give investors a negative impression due to insufficient efforts toward climate change, we will need to set a higher interest rate.

**Time horizon**

Short-term

**Likelihood**

Likely

**Magnitude of impact**

Low

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

125000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

If the interest rate for 25 billion yen of corporate bonds in total must be increased by 0.5%, the interest payment will be 125 million yen higher.

**Management method**

- action that is being implemented – In order to prevent the company's reputation from falling for investors and customers, the secretariat of the ESG Committee has been actively disclosing information related to Kao's climate change initiatives. In addition, the secretariat of the ESG Committee works with the IR Division to promote engagement with investors. Furthermore, as the contact point for customers on information disclosure, the Sales Division responds to them sincerely in collaboration with the secretariat of the ESG Committee. -Example or case study Kao has formulated and announced the Kirei Lifestyle Plan, the ESG strategy that includes a decarbonization

strategy. In order to help investors and customers understand this strategy, we provide media referrals and investor visits. The number of personnel promoting climate change-related activities in the ESG Division, which serves as the secretariat of the ESG Committee, is three. The cost of these personnel is 124,000,000 (124,000,000 = 120,000,000 (Kao employees) + 4,000,000 (temporary employees)).

**Cost of management**

24000000

**Comment**

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C2.4

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**(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

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**(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

**Type of financial impact**

Reduced operating costs (e.g., through efficiency gains and cost reductions)

**Company-specific description**

In accordance with the Paris Agreement, all countries have been developing plans to reduce greenhouse gas emissions. Thus, we consider that Kao, which engages in business in many countries, may be forced to reduce our greenhouse gas emissions directly in such countries. In this light, Kao has launched emission-reduction activities ahead of others by voluntarily setting energy reduction targets and greenhouse gas emission targets. To further promote the activities, Kao has set a reduction target based on a scientific basis in 2018 and has been certified by SBTi. These reduction activities also contributed to lowering the cost of running the company, with the economic effects of 361 million yen in 2018. (Japan 213 million yen, Asia 102 million yen, US 28 million yen, EU 18 million yen)

**Time horizon**

Short-term

**Likelihood**

Virtually certain

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

361000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

To reduce the procurement of energy for the company, Kao implements many energy conservation activities. The amount of cost reduction resulting from effective activities including energy conservation activities (TCR) is estimated around 500 million yen. These reduction activities contributed to a reduction in corporate operation costs and had an economic effect of 361 million yen in 2018. (Japan 213 million yen, Asia 102 million yen, US 28 million yen, EU 18 million yen)

**Strategy to realize opportunity**

- action that is being implemented – Energy-saving activities that are used to reduce the consumption and CO2 emissions are directly linked to cost reductions. Kao has established its energy-saving target and CO2 emission target, and the Responsible Care Promotion Committee manages its progress. The TCR Promotion Office manages the amount of costs associated with the activity. - Example or case study Kao has implemented a number of energy-saving activities to reduce corporate energy procurement. To reduce energy Kao purchases, a wide range of investment was made to curb CO2 emissions including introduction of solar panels and LEDs in 5 domestic and overseas plants. (Japan 506 million yen, Asia 204 million yen, US 44 million yen, EU 0.1 million yen)

**Cost to realize opportunity**

754100000

**Comment**

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**Identifier**

Opp2

**Where in the value chain does the opportunity occur?**

Direct operations

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**Opportunity type**

Products and services

**Primary climate-related opportunity driver**

Development and/or expansion of low emission goods and services

**Type of financial impact**

Increased revenue through new solutions to adaptation needs (e.g., insurance risk transfer products and services)

**Company-specific description**

The temperatures are increasing and we are experiencing more periods of fair weather without rain as a result of climate change. Particularly in Japan, which accounts for 87% of sales in Kao's fabric care business, the desire to wash clothes will grow as the sweat rate increases due to the rise in temperatures and humidity. In addition, since in Japan it is common to dry clothes outdoors, having greater number of fine days that are suitable for washing will raise the number of washes. Together, these factors are set to boost the demand for detergents, which presents a great opportunity for Kao's fabric care business. Kao's 2009 launch in Japan of ATTACK NEO, a time-saving detergent that reduces the burden of housework associated with washing, created the market for single rinse clothing detergent. The ratio of sales of products with a low environmental burden that have cleared Kao's unique, strict certification criteria, including single-rinse clothing detergent, has reached 29% in Japan. This sales ratio is expected to increase as the number of washes increases in the future.

**Time horizon**

Short-term

**Likelihood**

Very likely

**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)**

3000000000

**Potential financial impact figure – minimum (currency)**

&lt;Not Applicable&gt;

**Potential financial impact figure – maximum (currency)**

&lt;Not Applicable&gt;

**Explanation of financial impact figure**

Raising temperature and/or increasing sunny days in Japan may increase the frequency of laundry washing. This trend would improve the sales of the laundry detergent and related products in Kao. Further raising temperature would bring the opportunity of increasing laundry detergent related products like as softer, bleach and so on. If sales of the Fabric and Home Care Business including laundry detergents in Japan increased 10% more, the revenue would increased 3 billion yen.

**Strategy to realize opportunity**

- action that is being implemented – Kao operates a matrix that combines business units and functional units. In addition, the Kao R & D Division conducts matrix management between product development and basic research divisions. A close relationship is maintained in the company's corporate production and quality assurance department and customer Communications department. -Example or case study Since the launch of the 2009 clothing detergent attack Neo, Kao continuously develop and launch products that can reduce the amount of water used when using products. In 2017, the liquid detergent for liquid type was extended to non-concentrated type. In 2018, Kao invested 2.48 billion yen and spent 4.504 billion yen on R&D to support environmental protection, including the development of products as measures against climate change. ( 6,912,000,000=2,408,000,000+4,504,000,000)

**Cost to realize opportunity**

6912000000

**Comment****Identifier**

Opp3

**Where in the value chain does the opportunity occur?**

Supply Chain

**Opportunity type**

Resilience

**Primary climate-related opportunity driver**

Resource substitutes/diversification

**Type of financial impact**

Increased reliability of supply chain and ability to operate under various conditions

**Company-specific description**

At Kao, the ingredient procurement phase accounts for 38% of the entire greenhouse gas (GHG) emissions throughout the Kao product lifecycle; this figure is approximately four times the percentage of Scopes 1 and 2 combined (9%). Kao set the goal of reducing the emissions throughout the Kao product lifecycle by 22% (2030 goal when compared with the 2017 level). To achieve this goal, we will improve the resilience to climate change of Kao suppliers by encouraging them to promote activities that reduce greenhouse gas (GHG) emissions. We think this will help them maintain their competitiveness in terms of their supplies and other competitors, leading to their sustainable growth. We understand that this will in turn ultimately improve the sustainability of Kao's own business. As part of our endeavors to promote such activities, we request our suppliers to construct a GHG management system and reduce their GHG emissions through the CDP SC program, evaluate their response to a survey using Kao's unique method, and feed the results back to them.

**Time horizon**

Short-term

**Likelihood**

Very likely

**Magnitude of impact**

Medium

**Are you able to provide a potential financial impact figure?**

Yes, a single figure estimate

**Potential financial impact figure (currency)**

125000000

**Potential financial impact figure – minimum (currency)**

<Not Applicable>

**Potential financial impact figure – maximum (currency)**

<Not Applicable>

**Explanation of financial impact figure**

Fiscal 2018 marks the tenth year of Kao's participation in the CDP SC Program. In recognition of our greenhouse gas emission reduction activities that take into account climate change measures in the entire product lifecycle, including the supply chain, as stated in the response to the CDP 2017 survey, Kao was chosen to be on the Supplier Engagement leader board by CDP, an international NGO. If our reputation grows through such activities, it will allow us to set a 0.5% lower interest rate for the total corporate bond of 25 billion yen, which means that the amount of interest payable will be reduced by 125 million yen.

**Strategy to realize opportunity**

- action that is being implemented – Kao requests important suppliers to respond to surveys through the CDP SC program. We evaluate the obtained responses with our unique five-stage evaluation method and feed the individual results back to respective suppliers along with the overall results distributed to all our suppliers. The purpose of this effort is to ensure that the suppliers understand the activities to mitigate climate change that Kao expects them to conduct, help them recognize the status of their activities as part of Kao's whole supply chain. -Example or case study As a result of activities through Kao's CDP SC program, considering climate change measures throughout the entire product, including the supply chain, has been assessed to have implemented activities to reduce greenhouse gas emissions, Kao was selected as the "Supplier Engagement leader board" from CDP in 2018. Kao paid nearly 5.2mil Yen to participate in three CDP SC programs. We have also joined EcoVadis in response to requests from Kao suppliers, and doing so cost roughly 1.2mil Yen. The total payment we made through these activities was 6.4mil Yen (6.4 = 5.2 + 1.2). The Supplier engagement leader board is selected by a company that is highly acclaimed for its approach to suppliers. In addition, Kao is selected FTSE4 Good for the tenth year in Feb. 2017, DJSI for fourth year in Sep.. Further Kao has been continuing the annual dividend for 28 consecutive periods.

**Cost to realize opportunity**

6400000

**Comment**

C2.5

**(C2.5) Describe where and how the identified risks and opportunities have impacted your business.**

	Impact	Description
Products and services	Impacted for some suppliers, facilities, or product lines	Due to the recent reduction in the average rainfall and a change in the rainfall pattern caused by climate change, demand for Kao's water-saving products is increasing in Chinese, Australian, and Japanese markets. Furthermore, the conclusion of the Paris Agreement has raised consumers' interest on the prevention of global warming. In order to respond to such demand, Kao has been marketing products that help reduce CO2, including water-saving products, since 2009. The sales of environmentally-friendly products including water-saving products exceeded 240 billion yen in 2018.
Supply chain and/or value chain	Impacted for some suppliers, facilities, or product lines	In recent years, more people around the world are asking for palm oil that has not been taken from a plantation that was developed by illegally cutting down tropical rainforests. To meet such needs, Kao has set a goal of purchasing only palm oil for which its origin can be traced back fully to a plantation by 2020. We expect to spend about 200 million yen every year to achieve that goal.
Adaptation and mitigation activities	Impacted for some suppliers, facilities, or product lines	In an attempt to mitigate climate change, Kao has set scopes 1 and 2 emission goals and is conducting CO2 reduction activities, which include the installation of new equipment and the introduction of low carbon energy. In 2018, we invested 720 million yen and spent 752 million yen on global warming countermeasures.
Investment in R&D	Impacted	Global warming has become increasingly apparent, causing the consumers' preferences to change as well. In response, we have been actively researching and developing water-saving products. In 2018, we invested 2,408 million yen and spent 4,504 million yen on environmental response studies.
Operations	Impacted for some suppliers, facilities, or product lines	A rise in sea water temperature due to global warming has caused the typhoons in the Pacific Ocean to increase in scale. In 2009, a typhoon approached Mindanao in the Philippines, which caused the rivers near the Kao plant to overflow and the plant operations to be suspended. In response to such a disaster, we spent approximately 50 million yen building a new breakwater.
Other, please specify	Please select	

C2.6

**(C2.6) Describe where and how the identified risks and opportunities have been factored into your financial planning process.**

	Relevance	Description
Revenues	Impacted	Kao aims to achieve sales of 2.5 trillion yen in 2030. In order to do so, we have stepped up our environmental, social, and governance (ESG) activities in 2018, in the hope that non-financial activities represented by ESG activities will have a positive financial impact. The Paris Agreement has changed the field of climate change significantly for 2030. Since the Agreement aims to achieve a target of 2°C around the world, we expect an increase in the sales of products that contribute to the mitigation of climate change. For example, to achieve the sales goal for 2030, we must add approximately 1 trillion yen to the 2018 results. We expect an increase in sales of environmentally-friendly products, including climate change-related products, to comprise 30% of that figure, or 300 billion yen.
Operating costs	Impacted	Following the conclusion of the Paris Agreement, companies are expected to set scopes 1 and 2 emission goals based on the Science Based Targets (SBT). Although Kao has already set a GHG reduction goal and has been engaging in activities, we must increase our efforts to meet the SBT target. We expect to spend an additional cost of approximately 100 million yen every year to achieve the emission target based on the SBT in 2030.
Capital expenditures / capital allocation	Impacted	Following the conclusion of the Paris Agreement, companies are expected to set scopes 1 and 2 emission goals based on the Science Based Targets (SBT). Although Kao has already set a GHG reduction goal and has been engaging in activities, we must increase our efforts to meet the SBT target. In order to achieve the emission target based on the SBT in 2030, we require three times more investment. We expect the amount of investment to be roughly 3 billion yen.
Acquisitions and divestments	Impacted	The Chemical Business Division has set a goal of having 80% of its products be environment-related products that contribute to reducing environmental impact including climate change by 2020. As part of this effort, we purchased Collins Inkjet and Chimigraf Holding in 2016. In addition, as one of our growth strategies, we aim to achieve high profitability (200 billion yen in sales and 10% in operating profit margin) in the Consumer Products Business in Europe and the U.S. To that end, we believe that it is important to utilize our hair care assets, especially our salon assets, so we purchased Oribe Hair Care in December 2017 for approximately 45 billion yen. Additionally we purchased Washing Systems, LLC in August 2018 for approximately 30 billion yen. We expect to make investments of 150 to 200 billion yen per year for our growth, including those in merger and acquisition activities. By launching shampoo products that reduce the amount of water needed for rinsing through Oribe Hair Care, and releasing clothing detergent products that also reduce the volume of water needed for rinsing through Washing Systems, we can reduce greenhouse gas emissions related to clean water production and sewage treatment in the U.S.
Access to capital	Not yet impacted	For financing, we aim to obtain and maintain a high rating that allows us to finance large-scale investments. In recognition of our excellent efforts in taking care of the health of our employees, we were able to borrow money at a low cost from the viewpoint of health management. However, we have yet to be able to do so from the viewpoint of climate change. Kao aims to achieve actual sales of +5% in CAGR terms and 15% in operating profit margin in 2020. If we can secure financing at low interest rates due to receiving high marks for our climate change-related activities, we expect the cost burden of investment in growth businesses, which we will continue to make in the future, to fall. This will contribute to achieving the 2020 target of a 15% operating profit. We also plan to continue increasing the operating cash flow at a pace that will exceed the growth rate achieved in 2018 when 195.6 billion yen in sales was recorded.
Assets	Impacted	Kao decides its capital investment based on economic value added (EVA) management. We aim to improve the EVA by investing in projects in which the net operating profit after tax (NOPAT) during the planning period exceeds the total capital cost. In 2018, the EVA was 93.5 billion yen. To this end, capital investment is needed for introducing new production lines.
Liabilities	Not yet impacted	Kao aims to achieve sales of 2.5 trillion yen in 2030. In order to do so, we have stepped up our environmental, social, and governance (ESG) activities in 2018, in the hope that non-financial activities represented by ESG activities will have a positive financial impact. The Paris Agreement has changed the field of climate change significantly for 2030. Since the Agreement aims to achieve a target of 2°C around the world, we expect an increase in the sales of products that contribute to the mitigation of climate change. To this end, as capital investment to introduce new production line is necessary, corporate bonds of about 20 to 30 billion yen is possibly issued and it might affect Kao's financial plan.
Other	Please select	

**C3. Business Strategy**

**C3.1**

**(C3.1) Are climate-related issues integrated into your business strategy?**

Yes

**C3.1a**

**(C3.1a) Does your organization use climate-related scenario analysis to inform your business strategy?**

Yes, quantitative

**C3.1c**

**(C3.1c) Explain how climate-related issues are integrated into your business objectives and strategy.**

i. How business objectives and strategy have been influenced by climate-related issues

Management of risks associated with climate change is an important management issue for Kao. An increase in natural disasters and compliance with related regulations due to climate change are considered risks. That is because suspension of operations and ingredient procurement due to natural disasters may lead to the loss of business opportunities, and compliance with various regulations will increase costs and investments, thereby adversely affecting financial management. However, they are opportunities at the same time. Kao believes that the company can contribute to the reduction of CO2, which is a cause of global warming, through its business activities. Kao recognizes risks and opportunities related to climate change and incorporates them into its business activity strategies. With the aim of mitigating the issue of climate change, Kao has set a goal of reducing CO2 emissions throughout its product lifecycle by 22% by 2030. To achieve this goal, we have been actively encouraging suppliers to reduce their CO2 emissions; developing and proposing water-saving products that contribute to the reduction of CO2 when the products are used; and developing and proposing containers using less plastic, thus contributing to the reduction of CO2 in the disposal phase. Additionally, Kao has published 'Our Philosophy & Action on Plastic Packaging' to promote plastic package issue in 2018.

ii. Business strategy is linked to an emissions reductions target or energy reduction target

Under the mid-term plan K20, Kao has set a goal of committing to fostering a distinctive corporate image. One of the measures taken to achieve that is stimulating non-financial activities, especially from the viewpoint of ESG. In the environmental area, we have stated in the Environmental Statement that we will provide products that help reduce environmental impact across the product lifecycle, as well as through our activities. In accordance with the statement, we have set scopes 1 and 2 reduction goals and scopes 1, 2, and 3 (category 1.9.10.12) reduction goals.

iii. At least one example of the most substantial business decision made as a result of the integration of climate-related issues

1) To grow its business and strengthen its responsiveness to change in anticipation of significant changes in society, including taking climate-change countermeasures, Kao established the ESG Division in July 2018. By further appealing to customers with its desire and commitment while leveraging the strength of previous activities, Kao demonstrates leadership and develops new ESG strategies to increase its global presence.

2) We changed the criteria for investment decisions as measures to promote investment for reduced emissions. Previously, the criteria for making a capital investment decision required the EVA to turn positive within the depreciation period. However, we changed the criteria for solar power generation equipment so that the EVA has until the end of the manufacturer's performance guarantee period to turn positive. This has allowed us to install 334 kW solar power generation equipment in the Ehime Plant and we expect a reduction of emissions by approximately 200t-CO2 per year.

**C3.1d**

**(C3.1d) Provide details of your organization's use of climate-related scenario analysis.**

Climate-related scenarios	Details
2DS	- How the selected scenario(s) were identified, with reference to the inputs, assumptions and analytical methods used. Kao analyzed scenarios on the assumption that reduction efforts based on the Paris Agreement will be made throughout the world for 2050. The input information includes the IPCC 5th Report and IEA World Energy Outlook. Examples of the input information include climate scenarios for each assumed temperature increase, sector-specific example measures, and regulations imposed by the government. Since Kao has set an SBT target, we used the 2°C scenario (2DS), which is one of the emission scenarios envisioned by the SBT. - A description of the time horizon(s) considered, and why they are relevant to your organization. Kao has set a new greenhouse gas emission target by 2030, and has also given directions for reduction efforts based on the Paris Agreement. Accordingly, we have set 2030 and 2050 as the targets. - A description of the areas of your organization that have been considered as part of the scenario analysis. Since our analysis suggests that the scenario analysis will bring various risks and opportunities to our segments (Beauty Care, Human Health Care, Fabric & Home Care, and Chemical) and affect our business strategies, we target all of our business divisions and offices. - A company specific description summary of the results of the conducted scenario analysis. In order to achieve the sales target defined in the K30, we predict that we will emit 1.6 times more CO2. However, we found out that the 2DS requires us to reduce our emissions to 0.8 times the current level. This result shows that we must double the current CO2 efficiency. - A description of how the results of the scenario analysis have informed your business objectives and strategy. As a way of achieving the above efficiency, we have set the following policies as requirements: upgrading the current improvement rate for energy usage efficiency; installing renewable electricity facilities and purchasing renewable electricity to reduce scope 2 emissions; and developing new technologies to reduce scope 1 emissions. Reducing energy usage in businesses that consume a large amount of energy (in particular the Human Health Care and Chemical businesses, which have a large production volume and use a great amount of process energy) is an important issue in our business strategy. - A case study/example of how the results of scenario analysis have directly influenced your business objectives and strategy. In accordance with the above policies, in 2018 Kao introduced and launched and began operating solar panels (total generation capacity: 1,393 kW) at five plants, including the Ehime Plant.

**C4. Targets and performance**

**C4.1**

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

Both absolute and intensity targets

**C4.1a**

**(C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.**

**Target reference number**

Abs 1

**Scope**

Scope 1 +2 (market-based)

**% emissions in Scope**

100

**Targeted % reduction from base year**

22

**Base year**

2017

**Start year**

2018

**Base year emissions covered by target (metric tons CO2e)**

1058113

**Target year**

2030

**Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

**% of target achieved**

8.67

**Target status**

New

**Please explain**

a) baseline year emissions covered by target:1,058,113 (t-CO2) b) emissions in 2018 : 1,037,927 (t-CO2) c)  $(b/a - 1) \times 100 = -1.9\%$  d) % achieved:  $-1.9(\%) \times 100 / 22(\%) = 8.67(\%)$  The boundary of this target is consumer products in all of Kao group.

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**Target reference number**

Abs 2

**Scope**

Scope 1+2 (market-based) +3 (upstream & downstream)

**% emissions in Scope**

95.42

**Targeted % reduction from base year**

22

**Base year**

2017

**Start year**

2018

**Base year emissions covered by target (metric tons CO2e)**

11910135

**Target year**

2030

**Is this a science-based target?**

Yes, this target has been approved as science-based by the Science-Based Targets initiative

**% of target achieved**

6.36

**Target status**

New

**Please explain**

a) baseline year emissions covered by target:11,910,135 (t-CO2) b) emissions in 2018 : 11,742,888 (t-CO2) c)  $(b/a - 1) \times 100 = -1.4\%$  d) % achieved:  $-1.4(\%) \times 100 / 22(\%) = 6.36(\%)$  The boundary of this target is consumer products in all of Kao group.

---

**C4.1b**

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

**Target reference number**

Int 1

**Scope**

Scope 1 +2 (market-based)

**% emissions in Scope**

100

**Targeted % reduction from base year**

35

**Metric**

Metric tons CO2e per unit revenue

**Base year**

2005

**Start year**

2009

**Normalized base year emissions covered by target (metric tons CO2e)**

993000

**Target year**

2020

**Is this a science-based target?**

No, but we are reporting another target that is science-based

**% of target achieved**

93.37

**Target status**

Underway

**Please explain**

a) Normalized baseline year emissions covered by target: 993,000 (t-CO2) b) Normalized baseline year amount of sales: 971,000 (million-Yen) c) a)/b)=1.02 d) Emissions in 2018: 1,038,000 (t-CO2) e) Amount of sales in 2018: 1,508,000 (million-Yen) f) d)/e)=0.69 g)[1- {c}-f)/c)]\*100=32.7(%) h) % achieved: 32.7(%) / 35(%) \* 100 = 93.37(%) The boundary of this target is all Kao sites.

**% change anticipated in absolute Scope 1+2 emissions**

13.77

**% change anticipated in absolute Scope 3 emissions**

0

**Target reference number**

Int 2

**Scope**

Scope 1+2 (location-based) + 3 (upstream and downstream)

**% emissions in Scope**

64.24

**Targeted % reduction from base year**

35

**Metric**

Metric tons CO2e per unit revenue

**Base year**

2005

**Start year**

2009

**Normalized base year emissions covered by target (metric tons CO2e)**

6248000

**Target year**

2020

**Is this a science-based target?**

No, but we are reporting another target that is science-based

**% of target achieved**

49.71

**Target status**

Underway

**Please explain**

a) Normalized baseline year emissions covered by target: 6,248,000 (t-CO2) b) Normalized baseline year amount of sales: 678,000 (million-Yen) c) a)/b)=9.2 d) Emissions in 2018: 7,461,000 (t-CO2) e) Amount of sales in 2018: 986,000 (million-Yen) f) d)/e)=7.6 g) {c}-f)/c)=17.4(%) h) % achieved: 17.4(%) \* 100 / 35(%) = 49.71(%) The boundary of this target is consumer products in Japan.

**% change anticipated in absolute Scope 1+2 emissions**

13.77

**% change anticipated in absolute Scope 3 emissions**

23.43



## C4.2

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

## 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	
To be implemented*	104	6958
Implementation commenced*	72	14
Implemented*	226	32858
Not to be implemented	0	

### C4.3b

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

**Initiative type**

Energy efficiency: Building services

**Description of initiative**

Lighting

**Estimated annual CO2e savings (metric tonnes CO2e)**

1296

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

44790788

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

125053570

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

3-5 years

**Comment**

Having completed the plan announced in 2015 to use LED lighting at each plant, logistics center, and office in Japan, at present we are actively promoting the use of LED lighting at subsidiaries in countries other than Japan.

**Initiative type**

Energy efficiency: Processes

**Description of initiative**

Process optimization

**Estimated annual CO2e savings (metric tonnes CO2e)**

4150

**Scope**

Scope 1

**Voluntary/Mandatory**

Voluntary

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

97361863

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

279070696

**Payback period**

1-3 years

**Estimated lifetime of the initiative**

1-2 years

**Comment**

Continuing from the previous year, equipment such as chillers, air conditioners and compressors were replaced with best-practice technologies (BPT) equipment in 2018. Through optimized control using multiple units of air conditioners and compressors, we are more efficiently operating equipment in response to fluctuating demand.

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**Initiative type**

Low-carbon energy installation

**Description of initiative**

Solar PV

**Estimated annual CO2e savings (metric tonnes CO2e)**

441

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

0

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

33260000

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Furthermore, we are promoting the introduction of solar panels at each of our Kao-owned facilities. During 2018, solar panels began operating at the Ehime Plant (total generation: 318 MWh), the Kao Penang Group in Malaysia (total generation: 179 MWh), Kao Industrial (Thailand) (total generation: 8,401 MWh), Kao Corporation Shanghai (total generation: approx. 300 MWh), and Kao USA (total generation: approx. 50 MWh), and we are promoting solar panel installation at our Tochigi and Toyohashi plants as well.

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**Initiative type**

Low-carbon energy purchase

**Description of initiative**

Hydro

**Estimated annual CO2e savings (metric tonnes CO2e)**

26971

**Scope**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

0

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

0

**Payback period**

No payback

**Estimated lifetime of the initiative**

Ongoing

**Comment**

Kao companies in Europe have also begun purchasing renewable energy. Four subsidiaries, including Kao Chemicals GmbH in Germany and Molton Brown in the UK, have converted all their purchased power to renewable energy sources (30.3 GWh). In Japan, our Odawara Plant started purchasing renewable power from June, and our Tochigi, Kashima, Kawasaki, and Ehime plants started purchasing renewable power in October. As a result, the Ehime Plant now derives of all its energy from renewable energy.

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C4.3c

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

Method	Comment
Compliance with regulatory requirements/standards	We promote the introduction of methods with a lower CO2 reduction cost to achieve the reduction amounts required by law. We have reviewed the effectiveness of methods with a high-reduction potential by introducing them on a trial basis.
Dedicated budget for energy efficiency	We promote the introduction of methods with a lower CO2 reduction cost to achieve the reduction amounts required by law. We have reviewed the effectiveness of methods with a high-reduction potential by introducing them on a trial basis.
Dedicated budget for low-carbon product R&D	At the time an opportunity is located, we estimate the potential reduction amount with regard to customers in the product development stage, confirm with customers whether the reduction amount is attractive to them, and start development.
Dedicated budget for other emissions reduction activities	We promote the introduction of methods with a lower CO2 reduction cost. We have reviewed the effectiveness of methods with a high-reduction potential by introducing them on a trial basis.
Partnering with governments on technology development	When we estimate CO2 reduction costs in preparing budgets such as the energy-conserving investment and the low-carbon investment, we also include public assistance such as available subsidies.
Other	The methodologies mentioned above are all applicable to either Scope 1, 2, or 3, targeting the medium-term objective to reduce LC-CO2 by 35 percent by 2020, and their degree of effectiveness has been clarified.

**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**

Group of products

**Description of product/Group of products**

CO2 emission reduction products (including Water saving products) and less package material products on personal care business

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

Avoided emissions

**Taxonomy, project or methodology used to classify product(s) as low-carbon or to calculate avoided emissions**

Addressing the Avoided Emissions Challenge- Chemicals sector

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

29

**Comment**

shown above indicates the sales ratio for products intended for Japanese consumers.

**C5. Emissions methodology**

**C5.1**

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

**Scope 1**

**Base year start**

January 1 2017

**Base year end**

December 31 2017

**Base year emissions (metric tons CO2e)**

653145

**Comment**

**Scope 2 (location-based)**

**Base year start**

**Base year end**

**Base year emissions (metric tons CO2e)**

**Comment**

**Scope 2 (market-based)**

**Base year start**

January 1 2017

**Base year end**

December 31 2017

**Base year emissions (metric tons CO2e)**

404968

**Comment**

**C5.2**

---

**(C5.2) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.**

Japan Ministry of the Environment, Law Concerning the Promotion of the Measures to Cope with Global Warming, Superseded by Revision of the Act on Promotion of Global Warming Countermeasures (2005 Amendment)

**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)**

651825

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

**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**

**C6.3**

---

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

**Reporting year**

**Scope 2, location-based**

437305

**Scope 2, market-based (if applicable)**

386102

**Start date**

January 1 2018

**End date**

December 31 2018

**Comment**

**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**

7 gasses (except CO2) on scope1 from Factories,Offices,Warehouses,sales car outside Japan

**Relevance of Scope 1 emissions from this source**

Emissions are not relevant

**Relevance of location-based Scope 2 emissions from this source**

No emissions excluded

**Relevance of market-based Scope 2 emissions from this source (if applicable)**

No emissions excluded

**Explain why this source is excluded**

Data for Factories, Offices, Warehouses and sales car outside Japan had been collected only CO2 . Based on the collected data in Japan, the total emissions of except CO2 from these sources is estimated to be less than 0.5% of all the emissions.

---

**C6.5**

---

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

**Purchased goods and services**

**Evaluation status**

Relevant, calculated

**Metric tonnes CO2e**

4430088

**Emissions calculation methodology**

Activity volume is input by type of raw material used for sold products. The emissions intensity used is the emissions intensity by type of raw material which set by Kao from the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan and so on.

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

24

**Explanation**

Activity volume is the investment amount. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan. As for the activities in countries outside Japan, the emissions intensity in Japan is used also.

## Capital goods

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

268550

### Emissions calculation methodology

Activity volume is the investment amount. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan. As for the activities in countries outside Japan, the emissions intensity in Japan is used also.

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

0

### Explanation

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

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

26807

### Emissions calculation methodology

Activity volume is the consumption of energy by type. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan. As for the activities in countries outside Japan, the emissions intensity in Japan is used also.

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

0

### Explanation

## Upstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

253341

### Emissions calculation methodology

Activity volume is the case where the Kao Group is a cargo owner. Raw materials and such like having a cargo owner as the supplier are included in Category 1. Calculation methodology and the emission intensities Kao used obey under Law Concerning the promotion of the measures to cope with Global Warming in Japan .

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

0

### Explanation

## Waste generated in operations

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

59527

### Emissions calculation methodology

Activity volume is classified by type of waste and processing . The emission intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan. As for the activities in countries outside Japan, the emissions intensity in Japan is used also.

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

0

### Explanation

## Business travel

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

4376

### Emissions calculation methodology

Activity volume is the number of employees. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan.

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

0

### Explanation

## Employee commuting

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

21246

### Emissions calculation methodology

Activity volume is the numbers of employees and work days. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan.

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

0

### Explanation

## 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>

### Explanation

Emission from these equipments has included in "Scope1 and Scope2".

## Downstream transportation and distribution

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

105913

### Emissions calculation methodology

Activity volume is the weight of sold products which excluded Kao delivered to store directory. The emissions intensity used is the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan.

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

0

### Explanation

## Processing of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

117174

### Emissions calculation methodology

Activity volume is the number of sold of fatty alcohols, tertiary amine and many kinds of surfactants. The emissions intensity used is model number which decided by result of the emission intensity on Kao factory. Kao processes these material same as our customers.

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

0

### Explanation

## Use of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

4569980

### Emissions calculation methodology

Calculated according to the scenario established by Kao. Activity volume is the amount of usage of electricity, gas, and such like in house from sold products. The emissions intensity used is set by Kao from the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan and so on.

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

0

### Explanation

## End of life treatment of sold products

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

1451711

### Emissions calculation methodology

Calculated according to the scenario established by Kao. Activity volume is the type and volume of ingredients, containers and packaging and used water in house for each sold product. The emissions intensity used is set by Kao from the emissions intensity database (ver.2.0) prepared by the Ministry of the Environment and the Ministry of Economy, Trade and Industry in Japan and so on.

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

0

### Explanation

## Downstream 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>

### Explanation

Kao has no downstream leased assets.

## 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>

### Explanation

Kao has no Franchises.

## Investments

### Evaluation status

Relevant, calculated

### Metric tonnes CO2e

8000

### Emissions calculation methodology

Activity volume is the number of shares of stock holding on the securities report by type of issue. The emissions intensity used is the latest figure for GHG emissions for each company according to the holding ratio of stocks. Please note that companies with no published data available are excluded from the calculation. Kao's share is calculated by multiplying the activity volume by emissions intensity and then dividing the number proportionally at the ratio of the number of shares owned by Kao to the amount of outstanding shares.

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

0

### Explanation

## Other (upstream)

### Evaluation status

### 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>

### Explanation



**Other (downstream)**

**Evaluation status**

**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>

**Explanation**

C6.7

---

**(C6.7) Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?**

Yes

C6.7a

---

**(C6.7a) Provide the emissions from biologically sequestered carbon relevant to your organization in metric tons CO2.**

**Row 1**

**Emissions from biologically sequestered carbon (metric tons CO2)**

72025.38

**Comment**

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**

6.882e-7

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

1037927

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1508007000000

**Scope 2 figure used**

Market-based

**% change from previous year**

3.12

**Direction of change**

Decreased

**Reason for change**

While sales increased by 1.25% from the previous year, CO2 emissions fell by 1.91% from the previous year. We consider that promoting the introduction of renewable energy in many of our plants in Japan (Ehime, Kawasaki, Odawara, Kashima, Tochigi) and of solar power generation globally significantly contributed to reducing our CO2 emissions in 2018.

**Intensity figure**

0.2878313523

**Metric numerator (Gross global combined Scope 1 and 2 emissions)**

1037927

**Metric denominator**

unit of production

**Metric denominator: Unit total**

3606024

**Scope 2 figure used**

Market-based

**% change from previous year**

1.8

**Direction of change**

Decreased

**Reason for change**

While the total production declined by 0.11% from the previous year, CO2 emissions fell by 1.91% over the same period. We consider that promoting the introduction of renewable energy in many of our plants in Japan (Ehime, Kawasaki, Odawara, Kashima, Tochigi) and of solar power generation globally significantly contributed to reducing our CO2 emissions in 2018.

**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	648625	IPCC Fourth Assessment Report (AR4 - 100 year)
CH4	242	IPCC Fourth Assessment Report (AR4 - 100 year)
N2O	930	IPCC Fourth Assessment Report (AR4 - 100 year)
HFCs	2002	IPCC Fourth Assessment Report (AR4 - 100 year)
PFCs	3	IPCC Fourth Assessment Report (AR4 - 100 year)
SF6	23	IPCC Fourth Assessment Report (AR4 - 100 year)
NF3	0	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	263223
Asia Pacific (or JAPA)	291340
US, Latin America and Caribbean (USLAC)	48620
Eastern Europe, Middle East, and Africa (EEMEA)	48642

## C7.3

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

By business division

### C7.3a

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

Business division	Scope 1 emissions (metric ton CO2e)
Production	635201
Office,sales	17868

## 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 in market-based approach (MWh)
Japan	188116	156587	964851	28705
Asia Pacific (or JAPA)	203843	207382	937020	0
US, Latin America and Caribbean (USLAC)	21864	13526	127359	0
Europe, the Middle East, Africa and Russia (EMEAR)	23481	8607	101479	29952

## C7.6

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

By business division

### C7.6a

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

Business division	Scope 2, location-based emissions (metric tons CO2e)	Scope 2, market-based emissions (metric tons CO2e)
Production	401778	354364
Offices, sales	35526	31737

## 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?

Decreased

### 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	27412	Decreased	2.59	Due to 'Change in renewable energy consumption' implemented during the year, despite an increase in production, emissions have not grown as high as could be expected. Last year 27,412 tons of CO2e were reduced by our emissions reduction projects, and our total Scope 1 and Scope 2 emissions in the previous year was 1,058,113 tCO2e, therefore we arrived at -2.59% through $(-27,412/1,058,113) * 100 = -2.59\%$ (i.e. a 2.59% decrease in emissions).
Other emissions reduction activities	18801	Decreased	1.78	Due to 'other emissions reduction activities' implemented during the year, despite an increase in production, emissions have not grown as high as could be expected. Last year 18,801 tons of CO2e were reduced by our emissions reduction projects, and our total Scope 1 and Scope 2 emissions in the previous year was 1,058,113 tCO2e, therefore we arrived at -1.78% through $(-18,801/1,058,113) * 100 = -1.78\%$ (i.e. a 1.78% decrease in emissions).
Divestment	0	No change	0	
Acquisitions	0	No change	0	
Mergers	0	No change	0	
Change in output	5973	Decreased	0.56	$-0.56\% = (-5,973/1,058,113) * 100$
Change in methodology	3611	Increased	0.34	$0.34\% = (3,611/1,058,113) * 100$
Change in boundary	0	No change	0	
Change in physical operating conditions	0	No change	0	
Unidentified	24762	Increased	2.34	$2.34\% = (24,762/1,058,113) * 100$
Other	3626	Increased	0.34	$0.34\% = (3,626/1,058,113) * 100$

### 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 0% but less than or equal to 5%

#### C8.2

**(C8.2) Select which energy-related activities your organization has undertaken.**

	Indicate whether your organization undertakes this energy-related activity
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	Yes
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 MWh
Consumption of fuel (excluding feedstock)	HHV (higher heating value)	0	2980719	2980719
Consumption of purchased or acquired electricity	<Not Applicable>	106988	1984881	2091869
Consumption of purchased or acquired heat	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of purchased or acquired steam	<Not Applicable>	0	38840	38840
Consumption of purchased or acquired cooling	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Consumption of self-generated non-fuel renewable energy	<Not Applicable>	892	<Not Applicable>	892
Total energy consumption	<Not Applicable>	107880	5004440	5112320

**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	No
Consumption of fuel for the generation of steam	Yes
Consumption of fuel for the generation of cooling	No
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)**

Motor Gasoline

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

36628

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

36628

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

**Fuels (excluding feedstocks)**

Kerosene

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

12321

**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**

12321

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

**Fuels (excluding feedstocks)**

Other, please specify (A-heavy oil)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

18444

**MWh fuel consumed for self-generation of electricity**

1325

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

17119

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

---

**Fuels (excluding feedstocks)**

Other, please specify (C-heavy oil)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

7268

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

7268

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

---

**Fuels (excluding feedstocks)**

Liquefied Petroleum Gas (LPG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

1976

**MWh fuel consumed for self-generation of electricity**

0

**MWh fuel consumed for self-generation of heat**

1976

**MWh fuel consumed for self-generation of steam**

0

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

---

**Fuels (excluding feedstocks)**

Liquefied Natural Gas (LNG)

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

2534341

**MWh fuel consumed for self-generation of electricity**

8918

---

**MWh fuel consumed for self-generation of heat**

321206

**MWh fuel consumed for self-generation of steam**

858346

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

1345870

**Comment**

---

**Fuels (excluding feedstocks)**

Gas Oil

**Heating value**

HHV (higher heating value)

**Total fuel MWh consumed by the organization**

369741

**MWh fuel consumed for self-generation of electricity**

32047

**MWh fuel consumed for self-generation of heat**

0

**MWh fuel consumed for self-generation of steam**

326461

**MWh fuel consumed for self-generation of cooling**

<Not Applicable>

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

0

**Comment**

---

C8.2d

---

**(C8.2d) List the average emission factors of the fuels reported in C8.2c.**

**Gas Oil**

**Emission factor**

2.58496

**Unit**

kg CO2 per liter

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**Kerosene**

**Emission factor**

2.48948

**Unit**

kg CO2 per liter

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**Liquefied Natural Gas (LNG)**

**Emission factor**

2.23403

**Unit**

metric tons CO2 per m3

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**Liquefied Petroleum Gas (LPG)**

**Emission factor**

2.99889

**Unit**

metric tons CO2 per m3

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**Motor Gasoline**

**Emission factor**

2.32166

**Unit**

metric tons CO2 per m3

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**Other**

**Emission factor**

2.70963

**Unit**

kg CO2 per liter

**Emission factor source**

GHG reporting protocol in Japan (in Japan case)

**Comment**

**C8.2e**

---



(C8.2e) 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	298645	223667	892	892
Heat	0	0	0	0
Steam	0	38840	0	0
Cooling	0	0	0	0

C8.2f

---

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

**Basis for applying a low-carbon emission factor**

Contract with suppliers or utilities ( e.g. green tariff), supported by energy attribute certificates

**Low-carbon technology type**

Solar PV  
Wind  
Hydropower  
Biomass (including biogas)

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Europe

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

29952

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

Four subsidiaries, including Kao Chemicals GmbH in Germany and Molton Brown in the UK, have converted all their purchased power to renewable energy sources.

---

**Basis for applying a low-carbon emission factor**

Grid mix of renewable electricity

**Low-carbon technology type**

Hydropower

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Asia Pacific

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

14987

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

We started purchasing power through TEPCO's "Aqua Premium" service, which provides a 100% hydroelectric power supply, at the Odawara Plant from June 2018 and at the Kashima Plant and Tochigi Plant from October 2018.

---

**Basis for applying a low-carbon emission factor**

Other, please specify (Renewable Energy Certificates )

**Low-carbon technology type**

Biomass (including biogas)

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Asia Pacific

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

2313

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

Our Kawasaki Plant began purchasing Renewable Energy Certificates from October 2018. The actual 2018 results show that bird droppings, bagasse, and wood biomass were used to generate power.

---

**Basis for applying a low-carbon emission factor**

Other, please specify (non-fossil fuel certificate)

**Low-carbon technology type**

Solar PV

**Region of consumption of low-carbon electricity, heat, steam or cooling**

Asia Pacific

**MWh consumed associated with low-carbon electricity, heat, steam or cooling**

10514

**Emission factor (in units of metric tons CO2e per MWh)**

0

**Comment**

At our Ehime Plant, from October 2018 we started purchasing from Shikoku Electric Power's zero CO2 emissions catalog using a non-fossil fuel certificate.

---

**C9. Additional metrics**

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C9.1

---

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

**Description**  
Please select

**Metric value**

**Metric numerator**

**Metric denominator (intensity metric only)**

**% change from previous year**

**Direction of change**  
<Not Applicable>

**Please explain**

---

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	Third-party verification or assurance process in place

C10.1a

---

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

**Scope**

Scope 1

**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**

KAO\_Independent Assurance Report\_2019 and Letter.pdf

**Page/ section reference**

P.1-P.2

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

---

**Scope**

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**

KAO\_Independent Assurance Report\_2019 and Letter.pdf

**Page/ section reference**

P.1-P.2

**Relevant standard**

ISAE 3410

**Proportion of reported emissions verified (%)**

100

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## C10.1b

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(C10.1b) Provide further details of the verification/assurance undertaken for your Scope 3 emissions and attach the relevant statements.

**Scope**

Scope 3- at least one applicable category

**Verification or assurance cycle in place**

Annual process

**Status in the current reporting year**

Complete

**Attach the statement**

KAO\_Independent Assurance Report\_2019 and Letter.pdf

**Page/section reference**

P.1-P.2

**Relevant standard**

ISAE 3410

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## C10.2

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(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?

Yes

## C10.2a

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(C10.2a) Which data points within your CDP disclosure have been verified, and which verification standards were used?

Disclosure module verification relates to	Data verified	Verification standard	Please explain
C8. Energy	Other, please specify	ISAE 3000	Total energy consumed by Kao

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.

EU ETS

Tokyo CaT

C11.1b

(C11.1b) Complete the following table for each of the emissions trading systems in which you participate.

EU ETS

% of Scope 1 emissions covered by the ETS

4.02

Period start date

January 1 2018

Period end date

December 31 2018

Allowances allocated

7819

Allowances purchased

18371

Verified emissions in metric tons CO<sub>2</sub>e

26190

Details of ownership

Facilities we own and operate

Comment

Tokyo CaT

% of Scope 1 emissions covered by the ETS

1.53

Period start date

April 1 2018

Period end date

March 31 2019

Allowances allocated

11927

Allowances purchased

0

Verified emissions in metric tons CO<sub>2</sub>e

10002

Details of ownership

Facilities we own and operate

Comment

C11.1d

**(C11.1d) What is your strategy for complying with the systems in which you participate or anticipate participating?**

- A description of your strategy for complying with the systems in which you participate

Some of Kao bases are already subject to the emissions trading system (ETS). Our policy is to prioritize the reduction of our emissions, so we will purchase emission rights if the amount of emissions exceeded the allocation. We do not have a financial strategy that takes into account an increase in the purchase cost for emission rights because we expect to reduce emissions for certain through our production improvement efforts and the improvement in energy consumption rate. Thus, it is unlikely that we will exceed the allocation. However, we have been deploying a strategy to make a capital investment and implement additional measures for reducing emissions that are rolled out across the company, with priority to plants that consume a large amount of energy, including those subject to the ETS.

- An example of how you have applied your strategy

Through the Responsible Care Committee, which manages the activities of Kao bases, we share Kao Group's energy-saving technologies and promote activities to reduce our emissions. In particular, we are actively working to introduce energy-saving technologies that can be applied easily, such as the installation of LEDs and the recovery of steam.

**C11.2**

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**(C11.2) Has your organization originated or purchased any project-based carbon credits within the reporting period?**

No

**C11.3**

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**(C11.3) Does your organization use an internal price on carbon?**

Yes

**C11.3a**

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**(C11.3a) Provide details of how your organization uses an internal price on carbon.**

**Objective for implementing an internal carbon price**

Drive low-carbon investment

**GHG Scope**

Scope 1

Scope 2

**Application**

Kao considers the internal carbon price to be part of the cost of calculating the amortization period of the equipment.

**Actual price(s) used (Currency /metric ton)**

3500

**Variance of price(s) used**

The internal carbon prices implemented by Kao are implemented by the SCM Department, which accounts for most of Kao's Scopes 1 and 2 emissions. Although Kao uses fixed cost, we plan to differentiate them to achieve the 2°C target.

**Type of internal carbon price**

Implicit price

**Impact & implication**

Each of Kao's plants has introduced internal carbon pricing to promote energy-saving investment. Specifically, they calculate the sum of the cost of energy reduced by the introduction of energy-saving equipment and the carbon price of the amount of CO2 reduced as the cost advantage. The Responsible Care Promotion Committee made a resolution on and runs this initiative. We determine whether or not to make a capital investment based on the evaluation of various items. One such item is "number of years for simple recovery of investment." Kao has stipulated the estimation method and the base years for this item and requires that the number of years for simple recovery of investment calculated from the abovementioned cost advantage and the total investment be below the base years. The projects in which investment is now possible as a result of introducing internal carbon pricing in 2018 include the solar panels with 1,500-kW generation capacity installed at the Tochigi Plant, and the solar panels with 336-kW generation capacity installed at the Toyohashi Plant. The solar panels installed at these two plants generate a total power output of 1,900 MWh per year, reducing CO2 by approximately 1,100 tons.

**C12. Engagement**

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**C12.1**

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**(C12.1) Do you engage with your value chain on climate-related issues?**

Yes, our suppliers

Yes, our customers

Yes, other partners in the value chain

## C12.1a

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

#### 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

100

#### % total procurement spend (direct and indirect)

100

#### % Scope 3 emissions as reported in C6.5

#### Rationale for the coverage of your engagement

Kao aims to help realize a sustainable society and considers our suppliers to be business partners vital to Yoki-Monozukuri (a strong commitment by all members to provide products and brands of excellent value for consumer satisfaction). Thus, the Kao Guidelines for Supplier Assessment stipulate that we request all our suppliers to fulfill social and environmental responsibilities, and we monitor the plants of all suppliers through CSR self-assessment to check for any issues. We monitor all suppliers because it is difficult to identify the main suppliers based on transaction amounts or volumes because Kao's businesses are diverse and suppliers are distributed across different areas. Kao visits suppliers that we have determined pose a risk and we share issues and work to make improvements. 94% of plants (of suppliers to Kao Corporation) fulfilled our environmental criteria. Kao also participates in the CDP SC program and requests that important suppliers respond to surveys. We evaluate the received responses by using our unique evaluation method, feed back the results to suppliers, and request that they make improvements to respond to climate change. Under Kao's unique evaluation method, we set CO2 reduction targets, build a structure to manage the status of progress, promote reduction activities, and further evaluate the implementation of advanced activities, such as the introduction of renewable energy.

#### Impact of engagement, including measures of success

• Method to measure engagement outcomes Monitoring CSR self-assessment and conducting surveys through the CDP SC program to identify the percentage of important suppliers who have set reduction targets • Measures of success 95% or more supplier plants fulfill the criteria determined in CSR self-assessment monitoring. 80% or more of suppliers have set reduction targets as determined in surveys through the CDP SC program. • Impact of engagement As a result of engagement based on monitoring as part of the CSR self-assessment, the number of plants that have achieved the environmental criteria in 2017 increased by 73 compared to 2016 (Kao supplier plants). As for the activities of important suppliers through the CDP SC Program, the number of suppliers who have set reduction targets in 2017 increased by 4% (9 companies) from 2016.

#### Comment

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## C12.1b

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

#### Type of engagement

Education/information sharing

#### Details of engagement

Run an engagement campaign to education customers about your climate change performance and strategy

#### % of customers by number

91

#### % Scope 3 emissions as reported in C6.5

44.23

#### Please explain the rationale for selecting this group of customers and scope of engagement

We are aware that the amount of CO2 emissions when products are used (category 11 of scope 3) accounts for 40% of the entire product lifecycle. We are engaging in "eco together" activities with various stakeholders to reduce the environmental load when products are used, and such important stakeholders include customers. Since Japan accounts for approximately 70% of Kao sales, we deem it rational that we target purchasers and future purchasers of Kao products in Japan for such engagement. Specifically, we use environmentally-friendly products that reduce CO2 emissions or the amount of water consumed when they are used (such as clothing detergents and tableware detergents) to engage with customers. As engagement methods, we visit elementary and middle schools to give lectures, offer plant tours to students and general consumers, and participate in environmental events held by local governments and at stores. We further enhance engagement with customers by actively interacting with the users and customers of our products through our website and encourage them to take action for climate change through energy-saving, water-saving, and electricity-saving activities.

#### Impact of engagement, including measures of success

-the impact of climate-related engagement strategy with your customers Of the total CO2 emissions through Kao products' entire lifecycle (11,743 Kton-CO2), those when products are used (category 11 of scope 3) account for 39%. This means reducing greenhouse gas emissions by engaging with customers has a great impact on lowering CO2 output through the entire product lifecycle. Thus, Kao has added the activity of engaging with customers, "eco together with customers," to the strategy to reduce its environmental burden. -description of measures of success We use the number of people we engaged, sales of environmentally-friendly products, etc., to measure the effect of our engagement. We engaged with 320,000 people in 2018 and with 1.23 million people since 2014, exceeding the target of 1.2 million people by 2018. In 2018, the ratio of sales of products with a low environmental burden that have cleared Kao's unique strict certification criteria in Japan has reached 29%, which was the same rate as the previous year.

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## C12.1c

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**(C12.1c) Give details of your climate-related engagement strategy with other partners in the value chain.**

We have confirmed that 40% or more of CO2 emissions in the lifecycles of Kao products are attributable to the stage of product usage (Scope 3, Category 11). Aiming to reduce environmental impact, we have been engaging in the "Let's eco together" activity with various stakeholders. Our business partners, including those in the distribution field, are important stakeholders.

Since many customers who use our products still purchase them in distributors' stores, we consider distributors to be important partners for engaging in climate change-related activities.

Kao held environmental events at 60 stores and administrative facilities in Japan in 2018 under a theme strongly related to climate change: "Saving electricity, saving water, and reducing trash." Approximately 30,000 people attended these events.

**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?**

Direct engagement with policy makers  
Trade associations

**C12.3a**

**(C12.3a) On what issues have you been engaging directly with policy makers?**

Focus of legislation	Corporate position	Details of engagement	Proposed legislative solution
Other, please specify (Act on Promotion of Global Warming)	Support with minor exceptions	Kao actively cooperates with the Ministry of the Environment to promote policies related to the Act on Promotion of Global Warming Countermeasures in Japan. Specifically, the Ministry has been promoting a policy that encourages companies to calculate GHG emissions in the value chain. Kao supports this policy by releasing the calculation results for Scope 3 on the "Green Value Chain Platform" website run by the Ministry of the Environment.	Kao supports the policy that encourages companies to calculate GHG emissions in the value chain. However, we disagree with making the calculation and reporting compulsory. The main reason is because while the Ministry of the Environment provides the intensity to be used for such calculation, none is available for imported materials, for example; since Kao conducts business on a global basis, calculating emissions according to specific rules that apply only in Japan would be a significant burden.

**C12.3b**

**(C12.3b) Are you on the board of any trade associations or do you provide funding beyond membership?**

Yes

**C12.3c**

**(C12.3c) Enter the details of those trade associations that are likely to take a position on climate change legislation.**

**Trade association**

Japan Chemical Industry Association

**Is your position on climate change consistent with theirs?**

Consistent

**Please explain the trade association's position**

Chemical industry provides highly-functional materials with society contributing to the reduction of the risks in society from climate change. ICCA, International Council of Chemical Associations, quantified the contributions and has addressed actions leading to contributions to society. As a part of that ICCA and WBCSD, World Business Council for Sustainable Development, drew up the guidelines for the contributions calculations.

**How have you influenced, or are you attempting to influence their position?**

Kao supports activities for measures pursuing total optimization based on "c-LCA (carbon-Life Cycle Analysis)" that the Japan Chemical Industry Association has developed and proposes both at home and abroad. In addition, Kao joined an LCA working group of the Japan Chemical Industry Association to participate in developing c-LCA analysis, providing examples of possible contributions to emission reduction based on the methodology. Kao is a member of Japan Chemical Industry Association, which is a board member of ICCA.

**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?**

Some members of secretariat at Kao Responsible Care promotion Committee and Sustainability Committee attend several kinds of committees of Japan Chemical Industry Association as their members and update information on domestic and global strategies trend of government and industries. The secretariats check the consistency between Kao's strategies for climate change and JCIA's ones depending on its relevance.



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**

Kao yu-ho-fy2018-all-01.pdf

**Page/Section reference**

P14 1 Management policy, management environment and issues to be addressed (4) Issues the company should cope with P16 2 Risks of businesses (7) Handling of natural disasters and accidents along with major earthquakes and climate change

**Content elements**

Strategy

Risks & opportunities

**Comment**

**Publication**

In voluntary communications

**Status**

Complete

**Attach the document**

sustainability2019-e-all.pdf

**Page/Section reference**

Governance P38 Strategy P36 Risk&Opportunity P38 Emissions figures&target P39-41

**Content elements**

Governance

Strategy

Risks & opportunities

**Comment**

C14. 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.

C14.1

(C14.1) Provide details for the person that has signed off (approved) your CDP climate change response.

	Job title	Corresponding job category
Row 1	Representative Director, President and Chief Executive Officer	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	207700000000

**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	3205800000

**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**

FIRMENICH SA

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

73

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

**Requesting member**

L'Oréal

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

477

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

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**Requesting member**

Symrise AG

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

124

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

---

**Requesting member**

Colgate Palmolive Company

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

8207

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

---

**Requesting member**

Givaudan SA

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

336

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

Please explain how you have identified the GHG source, including major limitations to this process and assumptions made

---

**Requesting member**

---

Croda International

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

1944

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

---

**Requesting member**

Target Corporation

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

Allocated based on CO2 emissions across the entire product lifecycle. (Kao Group, Scope3)

**Emissions in metric tonnes of CO2e**

51644

**Uncertainty (±%)**

30

**Major sources of emissions**

Mainly procurement of raw materials and product use step by consumer.

**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**

---

**Requesting member**

Tesco

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

Allocated based on CO2 emissions across the entire product lifecycle. (Kao Group, Scope3)

**Emissions in metric tonnes of CO2e**

58855

**Uncertainty (±%)**

30

**Major sources of emissions**

Mainly procurement of raw materials and product use step by consumer.

**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**

---

**Requesting member**

Walmart, Inc.

**Scope of emissions**

Scope 3

**Allocation level**

Company wide

**Allocation level detail**

Allocated based on CO2 emissions across the entire product lifecycle. (Kao Group, Scope3)

**Emissions in metric tonnes of CO2e**

285827

**Uncertainty (±%)**

30

**Major sources of emissions**

Mainly procurement of raw materials and product use step by consumer.

**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**

---

**Requesting member**

International Flavors & Fragrances Inc.

**Scope of emissions**

Scope 2

**Allocation level**

Facility

**Allocation level detail**

Allocated based on CO2 emission of each factory. (Scope1+2)

**Emissions in metric tonnes of CO2e**

420

**Uncertainty (±%)**

20

**Major sources of emissions**

Mainly boiler and process consumption.

**Verified**

No

**Allocation method**

Allocation based on mass of products purchased

**Please explain how you have identified the GHG source, including major limitations to this process and assumptions made**

---

SC1.2

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

Kao sustainability data book in 2019

SC1.3

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**(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
Customer base is too large and diverse to accurately track emissions to the customer level	Traceability of supplied products to end customer.

SC1.4

---

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

Yes

SC1.4a

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**(SC1.4a) Describe how you plan to develop your capabilities.**

In case of chemical products, we will allocate the CO2 emission each factory by sales quantities, and then sum them up about each customer. In case of consumer products, we will allocate the CO2 emission of total product lifecycle by sales amounts.

**SC2.1**

---

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

**Requesting member**

Please select

**Group type of project**

Please select

**Type of project**

Please select

**Emissions targeted**

Please select

**Estimated timeframe for carbon reductions to be realized**

Please select

**Estimated lifetime CO2e savings**

**Estimated payback**

Please select

**Details of proposal**

---

**SC2.2**

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**(SC2.2) Have requests or initiatives by CDP Supply Chain members prompted your organization to take organizational-level emissions reduction initiatives?**

No

**SC3.1**

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**(SC3.1) Do you want to enroll in the 2019-2020 CDP Action Exchange initiative?**

No

**SC3.2**

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**(SC3.2) Is your company a participating supplier in CDP's 2018-2019 Action Exchange initiative?**

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**

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**In which language are you submitting your response?**

English

**Please confirm how your response should be handled by CDP**

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

**Please confirm below**

I have read and accept the applicable Terms