# KAO Corporation - Climate Change 2023

## 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 four divisions. The Hygiene and Living Care Business offers fabric care products including detergents for apparel use, and home care products including detergents for kitchen use and hygiene products and paper diapers. The Health and Beauty Care Business offers premium skincare products such as face washes, as well as premium hair care products including shampoos, hair styling products and hair coloring products, among others. The Life Care Business provides food and beverage products such as drinks and professional use products. The Cosmetic Business provides cosmetics such as lotion, foundation and lipstick. The Chemical Business provides oil and fat products such as fatty acids; functional materials products such as surfacants and additives for plastic use, as well as specialty chemical products such as essences, among others.

The Hygiene and Living Care Business accounted for 33.3% of total turnover in fiscal 2022; The Health and Beauty Care Business, 23.8%; The Life Care Business, 3.6%; The Cosmetic Business, 15.8%; and The Chemical Business,23.1%. The Company reported JPY 1,551.1 b in revenues and 35,411 permanent employees at December 31, 2022.

### C0.2

**(C0.2) State the start and end date of the year for which you are reporting data and indicate whether you will be providing emissions data for past reporting years.**

**Reporting year**

**Start date**
January 1 2022

**End date**
December 31 2022

**Indicate if you are providing emissions data for past reporting years**
Yes

**Select the number of past reporting years you will be providing Scope 1 emissions data for**
3 years

**Select the number of past reporting years you will be providing Scope 2 emissions data for**
3 years

**Select the number of past reporting years you will be providing Scope 3 emissions data for**

3 years

## C0.3

**(C0.3) Select the countries/areas in which you operate.**

Australia Austria Belgium Canada China Czechia Denmark Finland France Germany
Hong Kong SAR, China Indonesia
Italy Japan Malaysia Mexico
Netherlands New Zealand Norway Philippines
Republic of Korea Russian Federation Singapore
South Africa Spain Sweden Switzerland Taiwan, 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 chosen approach for consolidating your GHG inventory.**

Operational control

## C0.8

**(C0.8) Does your organization have an ISIN code or another unique identifier (e.g., Ticker, CUSIP, etc.)?**

| Indicate whether you are able to provide a unique identifier for your organization | Provide your unique identifier |
|---|---|
| Yes, an ISIN code | JP320580000 |

# 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 or committee | Responsibilities for climate-related issues |
|---|---|
| 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 ESG Managing Committee, which is one of the internal organizations responsible for Kao's response to climate change, under the board. This committee is approved by the Board, under the Kao corporate governance system. The ESG Managing Committee manages progress in activities related to locating new opportunities, while the Responsible Care Promotion Committee manages risk-management activities. The ESG Managing Committee is convened more than six times in 2022. The contents were supervised by the Board and deliberated more than six times in 2022. Recommendations for ESG strategies linked to the K25 medium-term management plan were discussed and approved by the ESG Managing Committee in 2022. One of the objectives of K25 was to become a company that is indispensable to sustainable society (carbon recycling: converting carbon dioxide into raw materials). The goal of Kao ESG management was to achieve zero carbon emissions. |

## C1.1b

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

| Frequency with which climate-related issues are a scheduled agenda item | Governance mechanisms into which climate- related issues are integrated | Scope of board- level oversight | Please explain |
|---|---|---|---|
| Scheduled – some meetings | Reviewing and guiding annual budgets Overseeing major capital expenditures Overseeing acquisitions, mergers, and divestitures Reviewing innovation/R&D priorities Overseeing and guiding employee incentives Reviewing and guiding strategy Overseeing and guiding the development of a transition plan Monitoring the implementation of a transition plan Overseeing and guiding scenario analysis Overseeing the setting of corporate targets Monitoring progress towards corporate targets Reviewing and guiding the risk management process | <Not Applicabl e> | Climate change will affect Kao's business, so it needs to be watched as a business management issue and is under the supervision of the CEO. The CEO serves as chairman of the ESG Management Committee, one of the internal organizations responsible for Kao's climate change response, under the Board of Directors. A committee approved by the Board of Directors based on Kao's corporate governance system. The ESG Management Committee will manage the progress of activities related to discovering new opportunities, and the Responsible Care Promotion Committee will be in charge of risk management activities. The ESG management meeting will be held at least six times in 2022. The content was overseen by the Board of Directors, and was deliberated more than six times in FY2022. In 2022, the ESG Steering Committee, which will be held, deliberated and approved the establishment and action policy of the "ESG Steering Committee" to strengthen ESG governance. It also approved the 2021 performance against corporate targets and approved the maintenance of climate-related targets. One of the goals of K25 was to become a company that is essential to a sustainable society (carbon recycling: converting carbon dioxide into raw materials). The goal of Kao ESG management was to achieve zero carbon emissions. |

## C1.1d

### (C1.1d) Does your organization have at least one board member with competence on climate-related issues?

| | Board member(s) have competence on climate-related issues | Criteria used to assess competence of board member(s) on climate-related issues | Primary reason for no board-level competence on climate-related issues | Explain why your organization does not have at least one board member with competence on climate-related issues and any plans to address board-level competence in the future |
|---|---|---|---|---|
| Row 1 | Yes | Worked in R&D that is responsible for the development of decarbonization-related products for one year or more, or in divisions related to climate change risk management such as the ESG Division and the Supply Chain Management Division, or served as a member of the Risk & Crisis Management Committee. | <Not Applicable> | <Not Applicable> |

## C1.2

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

**Position or committee**
Chief Executive Officer (CEO)

**Climate-related responsibilities of this position**
Managing annual budgets for climate mitigation activities
Managing major capital and/or operational expenditures related to low-carbon products or services (including R&D) Managing climate-related acquisitions, mergers, and divestitures
Providing climate-related employee incentives Developing a climate transition plan Implementing a climate transition plan
Integrating climate-related issues into the strategy Conducting climate-related scenario analysis Setting climate-related corporate targets
Monitoring progress against climate-related corporate targets Assessing climate-related risks and opportunities
Managing climate-related risks and opportunities

**Coverage of responsibilities**
<Not Applicable>

**Reporting line**
Reports to the board directly

**Frequency of reporting to the board on climate-related issues via this reporting line**
More frequently than quarterly

**Please explain**

i)Where in the organizational structure that/those position and/or committee 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 ESG 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 and/or committee

The ESG Committee and the Internal Control Committee, chaired by the CEO, deal with our climate-related issues. 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, CEO, as the chairman of ESG committee, has formed 19 prioritized actions to realize “Kirei Lifestyle Plan” (“Decarbonization” is among them) and checks and assess the implementation status. The monitoring results are reported to CEO in “Internal governance committee” and "ESG committee". CEO, the chairman of internal governance committee and ESG committee, approves the result of the discussion of the committees 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

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

| | Provide incentives for the management of climate- related issues | Comment |
|---|---|---|
| Row 1 | Yes | Kao's directors and executive officers can receive long-term incentive compensation according to ESG strength metrics, including performance of climate change activities. ESG strength evaluation index is determined by the evaluation by external indicators such as DJSI and CDP and the degree of achievement of internal targets. Long-term incentive rewards are paid 0-40% of the basic reward depending on the outcome. Kao sets 2030 targets as well as annual targets to manage progress. This targets |

| | | |
|---|---|---|
| | | include climate change issue as 1) reduction in absolute full lifecycle CO2 emissions (Base year 2017) and 2) reduction in absolute scope 1 + 2 CO2 emissions (Base year 2017) and 3) 100% renewable energy usage in electricity consumption.<br>1) CO2 emissions are reduced by launching products with good rinsability such as laundry / dishwashing detergent and body wash. 2) and 3) working on the procurement of renewable energy and the introduction of solar power generation equipment. |

## C1.3a

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

**Entitled to incentive**
Chief Executive Officer (CEO)

**Type of incentive**
Monetary reward

**Incentive(s)**
Bonus - % of salary

**Performance indicator(s)**
Achievement of climate transition plan KPI  Progress towards a climate-related target  Achievement of a climate-related target  Implementation of an emissions reduction initiative  Reduction in absolute emissions
Increased share of renewable energy in total energy consumption
Company performance against a climate-related sustainability index (e.g., DJSI, CDP Climate Change score etc.)

**Incentive plan(s) this incentive is linked to**
Both Short-Term and Long-Term Incentive Plan

**Further details of incentive(s)**
Kao's CEO can receive long-term incentive compensation according to ESG strength metrics, including performance of climate change activities. ESG strength evaluation  index is determined by the evaluation by external indicators such as DJSI and CDP and the degree of achievement of internal targets. Company performance against a  climate-related sustainability index is evaluation by external indicators such as DJSI and CDP. Intarenal targets include emissions reduction project and energy reduciton  target.
Long-term incentive rewards are paid 0-40% of the basic reward depending on the outcome.
Kao sets 2030 targets as well as annual targets to manage progress. This targets include climate change issue as 1) reduction in absolute full lifecycle CO2 emissions  (Base year 2017) and 2) reduction in absolute scope 1 + 2 CO2 emissions (Base year 2017) and 3) 100% renewable energy usage in electricity consumption.
1) CO2 emissions are reduced by launching products with good rinsability such as laundry / dishwashing detergent and body wash. 2) and 3) working on the procurement  of renewable energy and the introduction of solar power generation equipment.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**
Kao aims to reduce the lifecycle CO2 emissions (absolute amount) reduction rate (base year: 2017) by 22% by 2030, and achieve the Scope 1+2 CO2 emissions (absolute amount) reduction rate (base year: 2017) by 22%. 2017)" by 55%, and the "ratio of renewable power in power consumption" to 100%, and we are managing the progress of each. These targets are set as KPIs in Kao's ESG strategy Kirei Lifestyle plan. The progress of KPIs is set as an important indicator of the progress of ESG strategies.

**Entitled to incentive**
All employees

**Type of incentive**
Monetary reward

**Incentive(s)**
Bonus – set figure

**Performance indicator(s)**
Other (please specify) (Goals set individually by each employee)

**Incentive plan(s) this incentive is linked to**
Short-Term Incentive Plan

**Further details of incentive(s)**
Kao uses a personnel system in which employees set their own goals and evaluate the process of achieving them. 30% of targets are ESG-related. For example, it is expected to come up with methods to significantly reduce carbon dioxide emissions and efforts to efficiently recycle containers. Partially reflected in wages, including bonuses, through personnel evaluations.

**Explain how this incentive contributes to the implementation of your organization's climate commitments and/or climate transition plan**
By having employees set their own goals, we can change the mindset of employees and improve the results of climate change countermeasures.

## C2. Risks and opportunities

### C2.1

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

### C2.1a

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

| | From (years) | To (years) | Comment |
|---|---|---|---|
| Short-term | 0 | 3 | |
| Medium-term | 3 | 10 | |
| Long-term | 10 | 30 | |

## C2.1b

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

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

## C2.2

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

**Value chain stage(s) covered**

Direct operations

Upstream  Downstream

**Risk management process**

Integrated into multi-disciplinary company-wide risk management process

**Frequency of assessment**

More than once a year

**Time horizon(s) covered**

Short-term  Medium-term  Long-term

**Description of process**

Kao manages the "company level risks" including climate change with Internal Control Committee chaired by the CEO and 2 committees under it: "Risk & Crisis  Management Committee (held at least 4 times a year)" and "Responsible Care Promotion Committee (held at least twice a year)."
Short term is 0 to 3 years, medium term is 3 to 10 years, and long term is 10 years or more.
Based on short-, medium-and long-term perspectives, these committees assess and identify various reputational risks, including risks related to climate change, as well as  any risks related to corporate activities, such as employee labor risks and environmental risks on the vicinity of the factory, not only for the company but also for upstream  and downstream value chains, as risks that could have a strategic or financial material impact if the amount of damage to earnings is expected to exceed JPY1 billion.

Risk & Crisis Management Committee appoints a person in charge (executive officer) for each identified risk. The person in charge shall formulate and implement  countermeasures and report the status of the countermeasures to the committee. The committee will monitor the progress of each theme and supervise the entire process  by, for example, instructing delays if delays are discovered.

Kao also establishes KPIs to assess and identify and maximize opportunities for climate-change "opportunities" in the same manner as the risk-assessment processes  described above in the "ESG Managing Committee" chaired by the CEO (held six or more times a year). The committee centrally manages 19 themes, including climate  change and resource circulation, that lead to increased corporate value from an ESG perspective. ESG Managing Committee shall appoint a responsible person (executive officer) for each identified occasion. The person in charge shall formulate and implement the implementation of the KPI and the overall promotion plan, and the committee  shall report on the progress. The committee checks the progress of each theme and manages the whole, for example, determining the necessity of starting new activities.

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

| | Relevance & inclusion | Please explain |
|---|---|---|
| Current regulation | Relevant, always included | An example of risks regarding current regulation is the cap-and-trade system of the Metropolis of Tokyo. The Sumida Office in Japan, which bears plant, is subject to the cap-and-trade system of the Metropolis of Tokyo. Thus, the office must keep its emissions amount below the cap. The office 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 1.094 billion yen and spent 3.759 billion yen in 2022. |
| Market | Relevant, always included | As an example of the risks associated with the market, there is a change in the market due to the rise in temperature.<br>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. For example, a bath tablet "Bub" sales well in winter, and antiperspirant "8x4" and anti-UV products sales well in summer. Thus, Kao has been conducting sophisticated inventory management while evaluating the risks associated with store stock-outs. |
| 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 | An example of the risks associated with chronic phisical is that it affects the operation of factories located along the coast due to rising sea levels. Kao's factory in the Philippines is adjacent to the coast. Therefore, although measures against storm surges have been implemented, by sea level rises, it is expected that the level of the storm surge rises more than now. Therefore, Kao regularly evaluates the risk of storm surges at the plant. |

## C2.3

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

Yes

## C2.3a

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

**Identifier**

Risk 1

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

Direct operations

**Risk type & Primary climate-related risk driver**

| | |
|---|---|
| Emerging regulation | Carbon pricing mechanisms |

**Primary potential financial impact**

Increased direct costs

**Climate risk type mapped to traditional financial services industry risk classification**

<Not Applicable>

**Company-specific description**

Kao confirmed the risk of introducing a carbon tax in Japan, as Japan accounts for 60% of its sales. In addition, products related to all of Kao's businesses (hygiene & living care business, health & beauty care business, life care business, cosmetics business, and chemical business) are produced using fossil energy. Some of them also have cogeneration facilities that use fossil energy to efficiently obtain power generation energy. It is currently difficult both economically and time-wise to change all of these to electric facilities and to renewable energy. We recognize the risk of a carbon tax being imposed on Kao's CO2 emissions (Scope 1+2). Therefore, we assessed the risk of a carbon tax being imposed on Kao Japan's Scope 1+2. From IEA World Energy Outlook 2018, Kao projected a carbon-tax of 9,297 JPY/ ton-CO2 in 2030.

Meanwhile, Kao's CO2 emissions (Scope1+2) in 2030 would be 1,774,000 tons, a 1.67-fold increase from 2017. If Japan is subject to an additional carbon tax, we recognize that an additional cost of 9,895,726,800 JPY will be required and that direct costs will be increased. This is a strategically significant risk for Kao to have a material strategic or financial impact.
So Kao has introduced Internal Carbon Pricing system to reduce carbon tax.

**Time horizon**
Long-term

**Likelihood**
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)**
9895726800

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

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

**Explanation of financial impact figure**
All of Kao's products related to Hygiene & Living Care Business, Health & Beauty Care Business, Life Care Business, Cosmetics Business, and Chemical Business are produced using fossil energy. Some of them also have cogeneration facilities that use fossil energy to efficiently obtain power generation energy. It is currently difficult both economically and time-wise to change all of these to electric facilities and to renewable energy. Therefore, we recognize the risk of a carbon tax being imposed on Kao's CO2 emissions (Scope 1+2).
Kao's CO2 emissions (Scope1+2) in 2030 would be 1,774,000 tons, a 1.67-fold increase from 2017 for BAU. Meanwhile, from IEA World Energy Outlook 2018, Kao expects a carbon-tax of 9,297 JPY/ ton-CO2 in 2030. Scope 1+2 emission in Japan is approximately 60% on Kao Group. From this, Kao's carbon tax in 2030 is assumed to be 9,895,726,800 JPY in Japan . This increases manufacturing costs as a direct expense and creates a financial impact. This is strategically significant of Kao's material strategic or financial impact.
1,774,000 tons-CO2 × 9, 297JPY/ tons-CO2 ×60% = 9,895,726,800 JPY
<Case study>
To reduce the impact of carbon tax, we should reduce scope 1+2 emission. So, Kao has decide to raise 2030 target of scope1+2 from 22% reduction to 55% vs 2017. To achieved it, Kao has raised the ICP unit price from 3500 JPY to 21000 JPY /t-CO2, Kao has operated Internal Carbon Pricing system since 2006. As these activities, scope1+2 emission in 2022 was 26% reduction vs 2017 (15% reduction in 2019). Kao continue to conduct these acitons until at least 2030.

**Cost of response to risk**
1679000000

**Description of response and explanation of cost calculation**
In order to promote efforts to realize a decarbonizing society, it is recognized that the introduction of carbon pricing, including carbon tax, is required internationally, and discussions on the introduction of carbon tax, etc. are in progress in many countries. When carbon pricing is introduced in the future, if no

GHG-reduction activities are implemented, a large amount of additional costs, such as carbon tax, will be required, and Direct Cost will be increased. To this end, Kao has established a system to promote energy-saving activities at each of its sites, and is continuing to monitor energy consumption, as well as implementing thorough energy-saving activities, such as reducing energy loss such as waste heat, upgrading to highly efficient equipment, and streamlining manufacturing processes. Kao is also promoting the installation of solar panels as a means of utilizing energy with low CO2 emissions.
In 2022, Kao has implemented the following two initiatives to reduce energy consumption in directly managed businesses. Efforts include reducing cogeneration efficiency, upgrading to high-efficiency equipment, stopping/decelerating pumps and compressors, installing solar power generation, reducing steam volume/steam loss, improving air leaks, reducing the number of units in operation, and LED lighting. Through these activities, we will reduce CO2 emissions by approximately 1,000 tons in FY2022. In order to significantly reduce CO2 emissions, the energy conservation promotion departments at each factory are considering purchasing power from renewable sources and investing in natural energy sources such as self-consumption solar power generation. Kao has invested 1,679 million yen in capital investment to reduce Scope 1+2 emissions in FY2022. 460,000,000 yen (Japan) + 1,219,000,000 yen (Asia/Europe/Americas) = 1,679,000,000 yen
Going forward, we will continue to promote the conversion of production bases to renewable energy in order to achieve our 2030 target of 100% renewable energy in our electricity consumption. In addition, in order to achieve the 2030 target "Scope 1 + 2 CO2 emissions (absolute amount) reduction rate (base year: 2017)", we will implement measures to reduce Scope 1, such as using biomass fuel.

### Comment

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### Identifier
Risk 2

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

### Risk type & Primary climate-related risk driver

| | |
|---|---|
| Acute physical | Cyclone, hurricane, typhoon |

### Primary potential financial impact
Increased capital expenditures

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

### Company-specific description
Kao Group's Pilipinas Kao is located in Mindanao Philippines. We manufacture fatty alcohols and fragrances as raw materials. If we cannot operate, it will affect the "hygiene & living care business", "health & beauty care business", "cosmetics business", and "chemical business", which account for 96% of all business sales. Kao Group's Pilipinas Kao, Inc. has facilities with a book value of JPY 14,892,000,000. If Pilipinas Kao, Inc.'s production facilities are damaged, production volume is reduced, and some production items cannot be manufactured, Kao will be unable to supply chemical products in response to customers' demands, and there is a risk of delays in the production of detergents using these products as raw materials and a decline in production volume.
On the other hand, typhoons approaching or landing in the Philippines due to climate change are becoming stronger and the damage is on the rise.
The damage rate of the capital stock of enterprises due to inundation is said to be 8.7% in underfloor

flooding. The above risks have a financial impact, such as an increase in capital investment expenses. At least 1,295,604,000 JPY of capital expenditure is required to return the plant to normal when it is damaged at this rate. This is strategically significant of Kao's material strategic or financial impact.
14,892,000,000 JPY x 8.7% = 1,295,604,000 JPY

**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)**
1295604000

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

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

**Explanation of financial impact figure**
Kao Group's Pilipinas Kao, Inc. is located in the Philippines. It manufactures fatty alcohols and fragrances, etc., and has facilities with a book value of JPY 14,892,000,000. If Pilipinas Kao, Inc.'s production facilities are damaged, production volume is reduced, and some production items cannot be manufactured, Kao will be unable to supply chemical products in response to customers' demands, and there is a risk of delays in the production of detergents using these products as raw materials and a decline in production volume.
On the other hand, typhoons approaching or landing in the Philippines due to climate change are becoming stronger and the damage is on the rise.
The damage rate of the capital stock of enterprises due to inundation is said to be 8.7% in underfloor flooding. The above risks have a financial impact, such as an increase in capital investment expenses. At least 1,295,604,000 JPY of capital expenditure is required to return the plant to normal when it is damaged at this rate. This is strategically significant of Kao's material strategic or financial impact.
14,892,000,000 JPY x 8.7% = 1,295,604,000 JPY

**Cost of response to risk**
5000000

**Description of response and explanation of cost calculation**
If inundation occurs at the plant and the production facility is damaged, capital expenditures will be required to restore the facility. Pilipinas Kao, Inc. is located along the coast, it is important to take measures to reduce the risk of flooding due to typhoons and storm surges. Accordingly, Pilipinas Kao, Inc. decided to create mangrove forests on the coast and enhance the natural disaster prevention function. Since 2010, Pilipinas Kao, Inc. has built mangrove forests on the coast and continued to do so in 2022. 5 million yen as expenses for purchasing, planting and maintaining mangroves.
0.2 million JPY (purchase of mangrove seedlings) + 4.8 million JPY (personnel expenses for tree planting, maintenance, and management) = 5 million JPY
As a result, Pilipinas Kao in 2022 was able to produce 140,000 tons, almost the same level as in the previous year, without suffering flood damage such as high waves during typhoons. Until at least 2025,

we will maintain and manage mangrove forests and strive to reduce the risk of flooding in Pilipinas Kao.

### Comment

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### Identifier
Risk 3

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

### Risk type & Primary climate-related risk driver

| | |
|---|---|
| Market | Changing customer behavior |

### Primary potential financial impact
Decreased revenues due to reduced demand for products and services

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

### Company-specific description
Kao's Higene & living Care business, which accounted for 33.3% of Kao's sales in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (laundry detergents, finishing agents, and bleaches). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days. In Japan, the use of laundry products depends on the weather conditions, and future weather changes due to climate change may have a major impact on the market for laundry products. The fabric and home care market, which includes laundry products in Japan, grew 3.3% in 2021 compared to the previous year and is expected to continue growing.
Kao's introduction of new products creates the risk that if it does not grow, it will lead to a decline in sales, rather than an increase in sales.
Kao's domestic Higene & living Care business in 2022 generated 370,300,000,000 JPY in remuneration, of which 3.3% was approximately 12,219,900,000 JPY. Losing this opportunity is the risk of Kao having a significant strategic or financial impact (strategically significant).

### Time horizon
Long-term

### Likelihood
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)
12219900000

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

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

### Explanation of financial impact figure

Kao's Highgene & Living Care business, which accounted for 33.3% of Kao's remuneration in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (laundry detergents, finishing agents, and bleaches). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days. In Japan, the use of laundry products depends on the weather conditions, and future weather changes due to climate change may have a major impact on the market for laundry products. The fabric and home care market, which includes laundry products in Japan, grew 3.3% in 2022 compared to the previous year and is expected to continue growing.

It is believed that products of many of the growth, that appeal for the smell. Kao's financial impact is that the introduction of new products will lead to a decline in sales, rather than an increase in sales, if it is not able to address its growth. Kao's domestic highgene & living care sales in 2021 amounted to 370,300,000,000 JPY, of which 3.3% were 12,219,900,000 JPY. Losing this opportunity is the risk of Kao having a strategically significant impact on its finance.
370,300,000,000 JPY×3.3%=12,219,900,000 JPY

### Cost of response to risk

33900000000

### Description of response and explanation of cost calculation

Kao's Highgene & Living Care business, which accounted for 33.3% of Kao's remuneration in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (clothing detergents, finishing agents, and bleach). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days.
Tactics :
In Japan, the use of laundry products depends on the weather conditions, and future weather changes due to climate change may have a major impact on the market for laundry products. On the other hand, the fabric and home care market, which includes laundry products in Japan, grew by 3.3% year-on-year in 2022 and is expected to continue growing. Kao's financial impact is that the introduction of new products will lead to a decline in sales, rather than an increase in sales, if it is not able to address its growth.
Actions performed:
Kao conducted a climate change scenario analysis in 2021 to investigate future changes in weather and the risks that changes in weather may have on the market for laundry products.
Results obtained:
Climate change scenario analysis showed that when the average temperature rises by 2°C, Japan's weather will not change in the number of sunny days in the summer, increasing the frequency of heavy rains and storm surges caused by strong cyclones and typhoons, i.e. higher humidity days. Drying clothes indoors on humid days produces odors that do not occur when dried outdoors, which may increase demand for smell-appealing laundry products and expand the market for laundry products. Failure to do so may result in increased sales and lower sales. Kao decided to strengthen R&D to increase the number of products that appeal for the smells, such as a product "Wide Hyter CLEAR HERO Deodorizing Gel" launched in 2020, and to increase production capacity.
In 2022, 33.9 billion yen will be invested in research and development of the Hygiene & Life Care Business, which accounts for 33.3% of sales, as well as the enhancement of manufacturing facilities. 10.2 billion yen (R&D expenses) + 23.7 billion yen (manufacturing facility expansion costs) = 33.9 billion yen
As a result, sales of the Fabric & Home Care business in 2022 will be 342.1 billion yen, an increase of 3.2% from 331.5 billion yen in the previous year.

### Comment

## C2.4

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

Yes

## C2.4a

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

**Identifier**

Opp1

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

Direct operations

**Opportunity type**

Resource efficiency

**Primary climate-related opportunity driver**

Use of more efficient production and distribution processes

**Primary potential financial impact**

Reduced direct costs

**Company-specific description**

Kao has set a goal of reducing energy consumption by 1% each year. Electricity consumption in Japan and Asia is 86%. So it is efficient to save electricity comsumption in Japan and Asia.
Kao is a manufacturer and has more than 40 manufacturing bases in Japan, Asia, Europe and the Americas. These bases consume approximately 5,000 GWh of energy per year. The cost is over 10 billion yen. Kao consumes most energy at manufacturing bases, energy consumption at office and logistic site is much less than manufacturing bases. On the other hand, Kao is targeting net sales of JPY 2.5 trillion in 2030 and operating income of 17% (currently around 14%). Efforts to reduce energy use and reduce costs leads to lower manufacturing costs and provide an important opportunity to increase operating income. In addition, Kao's climate change scenario analysis conducted in 2019 showed that fossil fuel prices would increase under the 2°C scenario. Therefore, for Kao, which uses a large amount of fossil fuels, reducing energy consumption for manufacturing will lead to a reduction in manufacturing costs, which is a major opportunity to achieve the operating profit target for 2030. Kao has established a system to promote energy-saving activities at each of its sites, and is continuing to monitor energy consumption, as well as implementing thorough energy-saving activities such as reducing energy loss such as waste heat, upgrading to highly efficient equipment, and streamlining manufacturing processes.
In 2021, Kao implemented the following initiatives to reduce the use of energy in direct operations. The initiatives are reduction of cogeneration efficiency, upgrade to high efficiency machine, stop / reduction of pumps / compressors, installation of solar power generation, reduction of steam amount / steam loss, improvement of air leakage, reduction of operating number, and LED lighting.
As a result of these activities in 2022 the amount of energy used by 16GWh was reduced, and the amount of direct cost reduced was JPY 39 million. Kao plans to continue these energy-saving activities, and therefore, we expect to reduce this direct cost every year in the future.

**Time horizon**

Short-term

**Likelihood**
Virtually certain

**Magnitude of impact**
Medium-low

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

**Potential financial impact figure (currency)**
39000000

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

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

**Explanation of financial impact figure**
Kao is a manufacturer and has more than 40 manufacturing bases in Japan, Asia, Europe and the Americas. These bases consume approximately 5,000 GWh of energy every year to manufacture products. The cost is over 10 billion yen. Kao consumes almost the same amount of fossil fuel for heat utilization and electricity for facility operation. At the same time, Kao is targeting net sales of JPY 2.5 trillion in 2030 and operating income of 17% (currently around 14%). Efforts to reduce energy use is 'reduced direct costs' and this activity leads to lower manufacturing costs and provide an important opportunity to increase operating income. In addition, Kao's climate change scenario analysis conducted in 2019 showed that fossil fuel prices would increase under the 2°C scenario. Therefore, for Kao, which uses a large amount of fossil fuels, reducing energy consumption for manufacturing will lead to a reduction in manufacturing costs, which is a major opportunity to achieve the operating profit target for 2030.
In 2021, Kao implemented the following initiatives to reduce the use of energy in direct operations. The initiatives are reduction of cogeneration efficiency, upgrade to high efficiency machine, stop / reduction of pumps / compressors, installation of solar power generation, reduction of steam amount / steam loss, improvement of air leakage, reduction of operating number, and LED lighting. As a result of these activities in 2022, the amount of energy used by 16GWh was reduced, and the amount of direct cost reduced was JPY 396 million. Our each manufacturing base calculates the energy savings and energy cost savings for each individual energy conservation project and add up these results of each projects. After that HQ summarizes results of them, the amount of direct cost reduction was JPY 396 million. Kao defines these reductions for each project as the amount of reduction compared to what would have occurred had the project not been implemented.
124 million JPY (Japan) +272 million JPY (Asia, Europe, and the Americas) = 396 million JPY
Kao plans to continue these energy-saving activities past 2030, and therefore, we expect to reduce this direct cost every year in the future.

**Cost to realize opportunity**
1416000000

**Strategy to realize opportunity and explanation of cost calculation**
Kao is a manufacturer and has more than 40 manufacturing bases in Japan, Asia, Europe and the Americas. These bases consume approximately 5,000 GWh of energy every year to manufacture products. The cost is over 10 billion yen. Kao consumes almost the same amount of fossil fuel for heat utilization and electricity for facility operation. At the same time, Kao is targeting net sales of JPY 2.5 trillion in 2030 and operating income of 17% (currently around 14%). Efforts to reduce energy use and reduce costs will lead to lower manufacturing costs and provide an important opportunity to increase

operating income. In addition, Kao's climate change scenario analysis conducted in 2019 showed that fossil fuel prices would increase under the 2°C scenario. Therefore, for Kao, which uses a large amount of fossil fuels, reducing energy consumption for manufacturing will lead to a reduction in manufacturing costs, which is a major opportunity to achieve the operating profit target for 2030.
Kao has strategy to make continuous efforts to reduce energy consumption during manufacturing past 2030. So we has established a system to promote energy-saving activities at each manufacturing base like as reducing energy loss such as waste heat, upgrading to highly efficient equipment, and so on. Further we monitor energy consumption at each base and feed back it to them.
<case study>
In 2022, Kao reduced waste heat at plants in the Philippines and Malaysia, where a large amount of heat is used, and worked to increase the efficiency of use as described above. The project leader calculated the amount of energy saved by implementing the project. They further multiplied the amount of energy reduced by the unit cost of energy to calculate the energy cost savings associated with the energy reduction. After that HQ summarized results of them.
Kao invested 1,416 million JPY in 2022.
751 million JPY (Japan) +665 million JPY (Asia, Europe, and the Americas) = 1,416 million JPY
In addition, Kao continues energy conservation activities, including the rationalization of manufacturing processes past 2030.

**Comment**

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**Identifier**
Opp2

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

**Opportunity type**
Products and services

**Primary climate-related opportunity driver**
Development and/or expansion of low emission goods and services

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

**Company-specific description**
Kao's highgene and living care business, which accounted for 33.3% of Kao's remuneration in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (laundry detergents, softner, and bleaches). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days. The fabric and home care market, which includes laundry products in Japan, grew 1.5% in 2022 compared to the previous year and is expected to continue growing. Kao conducted a climate change scenario analysis in 2020 to investigate future changes in weather and the potential for changes in weather to the market for laundry products. The results of the analysis showed that the weather in Japan would not change in the number of sunny days in the summer when the average temperature rose by 2°C, and the temperature would rise. Such changes in weather can lead to changes in clothing behavior, i.e., increased frequency of sweating and changing clothes, resulting in an increase in the amount of laundry and an increase in the number of laundry washes.
These changes in laundry habits have resulted in increased demand related to the Fabric & Home Care business and opportunities for increased sales in this business. The fabric and home care market, which includes laundry products in Japan, grew 1.5% in 2022 compared to the previous year due to changes in laundry habits and is expected to continue growing. We expect this growth to continue for some time in the future.

Kao's highgene and living care sales in Japan were 370,300 million JPY on 2022. We expect a 1.5% (5,554,500,000 JPY) increase in this sales due to changes in laundry habits.

**Time horizon**
Long-term

**Likelihood**
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)**
5554500000

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

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

**Explanation of financial impact figure**
Kao's higene and living care business, which accounted for 33.3% of Kao's remuneration in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (laundry detergents, finishing agents, and bleaches). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days. The fabric and home care market, which includes laundry products in Japan, grew 1.5% in 2022 compared to the previous year and is expected to continue growing.
Kao conducted a climate change scenario analysis in 2021 to investigate future changes in weather and the potential for changes in weather to the market for laundry products. The results of the analysis showed that the weather in Japan would not change in the number of sunny days in the summer when the average temperature rose by 2°C, and the temperature would rise. Such changes in weather can lead to changes in clothing behavior, i.e., increased frequency of sweating and changing clothes, resulting in an increase in the amount of laundry and an increase in the number of laundry washes.
These changes in laundry habits have resulted in increased demand related to the Fabric & Home Care business and opportunities for increased sales in this business. The fabric and home care market, which includes laundry products in Japan, grew 1.5% in 2022 compared to the previous year due to changes in laundry habits and is expected to continue growing. We expect this growth to continue for some time in the future.
Kao's domestic higene and living care sales in 2022 were 370,300 million JPY. We expect a 1.5% (5,554,500,000 JPY) increase in this sales due to changes in laundry habits.
370,300,000,000 JPY × 1.5% = 5,554,500,000 JPY

**Cost to realize opportunity**
45900000000

**Strategy to realize opportunity and explanation of cost calculation**
Kao's higene and living care business, which accounted for 33.3% of Kao's remuneration in 2022, is comprised of products closely linked to the daily lives of consumers, such as laundry products (laundry detergents, finishing agents, and bleaches). In Japan, Kao's main market, laundry is usually dried outdoors on clear days and indoors on rainy days. The fabric and home care market, which includes laundry products in Japan, grew 1.5% in 2022 compared to the previous year and is expected to continue

growing.
Kao conducted a climate change scenario analysis in 2021 to investigate future changes in weather and the potential for changes in weather to the market for laundry products. The results of the analysis showed that the weather in Japan would not change in the number of sunny days in the summer when the average temperature rose by 2°C, and the temperature would rise. Such changes in weather can lead to changes in clothing behavior, i.e., increased frequency of sweating and changing clothes, resulting in an increase in the amount of laundry and an increase in the number of laundry washes.
Japan's population peaked in 2004 and has declined every year since then until 2020, and is expected to continue declining in the future. As a result, we believe that the reason for the 1.5% growth in the fabric and home care market, including laundry products in Japan in 2022 was not due to population growth, but due to changes in laundry habits. The change in laundry habit expected by scenario-analysis, i.e., the increased number of washes, results in the "opportunity" of Product and service laundry detergent, which can be washed in a short period of time.

In 2022, we launched Attack ZERO Room Drying, a concentrated liquid laundry detergent. It has the characteristic of repelling the bacteria that cause odors and darkening that occur in indoor drying.
In 2022, we will invest 45.9 billion yen in R&D and expansion of manufacturing facilities in the hygiene and living care business. Until at least 2030, when temperatures continue to rise, we will continue to develop similar technologies and seize opportunities for sales in the Hygiene and Living Care business.

In 2022, we will invest 45.9 billion yen in R&D and expansion of manufacturing facilities in the hygiene and living care business.

**Comment**

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**Identifier**
Opp3

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

**Opportunity type**
Markets

**Primary climate-related opportunity driver**
Access to new markets

**Primary potential financial impact**
Increased access to capital

**Company-specific description**
ESG investment is drawing attention worldwide. Decarbonization is an urgent issue in particular, and it is hoped that active investment will be made in companies that are actively tackling this issue, and that efforts will be promoted so that society as a whole will be free of carbon. Kao is targeting sales of JPY2.5 trillion in 2030 (1.67 times the 2017 level). Therefore, it is necessary to procure funds from the market in the future, and reducing the cost of procuring these funds is a challenge. Kao established the ESG Strategic "Kirei Lifestyle Plan" in 2019. One of the key themes of this initiative was decarbonization, which led to a long-term plan of zero carbon in 2040 and negative carbon in 2050. At the same time, we set targets for 2030 of a 55% reduction in Scope1+2 and a 22% reduction in LC-LO2. In order to achieve these goals, Kao has decided to take action to reduce carbon emissions throughout the company (company-wide).
In 2022, as a result of decarbonization activities, Scope1+2 was reduced by 26% and LC-LO2 by 6%. In addition, we installed solar power generation facilities at four sites, including the Sumida Plant in Japan. If

Kao's reputation is enhanced through such activities, it is expected that in the future, if we assume that we will issue bonds totaling 50 billion JPY with a maturity of 7 years, we will be able to set an interest rate of 0.1%, which is 0.3% lower than the average interest rate of the bonds in the world of 0.4%. In doing so, Kao's funding costs will be reduced by 1,050 million JPY. This is a significant strategic opportunity.

**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)**
1050000000

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

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

**Explanation of financial impact figure**
ESG investment is drawing attention in the world. It is hoped that efforts to reduce carbon emissions will lead to the decarbonization of society as a whole. Kao needs to raise funds from the market in order to increase sales, and the reduction of procurement costs is an issue. In 2019, Kao established the ESG Strategy "Kirei Lifestyle Plan" and decided that the entire company (company-wide) would take action to reduce carbon emissions.
In 2022, as a result of decarbonization activities, Kao's Scope1+2 was reduced by 26% and its LC-LO2 was reduced by 6%. Kao also installed solar power generation facilities. If the reputation is enhanced through such activities, it is expected that in the future Kao will be able to set an interest rate of 0.1%, which is 0.3% lower than the average interest rate of the bonds in the world of 0.4%, assuming a total of 50 billion JPY debentures (maturity date of 7 years).
In doing so, Kao's funding costs will be reduced by 1,050 million JPY.
This is a significant strategic opportunity.. 50 billion yen x 0.3%/year x
7 years = 1.05 billion yen

**Cost to realize opportunity**
1200000

**Strategy to realize opportunity and explanation of cost calculation**
Kao will utilize the issuance of Sustainability-Linked Bonds, whose financial and structural characteristics change according to the achievement status of targets for activities aimed at realizing a sustainable society. For example, for the 25 billion yen bond scheduled to be issued in 2023, we have set the mid-term target for 2026 calculated from the target for 2030 as the Sustainability Performance Target (SPT) that determines the bond issuance conditions. Achieving SPT yields an interest rate advantage of 0.1%. We will continue to issue such bonds until 2030, and in addition to reducing CO2 emissions in our business activities, we will provide products and services that respond to the changing climate, contribute to the reduction of CO2 emissions in society, and fix carbon in the atmosphere to contribute to a decarbonized society.
Kao's measures were not accompanied by increased direct costs. On the other hand, Kao incurs administrative expenses to manage the status of implementation. To manage this opportunity, each year

we require personnel costs for 1 employee (12million JPY/person/Year) to engage 10% of the year. Therefore, the cost required for the response was 1.2 million JPY (=12million JPY/person x 1person x 10%).
In addition, no additional costs will be incurred for the time being.

**Comment**

## C3. Business Strategy

## C3.1

### (C3.1) Does your organization's strategy include a climate transition plan that aligns with a 1.5°C world? Row 1

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

**Publicly available climate transition plan**
Yes

**Mechanism by which feedback is collected from shareholders on your climate transition plan**
We have a different feedback mechanism in place

**Description of feedback mechanism**
Kao's IR department regularly engages with institutional investors. Of these, the ESG Managing Committee's secretariat participates in engagements with climate change- related themes to collect feedback from shareholders. The information collected is used as one of the input information to improve the migration plan.

**Frequency of feedback collection**
More frequently than annually

**Attach any relevant documents which detail your climate transition plan (optional)**
sustainability2023-e-all.pdf P102-110
sustainability2023-e-all.pdf

**Explain why your organization does not have a climate transition plan that aligns with a 1.5°C world and any plans to develop one in the future**
<Not Applicable>

**Explain why climate-related risks and opportunities have not influenced your strategy**
<Not Applicable>

## C3.2

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

| | Use of climate-related scenario analysis to inform strategy | Primary reason why your organization does not use climate-related scenario analysis to inform its strategy | Explain why your organization does not use climate-related scenario analysis to inform its strategy and any plans to use it in the future |
|---|---|---|---|
| Row 1 | Yes, qualitative and quantitative | <Not Applicable> | <Not Applicable> |

## C3.2a

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

| Climate-related scenario | Scenario analysis coverage | Temperature alignment of scenario | Parameters, assumptions, analytical choices |
|---|---|---|---|
| Transition<br>IEA NZE scenarios 2050 | Company-wide | <Not Applicable> | Kao is aiming for sales of 2.5 trillion yen in its management strategy of 2030.<br>Therefore, using sales as a parameter, the carbon tax levied on SCOPE1 + 2 emissions in 2030 was selected as an analytical choice on the assumption that SCOPE1 + 2 emissions will increase according to sales.<br><br>The 2030 carbon tax for Advanced economies under the IEA NZE 2050 is 130 USD / t-CO2.<br>SCOPE1 + 2 emissions in 2030 will increase 1.67 times compared to 2017 without any reduction activities. It will be a carbon tax burden of about 28.8 billion yen / year.<br>It is necessary to reduce this carbon tax burden.<br>Therefore, Kao set a goal of reducing SCOPE1 + 2 emissions by 55% in 2030, and ICP price of 168 USD / t-CO2, which is equivalent to the carbon tax of 2035, was set.<br>As a result, the carbon tax burden when the reduction target for 2030 is achieved can be suppressed to about 7.8 billion yen / year. |
| Physical climate<br>RCP scenarios 8.5 | Company-wide | <Not Applicable> | Kao is aiming for sales of 2.5 trillion yen in its management strategy of 2030.<br>The temperature rise was used as a parameter, and the yield of palms whose temperature rises in the palm growing area was used as an analytical choice.<br>From the peer-reviewed published literature, Kao confirmed that for every 1 ° C increase in temperature in 2030, palm yields would decrease by 10%.<br>Kao relies heavily on palm oil, with businesses such as Hygiene & Living Care and chemicals accounting for 81% of sales. The impact of climate change on palm growth is one of Kao's risks.<br>Kao needs to quantitatively understand the impact of climate change on palm growth.<br>Therefore, Kao investigated the effects of climate change on palm growth in peer-reviewed public papers.<br>As a result, it was confirmed that there is a risk that the yield of palm will decrease by 10% for every 1 ° C increase in temperature in Malaysia, which is |

| | | | |
|---|---|---|---|
| | | | one of the palm producing areas. |

## C3.2b

**(C3.2b) Provide details of the focal questions your organization seeks to address by using climate-related scenario analysis, and summarize the results with respect to these questions.**

**Row 1**

**Focal questions**

Palm oil supply problem

Products using palm oil are induced by chemicals such as surfactants and become raw materials for laundry detergents and body detergents, which are necessary for the survival of Kao's business. Kao's palm oil-related hygiene & living business and chemical business account for 81% of sales, so palm oil supply is essential for business continuity. Kao confirmed that while the Asian population is projected to grow by 5% in 2030, increasing palm oil production carries the risk of increasing GHG emmisions. Therefore, the supply problem of palm oil is focal question.

Demand for palm derivatives will increase as the population grows. However, palms are produced only in the tropics. Furthermore, the supply may decrease due to the rise in temperature. Therefore, it is necessary to secure the necessary palm derivatives even if the temperature rises.

**Results of the climate-related scenario analysis with respect to the focal questions**

The scenario analysis showed that in Malaysia and Indonesia, where Kao procures more than 90% of its palm oil, the areas suitable for palm oil cultivation will decrease as the temperature rises. Further in Malaysia, where Kao procures 50% of its palm oil, a 1 degree Celsius rise in temperature results in an approximately 10% decrease in yield.

Therefore, Kao has adopted the following two activities to not increase and reduce consumption of palm oil.

- Develop products with equivalent performance with fewer palm derivatives through efficient formulation design
- Development of alternative raw material manufacturing method with equivalent performance of palm derivatives from resources different from palm such as algae and $CO_2$

## C3.3

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

| | Have climate-related risks and opportunities influenced your strategy in this area? | Description of influence |
|---|---|---|
| Products and services | Yes | Risks and opportunities: The scenario analyses conducted by Kao in 2018 - 2021 for 2030 show that: Consumers of Kao's products tend to demand low-carbon products and other ethical products, and demand for summer products increases due to the prolonged summer season due to rising temperatures. Accordingly, it is part of Kao's growth strategy to strengthen ethical products and products for which demand is rising in the summer. Strategy: An important strategy in the short-, medium-and long-term as demand for ethical consumption is rising, summer temperatures are already apparent, and these trends are expected to continue in the future. This is clearly stated in Kao's "Kirei Lifestyle Plan" ESG strategies as items that Kao must realize in order to realize Kirei Lifestyle of consumers.<br><br>[The most important case study of strategic decision-making]<br>Due to the continued temperature increase, in Japan, Kao's core market, summer temperatures generally exceeded 30℃. As a result, demand for products that enable people to live without worrying about the smell of their perspiration and to live comfortably even at high temperatures has increased, and it has become necessary to develop products that meet this demand. In our principal areas of business, the Fablic & home Care segment, we made the following key strategic decisions to respond to these consumer demands: "Humming", the mainstay brand of a fabric softener, should be equipped with (i) measures to combat sweat odors and (ii) technology to feel cool by wearing clothes, the "Cool Feeling Technology." As a result, in 2022, "Humming", which is marketed in Japan, marketed 100% of products incorporating either of these technologies. As a result, sales in the Fablic & home Care segment in Japan increased 1.5%. |
| Supply chain and/or value chain | Yes | Risks and Opportunities: Forests that absorb carbon dioxide worldwide have greatly decreased, and about 20% of GHG emissions are due to deforestation. Malaysia and Indonesia are the countries in which the area of forests has greatly decreased. One of the reasons for this is that they cut down tropical rainforests in order to expand their palm plantations. Stop of deforestation related to palm plantations in Malaysia and Indonesia is an initiative that does not increase GHG emissions. Kao procures a large amount of palm oil. Kao also aims to increase sales to JPY2.5 trillion in 2030 (more than 1.5 times the current level). To achieve this goal, Kao needs to increase its procurement of palm oil, and it is a very important risk and opportunity for palm plantations to grow sustainably without any new deforestation, that is, to increase the efficiency of Palm plantations. Strategy: Increasing the productivity of palm plantations in Malaysia and Indonesia, the major suppliers of palm oil, is an important strategy for Kao to procure palm oil. Under this strategy, Kao has set a goal of ensuring traceability to palm plantations by 2025 and is working with suppliers and others.<br><br>[The most important case study of strategic decision-making] |

| | | |
|---|---|---|
| | | Kao procures palm kernel oil from Malaysia and Indonesia, and recognizes that it is important for palm plantations in both countries to increase productivity without new deforestation. Small-scale palm plantations, which account for about 40% of palm fruit production in Indonesia in particular, are faced with major social problems such as low productivity, poor working conditions, and poor living conditions, and urgent solutions are required.<br>Kao made the following major strategic decisions: Kao, together with two Indonesian companies , decided to work together to help resolve a variety of issues, including improving the productivity of small-scale palm plantations. In October 2020, the three companies jointly announced that by 2030, they would provide 5000 small-scale palm plantations with SMILE (Smallholder Inclusion for better Livelihood & Empowerment) programs aimed at raising productivity and supporting them in obtaining RSPO certification. |
| Investment in R&D | Yes | Risks and Opportunities: Demand for products that contribute to sustainable development from consumers and industry is increasing in order to realize SDGs, including climate change. As a result, expectations for Kao's innovation, which places the utmost importance on "essential research," which approaches the essence of things, are increasing year by year. Kao recognizes this as an important growth opportunity. Kao has set up KPIs for 19 key initiatives in the ESG Strategic KLP or "Kirei Lifestyle Plan". Major themes include decarbonization, water conservation, and zero waste, as well as improvement of QOL and perpass-driven brands that encourage behavioral changes in consumers.<br>Strategy: Our R&D strategy is to drive business growth strongly through the achievement of KLP by accelerating innovation, including climate change resolution. Kao's K2025 Medium- Term Management Plan, which runs through 2025, includes becoming a company that is indispensable to a sustainable society, and becoming stronger by investing.<br><br>[The most important case study of strategic decision-making]<br>As a result of climate change scenario analysis, Kao confirmed that the supply of plastics used in essential containers and packaging for Kao products is one of the important risks and opportunities during the transition period to a net-zero society in the future. The challenge for Kao is to quickly build a recycling-oriented economy, including plastic packaging, ahead of society. Recognizing the need, in September 2019 Kao announced to the public that it would approach both reduction innovation to reduce Fossil based plastics and recycling innovation to recycle used plastics.<br>In 2020, Kao formulated the K25 medium-term group management plan. These policies (objectives) include "Positive Recycling" (imagining a new business through reuse) as key achievements. Kao's R&D Division established the Recycling Science Research Center in 2020, which was advised and approved by the Executive Committee, chaired by the CEO. Kao made a major strategic decision to create the center. The center develops containers that use Recycled plastics, and researches and develops social systems that efficiently collect and recycle used plastic containers and packaging. In 2022, nine development projects to increase the use of recycled plastics were promoted as external stakeholders. |

| | | |
|---|---|---|
| Operations | Yes | Risks and Opportunities: Since October 2018, when IPCC issued its 1.5°C Special Report, global companies have been accelerating their efforts to raise their GHG reduction targets to 1.5°C levels. While there is a risk that Kao will not be proactive in addressing climate change unless we take advantage of this trend, we expect that setting more aggressive targets will lead to opportunities and be recognized as a leading company in ESG activities.<br>Strategy: Kao formulated and announced a new medium-to long-term strategy on climate change, which calls for zero carbon by 2040 and carbon-negative by 2050. Kao clarifies this strategy in 2023KLP Progress Report.<br><br>[The most important case study of strategic decision-making]<br>While the world was accelerating the move to raise the reduction target to 1.5℃, Kao had only a 2℃ reduction target, which was behind the world trend. Kao's task was to set a target of 1.5℃ and a net zero target (if possible, a more aggressive target). Kao's ESG Managing Committee Secretariat established a new goal of decarbonization. The goals were discussed and approved by the ESG Committee, which is chaired by the CEO, after deliberation at the ESG Promotion Council. These include "Aiming for zero carbon by 2040 and carbon-negative by 2050," "Reducing carbon emissions by 55% (Scope1+2) by 2030," and achieving RE100 by 2030. At the same time, the ESG Managing Committee also approved new technological developments to convert carbon dioxide into raw materials to reduce Scope1+2 emissions. These are important strategic decisions. Based on this strategy, Kao's previous mid-term plans and procedures to achieve the targets are revisited within Kao. |

## C3.4

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

| | Financial planning elements that have been influenced | Description of influence |
|---|---|---|
| Row 1 | Revenues Direct costs | Risks and opportunities: Kao's scenario analysis for 2018 to 2022 toward 2030 shows that consumers of Kao products tend to seek low-carbon and ethical products, Demand for Therefore, strengthening ethical products and products, for which demand is high in the summer, is part of Kao's growth strategy. Strategic: An important short-, medium-, and long-term strategy in the face of growing demand for ethical consumption, high temperatures in the summer already becoming apparent, and this trend expected to continue. This is clearly stated as an item in Kao's ESG strategy "Kirei Lifestyle Plan ~To realize a clean life for consumers~". [The most important example of strategic decision-making] Temperatures continue to rise, and in Japan, Kao's core market, the number of summer days exceeding 30°C has increased. As a result, there is an increasing demand for products that allow people to live comfortably without worrying about the odor of sweat, and for products that allow them to live comfortably even in high temperatures. In order to respond to these consumer demands, our main business, Fabric & Home Care Division, has launched our main textile blowing agent brand, "Cool Feeling Technology," which is |

| | | |
|---|---|---|
| | | a technology that makes you feel cool while wearing sweat odor. We have decided on strategic priority<br>measures such as installing it in Humming. As a result, "Humming" sold in Japan will sell products that are 100% equipped with either technology in 2022. As a result, sales in the Fabrics & Home Care Division in Japan increased by 1.5%. |

## C3.5

### (C3.5) In your organization's financial accounting, do you identify spending/revenue that is aligned with your organization's climate transition?

| | Identification of spending/revenue that is aligned with your organization's climate transition | Indicate the level at which you identify the alignment of your spending/revenue with a sustainable finance taxonomy |
|---|---|---|
| Row 1 | No, but we plan to in the next two years | <Not Applicable> |

# C4. Targets and performance

## C4.1

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

Absolute target

## C4.1a

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

**Target reference number**

Abs 1

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

Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**

1.5°C aligned

**Year target was set**

2018

**Target coverage**

Company-wide

**Scope(s)**

Scope 1

Scope 2

**Scope 2 accounting method**
Market-based

**Scope 3 category(ies)**
<Not Applicable>

**Base year**
2017

**Base year Scope 1 emissions covered by target (metric tons CO2e)**
653145

**Base year Scope 2 emissions covered by target (metric tons CO2e)**
404968

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Total base year emissions covered by target in all selected Scopes (metric tons CO2e)**
1058113

**Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**
100

**Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2**
100

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**
<Not Applicable>

**Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**
100

**Target year**
2030

**Targeted reduction from base year (%)**
55

**Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]**
476150.85

**Scope 1 emissions in reporting year covered by target (metric tons CO2e)**
595285

**Scope 2 emissions in reporting year covered by target (metric tons CO2e)**
183013

**Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**
778299

**Does this target cover any land-related emissions?**
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**% of target achieved relative to base year [auto-calculated]**
48.0811337988218

**Target status in reporting year**
Underway

**Please explain target coverage and identify any exclusions**
This target covers all of company wide. There is no exclusions.

**Plan for achieving target, and progress made to the end of the reporting year**
Scope1: We have set a target of reducing energy consumption by 1% every year at all Kao Group bases, and are promoting activities at each base. Boiler, co-generation system etc. are being updated to BPT (Best Practice Technologies) equipment. Optimal control of multiple boilers is being promoted for efficient operation in response to fluctuating demand. We took measures such as finding wasteful energy and reducing it to the minimum necessary amount, and effectively using unused energy for other processes. With the aim of improving the efficiency of steam utilization, we are continuously strengthening the maintenance of steam traps and improving the amount of steam recovered. We are also actively promoting on-site improvement activities to optimize energy consumption, such as lowering the set temperature that keeps the tank warm and shortening the operating time. Kao introduced an internal carbon pricing system in 2006 to curb CO2 emissions (scope 1 + 2) and has been operating it for 14 years. Last year, Kao updated its 2030 CO2 emission reduction target (Scope 1 + 2) from a 22% reduction to a 55% reduction. In order to achieve this target, the equipment to be introduced in the future must be equipment that emits as little CO2 as possible, otherwise the reduction target cannot be achieved and there is a risk of becoming a stranded asset. Therefore, Kao will raise the in-house carbon pri2ce from 3,500JPY/ ton-CO2 to 168USD / ton-CO2.
Scope2: We are proceeding with a plan to increase the ratio of renewable energy consumption to 100% by 2030. In 2022, in addition to the use of conventional non-fossil certificates, the newly adopted corporate PPA will be used at the Kao Headquarters (Kayabacho Office) for purchased electricity, and the Kao Group's largest solar power generation facility for private consumption will be used. We have promoted the conversion of electric power to renewable energy, such as the introduction of electricity to the Sakata Plant (total panel power generation capacity of 2,845 kW). The Kao Group's renewable energy

ratio of electricity used was 44% in 2022, and as of the end of 2022, there were a total of 17 installation bases for solar power generation facilities for private consumption. In addition, 100% renewable energy consumption has been achieved at all logistics bases (55 locations) in Japan, the Sumida Plant (including the Tokyo Plant), and the Sakata Plant.

**List the emissions reduction initiatives which contributed most to achieving this target**
<Not Applicable>

---

**Target reference number**
Abs 2

**Is this a science-based target?**
Yes, and this target has been approved by the Science Based Targets initiative

**Target ambition**
1.5°C aligned

**Year target was set**
2018

**Target coverage**
Company-wide

**Scope(s)**
Scope 1
Scope 2
Scope 3

**Scope 2 accounting method**
Market-based

**Scope 3 category(ies)**
Category 1: Purchased goods and services Category 4: Upstream transportation and distribution Category 11: Use of sold products
Category 12: End-of-life treatment of sold products

**Base year**
2017

**Base year Scope 1 emissions covered by target (metric tons CO2e)**
653145

**Base year Scope 2 emissions covered by target (metric tons CO2e)**
404968

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target (metric tons CO2e)**
4496000

**Base year Scope 3, Category 2: Capital goods emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution emissions covered by target (metric tons CO2e)**
253000

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target (metric tons CO2e)**
4687000

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target (metric tons CO2e)**
1415000

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target (metric tons CO2e)**
10851000

**Total base year emissions covered by target in all selected Scopes (metric tons CO2e)**
11909113

**Base year Scope 1 emissions covered by target as % of total base year emissions in Scope 1**
5.48

**Base year Scope 2 emissions covered by target as % of total base year emissions in Scope 2**
3.4

**Base year Scope 3, Category 1: Purchased goods and services emissions covered by target as % of total base year emissions in Scope 3, Category 1: Purchased goods and services (metric tons CO2e)**
37.75

**Base year Scope 3, Category 2: Capital goods emissions covered by target as % of total base year emissions in Scope 3, Category 2: Capital goods (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions covered by target as % of total base year emissions in Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 4: Upstream transportation and distribution covered by target as % of total base year emissions in Scope 3, Category 4: Upstream transportation and distribution (metric tons CO2e)**
2.12

**Base year Scope 3, Category 5: Waste generated in operations emissions covered by target as % of total base year emissions in Scope 3, Category 5: Waste generated in operations (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 6: Business travel emissions covered by target as % of total base year emissions in Scope 3, Category 6: Business travel (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 7: Employee commuting covered by target as % of total base year emissions in Scope 3, Category 7: Employee commuting (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 8: Upstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 8: Upstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 9: Downstream transportation and distribution emissions covered by target as % of total base year emissions in Scope 3, Category 9: Downstream transportation and distribution (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 10: Processing of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 10: Processing of sold products (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 11: Use of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 11: Use of sold products (metric tons CO2e)**
39.36

**Base year Scope 3, Category 12: End-of-life treatment of sold products emissions covered by target as % of total base year emissions in Scope 3, Category 12: End-of-life treatment of sold products (metric tons CO2e)**
11.88

**Base year Scope 3, Category 13: Downstream leased assets emissions covered by target as % of total base year emissions in Scope 3, Category 13: Downstream leased assets (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 14: Franchises emissions covered by target as % of total base year emissions in Scope 3, Category 14: Franchises (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Category 15: Investments emissions covered by target as % of total base year emissions in Scope 3, Category 15: Investments (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (upstream) emissions covered by target as % of total base year emissions in Scope 3, Other (upstream) (metric tons CO2e)**
<Not Applicable>

**Base year Scope 3, Other (downstream) emissions covered by target as % of total base year emissions in Scope 3, Other (downstream) (metric tons CO2e)**
<Not Applicable>

**Base year total Scope 3 emissions covered by target as % of total base year emissions in Scope 3 (in all Scope 3 categories)**
91.12

**Base year emissions covered by target in all selected Scopes as % of total base year emissions in all selected Scopes**
95.42

**Target year**
2030

**Targeted reduction from base year (%)**
22

**Total emissions in target year covered by target in all selected Scopes (metric tons CO2e) [auto-calculated]**
9289108.14

**Scope 1 emissions in reporting year covered by target (metric tons CO2e)**
595285

**Scope 2 emissions in reporting year covered by target (metric tons CO2e)**
183013

**Scope 3, Category 1: Purchased goods and services emissions in reporting year covered by target (metric tons CO2e)**
4109000

**Scope 3, Category 2: Capital goods emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 3: Fuel-and-energy-related activities (not included in Scopes 1 or 2) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 4: Upstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
241000

**Scope 3, Category 5: Waste generated in operations emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 6: Business travel emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 7: Employee commuting emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 8: Upstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 9: Downstream transportation and distribution emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 10: Processing of sold products emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 11: Use of sold products emissions in reporting year covered by target (metric tons CO2e)**
4680000

**Scope 3, Category 12: End-of-life treatment of sold products emissions in reporting year covered by target (metric tons CO2e)**
1417000

**Scope 3, Category 13: Downstream leased assets emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 14: Franchises emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Category 15: Investments emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (upstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Scope 3, Other (downstream) emissions in reporting year covered by target (metric tons CO2e)**
<Not Applicable>

**Total Scope 3 emissions in reporting year covered by target (metric tons CO2e)**
10447000

**Total emissions in reporting year covered by target in all selected scopes (metric tons CO2e)**
11225298

**Does this target cover any land-related emissions?**
No, it does not cover any land-related emissions (e.g. non-FLAG SBT)

**% of target achieved relative to base year [auto-calculated]**
26.0997607462453

**Target status in reporting year**
Underway

**Please explain target coverage and identify any exclusions**
Scope-3 categories are 1, 4, 11, 12 that are considered important in the product life cycle. The sum of these four categories and Scope-1 and 2 covers 95.42% of Kao Group's total emissions.

**Plan for achieving target, and progress made to the end of the reporting year**
[Abs2] describes only Scope-3. Scope-1 and 2 are described in [Abs1].
Scope-3: Categories 1, 4, 11 and 12 account for 95.42% of Kao Group's total emissions, so these four categories are described. Category 1: In addition to minimizing raw materials in product design, we require suppliers to reduce emissions at vendor summits.
Category 4: Promoting modal shift. To transport products from the Wakayama Plant to the Tokyo metropolitan area, we will reduce CO2 emissions and other environmental impacts by using RORO ships*1 that transport only the trailer (cargo portion) by separating the driving vehicle from the truck.
Category 11: We are launching low-carbon products. We are reducing emissions during use by promoting a shift to detergents that can be selected with a single rinse. Category 12: In addition to promoting the conversion from petrochemical to plant-based materials in product design, we are conducting verification tests of plastic packaging containers for the purpose of resource recycling.

**List the emissions reduction initiatives which contributed most to achieving this target**
<Not Applicable>

## C4.2

**(C4.2) Did you have any other climate-related targets that were active in the reporting year?**
Target(s) to increase low-carbon energy consumption or production Net-zero target(s)

## C4.2a

**(C4.2a) Provide details of your target(s) to increase low-carbon energy consumption or production.**

**Target reference number**
Low 1

**Year target was set**
2021

**Target coverage**
Company-wide

**Target type: energy carrier**
Electricity

**Target type: activity**
Consumption

**Target type: energy source**
Renewable energy source(s) only

**Base year**
2021

**Consumption or production of selected energy carrier in base year (MWh)**
2204036

**% share of low-carbon or renewable energy in base year**
46.99

**Target year**
2025

**% share of low-carbon or renewable energy in target year**
100

**% share of low-carbon or renewable energy in reporting year**
57.8

**% of target achieved relative to base year [auto-calculated]**
20.3923787964535

**Target status in reporting year**
Underway

**Is this target part of an emissions target?**
We recognize it as one of the activity targets necessary to achieve the net zero target.

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

**Please explain target coverage and identify any exclusions**
We do not have any exemption items at the moment, but we believe that such cases may be excluded because it is difficult to procure renewable energy in countries where the necessary and sufficient amount of certificates are not sold in the market. increase.

**Plan for achieving target, and progress made to the end of the reporting year**
We have set a target of 100% renewable power generation by 2025 for the power purchased at all Kao Group sites. By 2022, we will shift 57.8% of our purchased electricity to electricity derived from renewable energy sources. By 2023, we plan to purchase electricity from renewable energy sources at all of our bases in Japan, and plan to gradually switch to renewable energy in other countries as well.

**List the actions which contributed most to achieving this target**
<Not Applicable>

---

**Target reference number**
Low 2

**Year target was set**
2021

**Target coverage**
Company-wide

**Target type: energy carrier**
Electricity

**Target type: activity**
Consumption

**Target type: energy source**
Renewable energy source(s) only

**Base year**
2021

**Consumption or production of selected energy carrier in base year (MWh)**
2895712

**% share of low-carbon or renewable energy in base year**
36

**Target year**
2030

**% share of low-carbon or renewable energy in target year**
100

**% share of low-carbon or renewable energy in reporting year**
44.25

**% of target achieved relative to base year [auto-calculated]**
12.890625

**Target status in reporting year**
Underway

**Is this target part of an emissions target?**
We recognize it as one of the activity targets necessary to achieve the net zero target.

**Is this target part of an overarching initiative?**
RE100

**Please explain target coverage and identify any exclusions**
We do not have any exemption items at the moment, but we believe that such cases may be excluded because it is difficult to procure renewable energy in countries where the necessary and sufficient amount of certificates are not sold in the market. increase.

**Plan for achieving target, and progress made to the end of the reporting year**
We have set a target of 100% renewable power generation by 2030 for the power used at all Kao Group sites. By 2022, we will shift 44.3% of our total power consumption to renewable energy. By 2023, we plan to purchase electricity from renewable energy sources at all of our bases in Japan, and plan to gradually switch to renewable energy in other countries as well.

**List the actions which contributed most to achieving this target**
<Not Applicable>

## C4.2c

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

**Target reference number**
NZ1

**Target coverage**
Company-wide

**Absolute/intensity emission target(s) linked to this net-zero target**
Abs1 Abs2

**Target year for achieving net zero**
2040

**Is this a science-based target?**
Yes, we consider this a science-based target, and we have committed to seek validation of this target by the Science Based Targets initiative in the next two years

**Please explain target coverage and identify any exclusions**
This target covers scope-1+2+3. This means Kao evaluates CO2 emissions across the entire product life cycle. Kao focuses on the categories of 1, 4, 11 and 12 related to site activities to save energy and reduce waste materials, as well as on the product lifecycle.

**Do you intend to neutralize any unabated emissions with permanent carbon removals at the target year?**
Unsure

**Planned milestones and/or near-term investments for neutralization at target year**
<Not Applicable>

**Planned actions to mitigate emissions beyond your value chain (optional)**
- By 2030, Kao will have reduced Scope 1+2 CO2 emissions (absolute value) by 55% (taking 2017 as the base year)

In line with the SBTi 1.5°C target, Kao has increased the rate of reduction, which was originally set in 2019 (as one of the mid- to long-term decarbonization goals in the Kirei Lifestyle Plan ESG strategy), by 22% (taking 2017 as the base year) in Scope 1+2 CO2 emissions (absolute value).

By utilizing the internal carbon pricing system that was adopted in 2006, Kao is promoting the use of equipment that has low CO2 emissions, and in the use of renewable energy.

- By 2030, 100% of the electricity used will be sourced from renewable energy

Kao is aiming to join the RE100 initiative, and will continue to use renewable energy in its business practices with the adoption of photovoltaic electricity generation equipment and the purchase of electricity generated from renewable energy.

- By 2030, Kao will have reduced CO2 emissions (absolute value) throughout the product lifecycle by 22% (taking 2017 as the base year)*6Kao will continue to implement the mid- to long-term decarbonization targets outlined in 2019 in the Kirei Lifestyle Plan ESG strategy.

Kao will promote reduction in raw material usage, use of natural raw materials, development of water-saving products, reduction in plastic packaging usage, and use of recycled plastic.

## 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 | 5 | |
| To be implemented* | 113 | 2501 |
| Implementation commenced* | 65 | 2411 |
| Implemented* | 284 | 224405 |
| Not to be implemented | 2 | |

## C4.3b

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

**Initiative category & Initiative type**

| | |
|---|---|
| Energy efficiency in buildings | Lighting |

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

1875

**Scope(s) or Scope 3 category(ies) where emissions savings occur**

Scope 2 (market-based)

**Voluntary/Mandatory**

Voluntary

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

57500000

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

348000000

**Payback period**

4-10 years

**Estimated lifetime of the initiative**

3-5 years

### Comment

### Initiative category & Initiative type

| | |
|---|---|
| Energy efficiency in production processes | Process optimization |

### Estimated annual CO2e savings (metric tonnes CO2e)
3279

### Scope(s) or Scope 3 category(ies) where emissions savings occur
Scope 1

### Voluntary/Mandatory
Voluntary

### Annual monetary savings (unit currency – as specified in C0.4)
380000000

### Investment required (unit currency – as specified in C0.4)
57000000

### Payback period
1-3 years

### Estimated lifetime of the initiative
1-2 years

### Comment

### Initiative category & Initiative type

| | |
|---|---|
| Low-carbon energy consumption | Low-carbon electricity mix |

### Estimated annual CO2e savings (metric tonnes CO2e)
213342

### Scope(s) or Scope 3 category(ies) where emissions savings occur
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**
>30 years

**Comment**

**Initiative category & Initiative type**

| | |
|---|---|
| Low-carbon energy generation | Solar PV |

**Estimated annual CO2e savings (metric tonnes CO2e)**
5243

**Scope(s) or Scope 3 category(ies) where emissions savings occur**
Scope 2 (market-based)

**Voluntary/Mandatory**
Voluntary

**Annual monetary savings (unit currency – as specified in C0.4)**
156000000

**Investment required (unit currency – as specified in C0.4)**
91000000

**Payback period**
4-10 years

**Estimated lifetime of the initiative**
21-30 years

**Comment**

## C4.3c

### (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 | 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 |

| | |
|---|---|
| reduction activities | 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. |

## C4.5

**(C4.5) Do you classify any of your existing goods and/or services as low-carbon products?**
Yes

## C4.5a

**(C4.5a) Provide details of your products and/or services that you classify as low-carbon products.**

**Level of aggregation**
Product or service

**Taxonomy used to classify product(s) or service(s) as low-carbon**
The IEA Energy Technology Perspectives Clean Energy Technology Guide

**Type of product(s) or service(s)**

| | |
|---|---|
| Other | Other, please specify (Laundry detergent) |

**Description of product(s) or service(s)**
Rinsing in the washing machine is usually done twice, but we sell laundry detergents that can achieve one rinse. By reducing the number of rinses to one, the amount of electricity used by the washing machine and the amount of water used are reduced, which is effective in reducing CO2.

**Have you estimated the avoided emissions of this low-carbon product(s) or service(s)**
Yes

**Methodology used to calculate avoided emissions**
Evaluating the carbon-reducing impacts of ICT

**Life cycle stage(s) covered for the low-carbon product(s) or services(s)**
Use stage

**Functional unit used**
CO2 emissions per washing machine one time use

**Reference product/service or baseline scenario used**
Baseline product is the case of laundry detergent that are needed to be rinsed twice using a vertical washing machine. This baseline need laudrydetergent 41.8g, electrical power 53.2WH and water 104 leter.

**Life cycle stage(s) covered for the reference product/service or baseline scenario**

Use stage

**Estimated avoided emissions (metric tons CO2e per functional unit) compared to reference product/service or baseline scenario**
0.000068

**Explain your calculation of avoided emissions, including any assumptions**
Condition of laundry detergent that are rinsed once using a washing machine is as below.
Concentrated type laundry detergent 16.8g
Power consumption 45.1WH  Uses 96L of water
Concentrated laundry detergent 0.138kg CO2 per one time use  Baseline product base unit 0.206kg CO2 per one time use  0.206kg - 0.138kg = 0.068 kg CO2 per one time use

**Revenue generated from low-carbon product(s) or service(s) as % of total revenue in the reporting year**
4.79

## C5. Emissions methodology

### C5.1

**(C5.1) Is this your first year of reporting emissions data to CDP?**
No

### C5.1a

**(C5.1a) Has your organization undergone any structural changes in the reporting year, or are any previous structural changes being accounted for in this  disclosure of emissions data?**

**Row 1**

**Has there been a structural change?**
No

**Name of organization(s) acquired, divested from, or merged with**
<Not Applicable>

**Details of structural change(s), including completion dates**
<Not Applicable>

### C5.1b

**(C5.1b) Has your emissions accounting methodology, boundary, and/or reporting year definition changed in the reporting year?**

| | Change(s) in methodology, boundary, and/or reporting year definition? | Details of methodology, boundary, and/or reporting year definition change(s) |
|---|---|---|
| Row 1 | No | <Not Applicable> |

## C5.2

### (C5.2) Provide your base year and

### base year emissions. 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**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
447267

**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**

**Scope 3 category 1: Purchased goods and services Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
4496000

**Comment**

**Scope 3 category 2: Capital goods Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
239000

**Comment**

**Scope 3 category 3: Fuel-and-energy-related activities (not included in Scope 1 or 2) Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
29000

**Comment**

**Scope 3 category 4: Upstream transportation and distribution**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
253000

**Comment**

**Scope 3 category 5: Waste generated in operations Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
58000

**Comment**

**Scope 3 category 6: Business travel Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
4000

**Comment**

**Scope 3 category 7: Employee commuting Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
18000

**Comment**

**Scope 3 category 8: Upstream leased assets Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
0

**Comment**

**Scope 3 category 9: Downstream transportation and distribution Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
97000

**Comment**

**Scope 3 category 10: Processing of sold products Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
119000

**Comment**

**Scope 3 category 11: Use of sold products**

**Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
4570000

**Comment**

**Scope 3 category 12: End of life treatment of sold products Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
1415000

**Comment**

**Scope 3 category 13: Downstream leased assets Base year start**
January 1 2017

**Base year end**
December 31 2017

**Base year emissions (metric tons CO2e)**
0

**Comment**

**Scope 3 category 14: Franchises Base year start**

January 1 2017

**Base year end**

December 31 2017

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

0

**Comment**

**Scope 3 category 15: Investments Base year start**

January 1 2017

**Base year end**

December 31 2017

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

7000

**Comment**

**Scope 3: Other (upstream) Base year start**

January 1 2017

**Base year end**

December 31 2017

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

0

**Comment**

**Scope 3: Other (downstream) Base year start**

January 1 2017

**Base year end**

December 31 2017

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

0

**Comment**

## C5.3

**(C5.3) Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate emissions.**

IPCC Guidelines for National Greenhouse Gas Inventories, 2006 ISO 14064-1

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

The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition) The Greenhouse Gas Protocol: Scope 2 Guidance

The Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Standard

## 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)**
595285

**Start date**
January 1 2022

**End date**
December 31 2022

**Comment Past year 1**

**Gross global Scope 1 emissions (metric tons CO2e)**
604624

**Start date**
January 1 2021

**End date**
December 31 2021

**Comment Past year 2**

**Gross global Scope 1 emissions (metric tons CO2e)**
616385

**Start date**
January 1 2020

**End date**
December 31 2020

**Comment Past year 3**

**Gross global Scope 1 emissions (metric tons CO2e)**
644309

**Start date**
January 1 2019

**End date**
December 31 2019

**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**
423458

**Scope 2, market-based (if applicable)**
183013

**Start date**
January 1 2022

**End date**
December 31 2022

**Comment Past year 1**

**Scope 2, location-based**
435073

**Scope 2, market-based (if applicable)**
241490

**Start date**
January 1 2021

**End date**
December 31 2021

**Comment Past year 2**

**Scope 2, location-based**
443419

**Scope 2, market-based (if applicable)**
283430

**Start date**
January 1 2020

**End date**
December 31 2020

**Comment Past year 3**

**Scope 2, location-based**
443636

**Scope 2, market-based (if applicable)**
320081

**Start date**
January 1 2019

**End date**
December 31 2019

**Comment**

## C6.4

**(C6.4) Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1, Scope 2 or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure?**
Yes

## C6.4a

**(C6.4a) Provide details of the sources of Scope 1, Scope 2, or Scope 3 emissions that are within your selected reporting boundary which are not included in your disclosure.**

**Source of excluded emissions**
7 gasses (except CO2) on scope 1 from Factories, Offices, Warehouses, sales car outside Japan

**Scope(s) or Scope 3 category(ies)**
Scope 1

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

**Relevance of location-based Scope 2 emissions from this source**
<Not Applicable>

**Relevance of market-based Scope 2 emissions from this source**
<Not Applicable>

**Relevance of Scope 3 emissions from this source**
<Not Applicable>

**Date of completion of acquisition or merger**
<Not Applicable>

**Estimated percentage of total Scope 1+2 emissions this excluded source represents**
1.2

**Estimated percentage of total Scope 3 emissions this excluded source represents**
<Not Applicable>

**Explain why this source is excluded**
So far, we have only collected CO2 data from factories, offices, warehouses, and commercial vehicles outside of Japan. Assuming that the 7 non-CO2 gases outside Japan are emitted at the same rate as the actual data collected in Japan, the non-CO2 emissions from these sources are estimated to be about 1.20% of the total.

increase.

**Explain how you estimated the percentage of emissions this excluded source represents**

The total emissions of the seven gases in Japan were 2,91,000 tons. GHG emissions in Japan is 242,000 tons, so the ratio of emissions is calculated as 2.91/242=1.20(%).

## C6.5

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

**Evaluation status**

Relevant, calculated

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

4109000

**Emissions calculation methodology**

Supplier-specific method Hybrid method

Average data method

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

24

**Please explain**

We have established a CO2 emission factor for each type of raw material purchased. For raw materials that are purchased in large quantities, we get information directly from our suppliers. Other raw material CO2 emission information is sourced from a database.

### Capital goods

**Evaluation status**

Relevant, calculated

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

284852

**Emissions calculation methodology**

Spend-based method

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

0

**Please explain**

Calculated by multiplying spend-based cost by a database-derived emission factor.

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

**Evaluation status**

Relevant, calculated

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

58203

**Emissions calculation methodology**

Spend-based method

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

**Please explain**
Calculated by multiplying spend-based Scope-1 and 2 by a database-derived emission factor.

**Upstream transportation and distribution Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
241268

**Emissions calculation methodology**
Average spend-based method

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

**Please explain**
Calculated by multiplying average spend-based raw material transportation distance by a database-derived emission factor.

**Waste generated in operations Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
65742

**Emissions calculation methodology**
Waste-type-specific method

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

**Please explain**
Kao confirms the amount of waste generated for each type of waste.
It is calculated by multiplying each database-derived emission factor by the amount of waste generated.

**Business travel Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
4617

**Emissions calculation methodology**
Average data method

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

**Please explain**
Calculated by multiplying average spend-based business trip by a database-derived emission factor.

**Employee commuting Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
18384

**Emissions calculation methodology**
Average data method

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

**Please explain**
Calculated by multiplying average spend-based employee commuting by a database-derived emission factor.

**Upstream leased assets**

**Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

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

**Please explain**
Kao have leased assets. All Kao's leased assets include scope 1&2. We evaluate that upstream leased asset emissions are zero.

**Downstream transportation and distribution  Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
109413

**Emissions calculation methodology**
Hybrid method  Average data method

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

**Please explain**
Calculated by multiplying average spend-based product transportation distance by a database-derived emission factor.

**Processing of sold products  Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
131424

**Emissions calculation methodology**
Average product method

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

**Please explain**
Calculated by multiplying average processing of sold products by a database-derived emission factor.

**Use of sold products  Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
4680000

### Emissions calculation methodology

Methodology for direct use phase emissions, please specify (Kao products use water and electricity at the stage of use. So, we investigate the average value of water and electricity used for each product. Multiply the calculated CO2 emission factor of water and electricity used by the sales quantity.)

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

0

### Please explain

Kao products use water and electricity when used. So, we investigate and find the average amount of water and electricity used for each product. Multiply the calculated CO2 emission factor of water and electricity used by the sales quantity.

## End of life treatment of sold products

### Evaluation status

Relevant, calculated

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

1417000

### Emissions calculation methodology

Waste-type-specific method

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

0

### Please explain

Kao has information on the materials used in its products. For each material, we multiply the CO2 emission factor by the sales.

## Downstream leased assets

### Evaluation status

Not relevant, explanation provided

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

### Please explain

Kao doesn't have downstream leased assets.
So, we choose Not relevant, explanation provided

## Franchises Evaluation status

Not relevant, explanation provided

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

<Not Applicable>

### Emissions calculation methodology

<Not Applicable>

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

<Not Applicable>

**Please explain**
Kao doesn't have franchises.
So, we choose Not relevant, explanation provided.

**Investments Evaluation status**
Relevant, calculated

**Emissions in reporting year (metric tons CO2e)**
5125

**Emissions calculation methodology**
Investment-specific method

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

**Please explain**
Calculated by multiplying average processing of sold products by a database-derived emission factor.

**Other (upstream) Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

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

**Please explain**
Kao's Scope 3 covers all categories 1 to 15.

**Other (downstream) Evaluation status**
Not relevant, explanation provided

**Emissions in reporting year (metric tons CO2e)**
<Not Applicable>

**Emissions calculation methodology**
<Not Applicable>

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

**Please explain**
Kao's Scope 3 covers all categories 1 to 15.

## C6.5a

**(C6.5a) Disclose or restate your Scope 3 emissions data for previous years. Past year 1**

**Start date**
January 1 2021

**End date**
December 31 2021

**Scope 3: Purchased goods and services (metric tons CO2e)**
4228000

**Scope 3: Capital goods (metric tons CO2e)**
264000

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
60000

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
245000

**Scope 3: Waste generated in operations (metric tons CO2e)**
68000

**Scope 3: Business travel (metric tons CO2e)**
4000

**Scope 3: Employee commuting (metric tons CO2e)**
18000

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
108000

**Scope 3: Processing of sold products (metric tons CO2e)**
131000

**Scope 3: Use of sold products (metric tons CO2e)**
4647000

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
1432000

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
5000

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**

**Past year 2**

**Start date**
January 1 2020

**End date**
December 31 2020

**Scope 3: Purchased goods and services (metric tons CO2e)**
4215000

**Scope 3: Capital goods (metric tons CO2e)**
259000

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
59000

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
249000

**Scope 3: Waste generated in operations (metric tons CO2e)**
65000

**Scope 3: Business travel (metric tons CO2e)**
4000

**Scope 3: Employee commuting (metric tons CO2e)**
18000

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
111000

**Scope 3: Processing of sold products (metric tons CO2e)**
116000

**Scope 3: Use of sold products (metric tons CO2e)**
4653000

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
1438000

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
6000

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**

**Past year 3**

**Start date**
January 1 2019

**End date**
December 31 2019

**Scope 3: Purchased goods and services (metric tons CO2e)**
4295000

**Scope 3: Capital goods (metric tons CO2e)**
342000

**Scope 3: Fuel and energy-related activities (not included in Scopes 1 or 2) (metric tons CO2e)**
30000

**Scope 3: Upstream transportation and distribution (metric tons CO2e)**
254000

**Scope 3: Waste generated in operations (metric tons CO2e)**
56000

**Scope 3: Business travel (metric tons CO2e)**
4000

**Scope 3: Employee commuting (metric tons CO2e)**
17000

**Scope 3: Upstream leased assets (metric tons CO2e)**
0

**Scope 3: Downstream transportation and distribution (metric tons CO2e)**
107000

**Scope 3: Processing of sold products (metric tons CO2e)**
111000

**Scope 3: Use of sold products (metric tons CO2e)**
4510000

**Scope 3: End of life treatment of sold products (metric tons CO2e)**
1432000

**Scope 3: Downstream leased assets (metric tons CO2e)**
0

**Scope 3: Franchises (metric tons CO2e)**
0

**Scope 3: Investments (metric tons CO2e)**
7000

**Scope 3: Other (upstream) (metric tons CO2e)**
0

**Scope 3: Other (downstream) (metric tons CO2e)**
0

**Comment**

## C6.7

### (C6.7) Are carbon dioxide emissions from biogenic carbon relevant to your organization?

Yes

## C6.7a

### (C6.7a) Provide the emissions from biogenic carbon relevant to your organization in metric tons CO2.

| | CO2 emissions from biogenic carbon (metric tons CO2) | Comment |
|---|---|---|
| Row 1 | 35863.06 | |

## 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**

5.018

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

778229

**Metric denominator**

unit total revenue

**Metric denominator: Unit total**

1551059000000

**Scope 2 figure used**

Market-based

**% change from previous year**

15.86

**Direction of change**

Decreased

**Reason(s) for change**

Change in renewable energy consumption Other emissions reduction activities

**Please explain**

Sales in 2022 increased 9.32% over the previous year. On the other hand, CO2 emissions decreased by 8.01% from the previous year as a result of numerous reduction activities. As a result, the basic unit decreased by 15.9% from the previous year. We are promoting the introduction of self-consumption solar power generation equipment at each Kao-owned facility. In 2022, facilities installed at the Wakayama Plant, Kawasaki Plant, Kao Hefei, Shanghai Kako, Kimi-Kao, and Kao Corporation (Spain) will start generating electricity. The total power generation in 2022 is 10,467 MWh. We are also promoting the

purchase of renewable electricity. Kao Chemical Germany, Kao Manufacturing Germany, Kao Corporation (Spain), Kao Chimigraph, Molton Brown, Kao USA, Kao Corporation Sakata Plant, Tochigi Plant, Kashima Plant, Sumida Plant, Kawasaki Plant, Odawara Business sites, Toyohashi Plant, Wakayama Plant, Arita Training Center, Osaka Plant, Ibaraki SP, Seiwaryo, Kiwaryo, Minato Club, Kao Sanitary Products Ehime Co., Ltd., Kao Paper Fuji Co., Ltd., Kao Logistics Co., Ltd. , Kao Group Customer Marketing Co., Ltd., and four factories in China (Shanghai Kao, Shanghai Kako, Kao Hefei, and Kao Fuldao) have replaced all purchased electricity with renewable electricity. The use of renewable energy power has reduced CO2 emissions by 219,000 tons.

## 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 | 592471 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| CH4 | 168 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| N2O | 686 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| HFCs | 1942 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| PFCs | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| SF6 | 19 | IPCC Fifth Assessment Report (AR5 – 100 year) |
| NF3 | 0 | IPCC Fifth Assessment Report (AR5 – 100 year) |

### C7.2

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

| Country/area/region | Scope 1 emissions (metric tons CO2e) |
|---|---|
| Japan | 239751 |
| Asia Pacific (or JAPA) | 252111 |
| US, Latin America and Caribbean (USLAC) | 50674 |
| Eastern Europe, Middle East, and Africa (EEMEA) | 52749 |

## 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 | 582573 |
| Office,sales | 12713 |

## C7.5

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

| Country/area/region | Scope 2, location-based (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Japan | 148449 | 2504 |
| Asia Pacific (or JAPA) | 191424 | 169028 |
| US, Latin America and Caribbean (USLAC) | 61132 | 5386 |
| Europe, the Middle East, Africa and Russia (EMEAR) | 22453 | 6094 |

## 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 (metric tons CO2e) | Scope 2, market-based (metric tons CO2e) |
|---|---|---|
| Production | 393493 | 175135 |
| Offices, sales | 29966 | 7878 |

## C7.7

**(C7.7) Is your organization able to break down your emissions data for any of the subsidiaries included in your CDP response?**

Yes

## C7.7a

**(C7.7a) Break down your gross Scope 1 and Scope 2 emissions by subsidiary.**

**Subsidiary name**

Kao Sanitary Products Ehime Co., Ltd.

**Primary activity**

Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**

No unique identifier

**ISIN code – bond**

<Not Applicable>

**ISIN code – equity**

<Not Applicable>

**CUSIP number**

<Not Applicable>

**Ticker symbol**

<Not Applicable>

**SEDOL code**

<Not Applicable>

**LEI number**

<Not Applicable>

**Other unique identifier**

<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**

2978

**Scope 2, location-based emissions (metric tons CO2e)**

19563

**Scope 2, market-based emissions (metric tons CO2e)**

0

**Comment**

**Subsidiary name**

Kao Paper Fuji Co., Ltd.

**Primary activity**
Paper products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
7844

**Scope 2, location-based emissions (metric tons CO2e)**
4033

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao Group Customer Marketing Co., Ltd.

**Primary activity**
Marketing

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
5229

**Scope 2, location-based emissions (metric tons CO2e)**
2803

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao Logistics Co., Ltd.

**Primary activity**
Logistics - transport

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
163

**Scope 2, location-based emissions (metric tons CO2e)**
16810

**Scope 2, market-based emissions (metric tons CO2e)**
0

### Comment

### Subsidiary name
Equip Co., Ltd.

### Primary activity
Personal care & household products

### Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

### ISIN code – bond
<Not Applicable>

### ISIN code – equity
<Not Applicable>

### CUSIP number
<Not Applicable>

### Ticker symbol
<Not Applicable>

### SEDOL code
<Not Applicable>

### LEI number
<Not Applicable>

### Other unique identifier
<Not Applicable>

### Scope 1 emissions (metric tons CO2e)
11

### Scope 2, location-based emissions (metric tons CO2e)
146

### Scope 2, market-based emissions (metric tons CO2e)
139

### Comment

### Subsidiary name
Kao Corporation Shanghai

### Primary activity
Personal care & household products

### Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

### ISIN code – bond
<Not Applicable>

### ISIN code – equity
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
870

**Scope 2, location-based emissions (metric tons CO2e)**
10759

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao (Shanghai) Chemical Industries Co., Ltd.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
346

**Scope 2, location-based emissions (metric tons CO2e)**
19840

**Scope 2, market-based emissions (metric tons CO2e)**
11642

**Comment**

---

**Subsidiary name**
Kao Huludao Casting Materials Co., Ltd.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
40

**Scope 2, location-based emissions (metric tons CO2e)**
1253

**Scope 2, market-based emissions (metric tons CO2e)**
733

**Comment**

---

**Subsidiary name**
Kao (Taiwan) Corporation

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
2373

**Scope 2, location-based emissions (metric tons CO2e)**
19667

**Scope 2, market-based emissions (metric tons CO2e)**
18439

**Comment**

---

**Subsidiary name**
Kao Vietnam Co., Ltd.

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
574

**Scope 2, location-based emissions (metric tons CO2e)**
789

**Scope 2, market-based emissions (metric tons CO2e)**
789

**Comment**

---

**Subsidiary name**
Kao (hefei) Co. Ltd

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
1

**Scope 2, location-based emissions (metric tons CO2e)**
1691

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Pilipinas Kao, Incorporated

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
96849

**Scope 2, location-based emissions (metric tons CO2e)**
32344

**Scope 2, market-based emissions (metric tons CO2e)**
32344

**Comment**

---

**Subsidiary name**
Kao Industrial (Thailand) Co., Ltd.

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
12160

**Scope 2, location-based emissions (metric tons CO2e)**
9436

**Scope 2, market-based emissions (metric tons CO2e)**
9436

**Comment**

---

**Subsidiary name**
Fatty Chemical (Malaysia) Sdn. Bhd.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
123605

**Scope 2, location-based emissions (metric tons CO2e)**
25367

**Scope 2, market-based emissions (metric tons CO2e)**
25367

### Comment

### Subsidiary name
PT Kao Indonesia

### Primary activity
Personal care & household products

### Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

### ISIN code – bond
<Not Applicable>

### ISIN code – equity
<Not Applicable>

### CUSIP number
<Not Applicable>

### Ticker symbol
<Not Applicable>

### SEDOL code
<Not Applicable>

### LEI number
<Not Applicable>

### Other unique identifier
<Not Applicable>

### Scope 1 emissions (metric tons CO2e)
6935

### Scope 2, location-based emissions (metric tons CO2e)
53303

### Scope 2, market-based emissions (metric tons CO2e)
53303

### Comment

### Subsidiary name
PT. Kao Indonesia Chemicals

### Primary activity
Other base chemicals

### Select the unique identifier(s) you are able to provide for this subsidiary
No unique identifier

### ISIN code – bond
<Not Applicable>

### ISIN code – equity
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
8358

**Scope 2, location-based emissions (metric tons CO2e)**
16975

**Scope 2, market-based emissions (metric tons CO2e)**
16975

**Comment**

---

**Subsidiary name**
Kao USA Inc.

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
5804

**Scope 2, location-based emissions (metric tons CO2e)**
5625

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao Specialties Americas LLC

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
15436

**Scope 2, location-based emissions (metric tons CO2e)**
7793

**Scope 2, market-based emissions (metric tons CO2e)**
462

**Comment**

---

**Subsidiary name**
Kao Collins Inc.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
226

**Scope 2, location-based emissions (metric tons CO2e)**
439

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Quimi-Kao, S.A. de C.V.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
29208

**Scope 2, location-based emissions (metric tons CO2e)**
47275

**Scope 2, market-based emissions (metric tons CO2e)**
4924

**Comment**

---

**Subsidiary name**
Kao Manufacturing Germany GmbH

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
1238

**Scope 2, location-based emissions (metric tons CO2e)**
1662

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao Chemicals GmbH

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
5773

**Scope 2, location-based emissions (metric tons CO2e)**
7772

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Molton Brown Limited

**Primary activity**
Personal care & household products

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
223

**Scope 2, location-based emissions (metric tons CO2e)**
217

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

---

**Subsidiary name**
Kao Corporation, S.A.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
39534

**Scope 2, location-based emissions (metric tons CO2e)**
6314

**Scope 2, market-based emissions (metric tons CO2e)**
0

### Comment

**Subsidiary name**
Kao Chimigraf, S.L.

**Primary activity**
Other base chemicals

**Select the unique identifier(s) you are able to provide for this subsidiary**
No unique identifier

**ISIN code – bond**
<Not Applicable>

**ISIN code – equity**
<Not Applicable>

**CUSIP number**
<Not Applicable>

**Ticker symbol**
<Not Applicable>

**SEDOL code**
<Not Applicable>

**LEI number**
<Not Applicable>

**Other unique identifier**
<Not Applicable>

**Scope 1 emissions (metric tons CO2e)**
103

**Scope 2, location-based emissions (metric tons CO2e)**
394

**Scope 2, market-based emissions (metric tons CO2e)**
0

**Comment**

## 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 in emissions | Emissions value (percentage) | Please explain calculation |
|---|---|---|---|---|
| Change in renewable energy consumption | 50504.8 | Decreased | 5.97 | In 2022, total emissions will be It decreased by 8.01% from the previous year. In 2022, we reduced 50,505 (tCO2e) by promoting an emission reduction project through the introduction of renewable energy. The total emissions of Scope 1 and Scope 2 in 2021 is 846,114 (tCO2e), so (- 50,505/846,114) * 100 = -5.97% (i.e. emissions decreased by 5.97% from the previous year). |
| Other emissions reduction activities | 5820.3 | Decreased | 0.69 | In 2022, we reduced 5,820 (tCO2e) through energy-saving activities promoted by the entire Kao Group. The total emissions of Scope 1 and Scope 2 in 2021 is 846,114 (tCO2e), so (-5,820/846,114) * 100 = -0.69% (that is, emissions decreased by 0.69% from the previous year). |
| Divestment | | <Not Applicable> | | |
| Acquisitions | | <Not Applicable> | | |
| Mergers | | <Not Applicable> | | |
| Change in output | 40287 | Decreased | 4.76 | The production volume in 2022 decreased by 2.7% from the previous year, resulting in a decrease of 40,287 (tCO2e). Total Scope 1 and Scope 2 emissions in 2021 are 846,114 (tCO2e), so (-40,287/846,114)*100=-4.76% (i.e. emissions decreased by 4.76% year-on-year). |
| Change in methodology | 7058.8 | Decreased | 0.83 | A reduction of 7,059 (tCO2e) was achieved due to changes in the GHG emission factor associated with changes in electric power companies and electricity menus. Total Scope 1 and Scope 2 emissions in 2021 are 846,114 (tCO2e), so (-7,059/846,114)*100=-0.83% (i.e. emissions decreased by 0.83% year-on-year). |
| Change in boundary | | <Not Applicable> | | |
| Change in physical operating conditions | | <Not Applicable> | | |
| Unidentified | 7102.5 | Increased | 0.84 | There was unidentified as 0.84%. |
| Other | 28753.7 | Increased | 3.4 | Increased by 28,754 (tCO2e) due to changes in product composition. Total Scope 1 and Scope |

| | | | | |
|---|---|---|---|---|
| | | | | 2 emissions in 2021 are 846,114 (tCO2e), so (28,754/846,114)*100=3.40% (i.e. emissions increased by 3.40% year-on-year). |

## 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 95% but less than or equal to 100%

## C8.2

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

| | Indicate whether your organization undertook this energy-related activity in the reporting year |
|---|---|
| Consumption of fuel (excluding feedstocks) | Yes |
| Consumption of purchased or acquired electricity | Yes |
| Consumption of purchased or acquired heat | No |
| Consumption of purchased or acquired steam | 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 | MWh from non- | Total (renewable and |
|---|---|---|---|---|

| | | renewable sources | renewable sources | non-renewable) MWh |
|---|---|---|---|---|
| Consumption of fuel (excluding feedstock) | HHV (higher heating value) | 0 | 2739847 | 2739847 |
| Consumption of purchased or acquired electricity | <Not Applicable> | 1230497 | 898267 | 2128764 |
| Consumption of purchased or acquired heat | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of purchased or acquired steam | <Not Applicable> | 0 | 58336 | 58336 |
| Consumption of purchased or acquired cooling | <Not Applicable> | <Not Applicable> | <Not Applicable> | <Not Applicable> |
| Consumption of self-generated non-fuel renewable energy | <Not Applicable> | 9936 | <Not Applicable> | 9936 |
| Total energy consumption | <Not Applicable> | 1240433 | 3696450 | 4936883 |

## 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. Sustainable biomass

#### Heating value

HHV

#### Total fuel MWh consumed by the organization

0

#### 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

0

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

<Not Applicable>

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

**Comment**

**Other biomass**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
0

**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**
0

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

**Comment**

**Other renewable fuels (e.g. renewable hydrogen) Heating value**
HHV

**Total fuel MWh consumed by the organization**
0

**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**
0

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

**Comment**

### Coal

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
0

**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**
0

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

**Comment**

### Oil

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
362041

**MWh fuel consumed for self-generation of electricity**
20094

**MWh fuel consumed for self-generation of heat**
46276

**MWh fuel consumed for self-generation of steam**
295671

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

**Comment**

### Gas

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
2377806

**MWh fuel consumed for self-generation of electricity**
0

**MWh fuel consumed for self-generation of heat**
275174

**MWh fuel consumed for self-generation of steam**
836945

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

**MWh fuel consumed for self- cogeneration or self-trigeneration**
1265687

**Comment**

**Other non-renewable fuels (e.g. non-renewable hydrogen) Heating value**
HHV

**Total fuel MWh consumed by the organization**
0

**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**
0

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

**Comment**

**Total fuel**

**Heating value**
HHV

**Total fuel MWh consumed by the organization**
2739847

**MWh fuel consumed for self-generation of electricity**
20094

**MWh fuel consumed for self-generation of heat**
321450

**MWh fuel consumed for self-generation of steam**
1132616

**MWh fuel consumed for self-generation of cooling**
<Not Applicable>

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

1265687

**Comment**

## C8.2d

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

| | Total Gross generation (MWh) | Generation that is consumed by the organization (MWh) | Gross generation from renewable sources (MWh) | Generation from renewable sources that is consumed by the organization (MWh) |
|---|---|---|---|---|
| Electricity | 284928 | 214854 | 10547 | 9936 |
| Heat | 0 | 0 | 0 | 0 |
| Steam | 0 | 0 | 0 | 0 |
| Cooling | 0 | 0 | 0 | 0 |

## C8.2g

**(C8.2g) Provide a breakdown by country/area of your non-fuel energy consumption in the reporting year.**

**Country/area**
Japan

**Consumption of purchased electricity (MWh)**
854615

**Consumption of self-generated electricity (MWh)**
217389

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
743004

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
1815008

**Country/area**
United States of America

**Consumption of purchased electricity (MWh)**
101524

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
32590

**Consumption of self-generated heat, steam, and cooling (MWh)**
134114

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
268228

---

**Country/area**
Mexico

**Consumption of purchased electricity (MWh)**
26311

**Consumption of self-generated electricity (MWh)**
3409

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
29720

---

**Country/area**
Spain

**Consumption of purchased electricity (MWh)**
93232

**Consumption of self-generated electricity (MWh)**
331

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
93563

---

**Country/area**
Germany

**Consumption of purchased electricity (MWh)**
55179

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
23602

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
78781

---

**Country/area**
United Kingdom of Great Britain and Northern Ireland

**Consumption of purchased electricity (MWh)**
2148

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
2148

---

**Country/area**
China

**Consumption of purchased electricity (MWh)**
52514

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
37262

**Consumption of self-generated heat, steam, and cooling (MWh)**
37262

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
127038

---

**Country/area**
Taiwan, China

**Consumption of purchased electricity (MWh)**
58735

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
21074

**Consumption of self-generated heat, steam, and cooling (MWh)**
21074

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
100883

---

**Country/area**
Philippines

**Consumption of purchased electricity (MWh)**
230002

**Consumption of self-generated electricity (MWh)**
55

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
216440

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
446497

---

**Country/area**
Thailand

**Consumption of purchased electricity (MWh)**
133293

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**

No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
133293

---

**Country/area**
Viet Nam

**Consumption of purchased electricity (MWh)**
2477

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
1239

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
3716

---

**Country/area**
Malaysia

**Consumption of purchased electricity (MWh)**
138568

**Consumption of self-generated electricity (MWh)**
14238

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
152806

---

**Country/area**
Indonesia

**Consumption of purchased electricity (MWh)**
375631

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
21480

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
397111

---

**Country/area**
Australia

**Consumption of purchased electricity (MWh)**
267

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
267

---

**Country/area**
New Zealand

**Consumption of purchased electricity (MWh)**
44

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
44

---

**Country/area**
Canada

**Consumption of purchased electricity (MWh)**
972

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
972

---

**Country/area**
Brazil

**Consumption of purchased electricity (MWh)**
8

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
8

---

**Country/area**
Italy

**Consumption of purchased electricity (MWh)**
1194

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
1194

---

**Country/area**
Austria

**Consumption of purchased electricity (MWh)**
40

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
40

---

**Country/area**
Belgium

**Consumption of purchased electricity (MWh)**
52

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
52

---

**Country/area**
Switzerland

**Consumption of purchased electricity (MWh)**

234

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
234

---

**Country/area**
Czechia

**Consumption of purchased electricity (MWh)**
58

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
58

---

**Country/area**
Finland

**Consumption of purchased electricity (MWh)**
125

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
125

**Country/area**
France

**Consumption of purchased electricity (MWh)**
47

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
47

---

**Country/area**
Netherlands

**Consumption of purchased electricity (MWh)**
291

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
291

---

**Country/area**
Norway

**Consumption of purchased electricity (MWh)**
67

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
67

---

**Country/area**
Sweden

**Consumption of purchased electricity (MWh)**
213

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
213

---

**Country/area**
Denmark

**Consumption of purchased electricity (MWh)**
109

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
109

---

**Country/area**
South Africa

**Consumption of purchased electricity (MWh)**
223

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
223

---

**Country/area**
Singapore

**Consumption of purchased electricity (MWh)**
143

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
143

---

**Country/area**
Hong Kong SAR, China

**Consumption of purchased electricity (MWh)**
452

**Consumption of self-generated electricity (MWh)**
0

**Is this electricity consumption excluded from your RE100 commitment?**
No

**Consumption of purchased heat, steam, and cooling (MWh)**
0

**Consumption of self-generated heat, steam, and cooling (MWh)**
0

**Total non-fuel energy consumption (MWh) [Auto-calculated]**
452

## (C8.2h) Provide details of your organization's renewable electricity purchases in the reporting year by country/area.

### Country/area of consumption of purchased renewable electricity
Japan

### Sourcing method
Physical power purchase agreement (physical PPA) with a grid-connected generator

### Renewable electricity technology type
Solar

### Renewable electricity consumed via selected sourcing method in the reporting year (MWh)
9291

### Tracking instrument used
Contract

### Country/area of origin (generation) of purchased renewable electricity
Japan

### Are you able to report the commissioning or re-powering year of the energy generation facility?
Yes

### Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)
2022

### Vintage of the renewable energy/attribute (i.e. year of generation)
2022

### Supply arrangement start year
2022

### Additional, voluntary label associated with purchased renewable electricity
No additional, voluntary label

### Comment
Power generation company Genex and retail electricity company Minna Denryoku signed a basic contract agreement for a corporate PPA (power purchase agreement),  and from February 2022, Kao will start supplying renewable energy power to its headquarters. It has started. We purchase electricity from four solar power plants in Japan  (two locations in Shizuoka, Hyogo, and Nara prefectures) at a fixed price over the long term.

---

### Country/area of consumption of purchased renewable electricity
Japan

### Sourcing method
Retail supply contract with an electricity supplier (retail green electricity)

### Renewable electricity technology type
Renewable electricity mix, please specify (Biomass(16%), Wind (29%), Solar (44%), Hydro (11%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
791091

**Tracking instrument used**
Other, please specify (Non-fossil certificate)

**Country/area of origin (generation) of purchased renewable electricity**
Japan

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2013

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2021

**Supply arrangement start year**
2013

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Kao Japan have purchased electricity with zero CO2 emissions using non-fossil certificates with tracking at Wakayama Plant, Sumida Plant, Sakata Plant, Kawasaki Plant, Tochigi Plant, Kashima Plant, Toyohashi Plant, Ehime Plant, Odawara Plant and Fuji Plant. KCMK (Kao Customer Marketing) and Kao Logistics and some offices in Japan also have purchased electricity with zero CO2 emissions using non-fossil certificates with tracking.

---

**Country/area of consumption of purchased renewable electricity**
Japan

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Solar

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
34835

**Tracking instrument used**
Other, please specify (Non-fossil certificate)

**Country/area of origin (generation) of purchased renewable electricity**
Japan

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2013

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2021

**Supply arrangement start year**
2013

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
KCMK (Kao Customer Marketing) and Kao Logistics in Japan have purchased Non-fossil certificate with tracking for mainly their rental offices since 2022.

---

**Country/area of consumption of purchased renewable electricity**
Japan

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Sustainable Biomass

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
465

**Tracking instrument used**
Other, please specify (Renewable Energy Certificate)

**Country/area of origin (generation) of purchased renewable electricity**
Japan

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2006

**Vintage of the renewable energy/attribute (i.e. year of generation)**
Before 2020

**Supply arrangement start year**
2020

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Arita Training Center in Kao Japan had purchased "Renewable Energy Certificates electricity" from 2020 to 2022.

---

**Country/area of consumption of purchased renewable electricity**
China

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Large hydropower (>25 MW)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
48854

**Tracking instrument used**
I-REC

**Country/area of origin (generation) of purchased renewable electricity**
China

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2002

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2022

**Supply arrangement start year**
2020

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Kao Corporation Shanghai, Kao Chemical Corporation Shanghai, Kao Huludao Casting Materials and Kao (Hefei) have converted all purchased electricity into renewable energy sources since 2020.

---

**Country/area of consumption of purchased renewable electricity**
Philippines

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Large hydropower (>25 MW)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
57016

**Tracking instrument used**
I-REC

**Country/area of origin (generation) of purchased renewable electricity**
Philippines

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2003

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2022

**Supply arrangement start year**
2022

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Pilipinas Kao started to convert purchased electricity into renewable energy sources in 2022. We plan to convert purchased electricity into 100% renewable energy sources by 2025.

---

**Country/area of consumption of purchased renewable electricity**
Thailand

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Solar

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
66558

**Tracking instrument used**
I-REC

**Country/area of origin (generation) of purchased renewable electricity**
Thailand

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2016

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2022

**Supply arrangement start year**
2022

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Kao Industrial (Thailand) started to convert purchased electricity into renewable energy sources in 2022. We plan to convert purchased electricity into 100% renewable energy sources by 2025.

---

**Country/area of consumption of purchased renewable electricity**
Malaysia

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Large hydropower (>25 MW)

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
34549

**Tracking instrument used**
TIGR

**Country/area of origin (generation) of purchased renewable electricity**
Malaysia

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

---

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
1985

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2021

**Supply arrangement start year**
2022

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Fatty Chemical (Malaysia) started to convert purchased electricity into renewable energy sources in 2022. We plan to convert purchased electricity into 100% renewable energy sources by 2025.

---

**Country/area of consumption of purchased renewable electricity**
United States of America

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Renewable electricity mix, please specify (Wind (99%), Hydro (<1%), Solar (0%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
34267

**Tracking instrument used**
US-REC

**Country/area of origin (generation) of purchased renewable electricity**
United States of America

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2009

**Vintage of the renewable energy/attribute (i.e. year of generation)**
Before 2020

**Supply arrangement start year**
2020

**Additional, voluntary label associated with purchased renewable electricity**
Green-e

**Comment**
Kao USA has converted all purchased electricity into renewable energy sources.

---

**Country/area of consumption of purchased renewable electricity**
United States of America

**Sourcing method**
Unbundled procurement of Energy Attribute Certificates (EACs)

**Renewable electricity technology type**
Wind

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
2677

**Tracking instrument used**
US-REC

**Country/area of origin (generation) of purchased renewable electricity**
United States of America

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
1995

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2021

**Supply arrangement start year**
2021

**Additional, voluntary label associated with purchased renewable electricity**
Green-e

**Comment**
Kao Collins started to convert all purchased electricity into renewable energy sources in 2022.

---

**Country/area of consumption of purchased renewable electricity**
Germany

**Sourcing method**
Retail supply contract with an electricity supplier (retail green electricity)

**Renewable electricity technology type**
Renewable electricity mix, please specify (Wind (50%), Solar (23%), Biomass (19%), Hydro (8%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
55179

**Tracking instrument used**
GO

**Country/area of origin (generation) of purchased renewable electricity**
Germany

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**
Before 2020

**Supply arrangement start year**
2018

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Kao Chemical Germany and Kao Manufacturing Germany have converted all purchased electricity into renewable energy sources. And also Kao Germany GmbH converted all purchased electricity into renewable energy sources in 2020.

---

**Country/area of consumption of purchased renewable electricity**
Spain

**Sourcing method**
Retail supply contract with an electricity supplier (retail green electricity)

**Renewable electricity technology type**
Renewable electricity mix, please specify (Wind (82%), Biomas (9%), Solar (6%), Hydro (3%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
89098

**Tracking instrument used**
GO

**Country/area of origin (generation) of purchased renewable electricity**
Spain

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**
Before 2020

**Supply arrangement start year**
2019

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
3 bases of Kao Corporation, S.A. have converted all purchased electricity into renewable energy sources.

---

**Country/area of consumption of purchased renewable electricity**
Spain

**Sourcing method**
Retail supply contract with an electricity supplier (retail green electricity)

**Renewable electricity technology type**
Renewable electricity mix, please specify (Wind (82%), Biomas (9%), Solar (6%), Hydro (3%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
4133

**Tracking instrument used**
GO

**Country/area of origin (generation) of purchased renewable electricity**
Spain

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
No

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
<Not Applicable>

**Vintage of the renewable energy/attribute (i.e. year of generation)**
Before 2020

**Supply arrangement start year**
2019

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
5 bases of Kao Chimigraf have converted all purchased electricity into renewable energy sources.

---

**Country/area of consumption of purchased renewable electricity**
United Kingdom of Great Britain and Northern Ireland

**Sourcing method**
Retail supply contract with an electricity supplier (retail green electricity)

**Renewable electricity technology type**
Renewable electricity mix, please specify (Wind (43%), Hydro (57%))

**Renewable electricity consumed via selected sourcing method in the reporting year (MWh)**
2072

**Tracking instrument used**
REGO

**Country/area of origin (generation) of purchased renewable electricity**
United Kingdom of Great Britain and Northern Ireland

**Are you able to report the commissioning or re-powering year of the energy generation facility?**
Yes

**Commissioning year of the energy generation facility (e.g. date of first commercial operation or repowering)**
2022

**Vintage of the renewable energy/attribute (i.e. year of generation)**
2022

**Supply arrangement start year**
2022

**Additional, voluntary label associated with purchased renewable electricity**
No additional, voluntary label

**Comment**
Molton Brown has converted all purchased electricity into renewable energy sources.

## C8.2i

**(C8.2i) Provide details of your organization's low-carbon heat, steam, and cooling purchases in the reporting year by country/area..**

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

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

**Energy carrier**
<Not Applicable>

**Low-carbon technology type**
<Not Applicable>

**Low-carbon heat, steam, or cooling consumed (MWh)**
<Not Applicable>

**Comment**

## C8.2j

**(C8.2j) Provide details of your organization's renewable electricity generation by country/area in the**

**reporting year.**

**Country/area of generation**
Japan

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
6.55

**Total renewable electricity generated by this facility in the reporting year (MWh)**
5977.28

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
5896.96

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
China

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
3.64

**Total renewable electricity generated by this facility in the reporting year (MWh)**
1563.03

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
1563.03

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Indonesia

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.04

**Total renewable electricity generated by this facility in the reporting year (MWh)**
45.86

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
45.86

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Malaysia

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.14

**Total renewable electricity generated by this facility in the reporting year (MWh)**
174.75

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
174.75

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Philippines

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.37

**Total renewable electricity generated by this facility in the reporting year (MWh)**
365.65

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
365.65

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Thailand

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.58

**Total renewable electricity generated by this facility in the reporting year (MWh)**
745.82

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
745.82

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Taiwan, China

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.44

**Total renewable electricity generated by this facility in the reporting year (MWh)**
530.8

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
0

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Spain

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.29

**Total renewable electricity generated by this facility in the reporting year (MWh)**
239.67

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
239.67

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
Mexico

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.5

**Total renewable electricity generated by this facility in the reporting year (MWh)**
744.27

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
744.27

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

---

**Country/area of generation**
United States of America

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.15

**Total renewable electricity generated by this facility in the reporting year (MWh)**
120.1

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
120.1

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**

<Not Applicable>

**Comment**

**Country/area of generation**
Austria

**Renewable electricity technology type**
Solar

**Facility capacity (MW)**
0.06

**Total renewable electricity generated by this facility in the reporting year (MWh)**
39.96

**Renewable electricity consumed by your organization from this facility in the reporting year (MWh)**
39.96

**Energy attribute certificates issued for this generation**
No

**Type of energy attribute certificate**
<Not Applicable>

**Comment**

## C8.2k

**(C8.2k) Describe how your organization's renewable electricity sourcing strategy directly or indirectly contributes to bringing new capacity into the grid in the countries/areas in which you operate.**

We believe that we can contribute to the spread of renewable energy power in countries / regions where the introduction of renewable energy power is not yet widespread by actively promoting the introduction based on the power procurement strategy. Especially in Japan, we are contributing to the spread of PPA, which is said to be highly additive, by introducing PPA to the head office as soon as possible and introducing examples.

## C8.2l

**(C8.2l) In the reporting year, has your organization faced any challenges to sourcing renewable electricity?**

| | Challenges to sourcing renewable electricity | Challenges faced by your organization which were not country/area-specific |
|---|---|---|
| Row 1 | Yes, in specific countries/areas in which we operate | <Not Applicable> |

## C8.2m

### (C8.2m) Provide details of the country/area-specific challenges to sourcing renewable electricity faced by your organization in the reporting year.

| Country/area | Reason(s) why it was challenging to source renewable electricity within selected country/area | Provide additional details of the barriers faced within this country/area |
|---|---|---|
| Taiwan, China | Limited supply of renewable electricity in the market | In Taiwan, the supply of renewable energy power cannot keep up with demand, making it difficult to procure the necessary and sufficient amount of certificates, and the price of renewable energy certificates is soaring. |

# C9. Additional metrics

## 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 emissions, and attach the relevant statements.

**Verification or assurance cycle in place**
Annual process

**Status in the current reporting year**
Complete

**Type of verification or assurance**
Limited assurance

**Attach the statement**
KAO_Independent_Assurance_Report_Letter_2023F.pdf

**Page/ section reference**
Report;
KAO_Independent_Assurance_Report_Letter_2023F.pdf P1 Letter;
KAO_Independent_Assurance_Report_Letter_2023F.pdf P2-3

**Relevant standard**
ISAE 3410

**Proportion of reported emissions verified (%)**
100

## C10.1b

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

**Scope 2 approach**
Scope 2 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_Letter_2023F.pdf

**Page/ section reference**
Report;
KAO_Independent_Assurance_Report_Lett
er_2023F.pdf P1 Letter;
KAO_Independent_Assurance_Report_Lett
er_2023F.pdf P2-3

**Relevant standard**
ISAE 3410

**Proportion of reported emissions verified (%)**
100

## C10.1c

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

**Scope 3 category**
Scope 3: Purchased goods and services
Scope 3: Upstream
transportation and distribution
Scope 3: Use of sold products
Scope 3: End-of-life treatment of sold products

**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_Letter_2023F.pdf

**Page/section reference**
Report;
KAO_Independent_Assurance_Report_Lett
er_2023F.pdf P1 Letter;
KAO_Independent_Assurance_Report_Lett
er_2023F.pdf P2-3

**Relevant standard**
ISAE 3410

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

## C10.2

### (C10.2) Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

Yes

## C10.2a

### (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 | Energy consumption | ISAE3000 | Report; KAO_Independent_Assurance_Report_Letter_2023F.pdf P1 Letter; KAO_Independent_Assurance_Report_Letter_2023F.pdf P2-3 KAO_Independent_Assurance_Report_Letter_2023F.pdf |

## 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 - ETS

### C11.1b

**(C11.1b) Complete the following table for each of the emissions**

**trading schemes you are regulated by. EU ETS**

**% of Scope 1 emissions covered by the ETS**

4.45

**% of Scope 2 emissions covered by the ETS**

0

**Period start date**

January 1 2022

**Period end date**

December 31 2022

**Allowances allocated**

4810

**Allowances purchased**

20992

**Verified Scope 1 emissions in metric tons CO2e**

26512

**Verified Scope 2 emissions in metric tons CO2e**

0

**Details of ownership**

Facilities we own and operate

**Comment**

Situation: Olesa site in Kao Corporation, S.A. is subject to EU-ETS. We purchase allowances when our

emissions exceed the allowances allocated. The allowances allocated in 2022 was 4,810 tons.
Task: Emissions (scope1) must be reduced steadily by improving production efficiency and energy intensity.
Action: Our main activity is as follows; Steam boiler and chiller renewal, Heat exchangers renewals, Air conditioner renewals, Condensates recovery, Leakages prevention and control, Thermal insulation improvement.
Result: Compared to 2021, slight decrease in emissions (scope1) (27,031t-->26,512t, 1.9% decrease) against the decrease in production (64,392t-->58,616t, 9.0% decrease).

### Tokyo CaT - ETS

#### % of Scope 1 emissions covered by the ETS
1.24

#### % of Scope 2 emissions covered by the ETS
0

#### Period start date
January 1 2022

#### Period end date
December 31 2022

#### Allowances allocated
10490

#### Allowances purchased
0

#### Verified Scope 1 emissions in metric tons CO2e
7391

#### Verified Scope 2 emissions in metric tons CO2e
0

#### Details of ownership
Facilities we own and operate

#### Comment
Situation) Since Sumida site in Kao Japan is equivalent to a large-scale business office designated by the Tokyo Metropolitan Government, there is an obligation of total emission reduction. From 2020, we have shifted to the third reduction plan period (2020-2024, reduction obligation rate: 27%), so allowances allocated will be as follows. Allowances allocated = Standard emission 14,370(t-CO2) * 0.73 = 10,490(t-CO2)
Task) Sumida site is a complex business establishment with factory, laboratories and offices. Compared to other factories, there are very few mechanical equipment, and there is little room for reduction activities by improving equipment efficiency and devising production activities, so the current situation is that reduction activities are limited to LED lighting, etc.
Action) In order to fulfill our reduction obligations, we have implemented the following reduction activities: LED lighting, Reduction of steam loss, Repair of air leaks, etc. Result) Compared to the allowances allocated 10,490 tons, emissions were 7,391 tons. Total product amount in 2022 will be 33% lower than in 2021 due to the transfer of production to other factories, but emissions decreased by about 15% year-on-year due to no change in base energy not related to production.

## C11.1d

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

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

Some Kao sites are already subject to the Emissions Trading System (ETS). Since our policy is to prioritize the reduction, we will purchase emission rights if the amount of emissions exceeded the allocation. Kao is promoting activities to reduce emissions by sharing the Kao Group's energy-saving technologies globally through the Responsible Care Committee, which oversees the activities of each site, and other organizations. We are prioritizing capital investment in factories that consume a large amount of energy, including those that are subject to ETS, and are developing a strategy to implement additional measures to reduce emissions that are being rolled out throughout the company.

· An example of how you have applied your strategy

The activity themes of the Tokyo Metropolitan Government's ETS 3rd Plan period (2020~2024) are the continuation of energy conservation and the promotion of renewable energy use with an eye toward a decarbonized society. At the Sumida Plant in Tokyo, which has introduced ETS, in addition to promoting the use of LEDs and updating air conditioners, we will repair air leaking equipment and reduce steam loss in 2022. In addition, in April 2021, we began introducing renewable energy electricity, reducing CO2 emissions from purchased electricity to zero.

## C11.2

### (C11.2) Has your organization canceled any project-based carbon credits within the reporting year?

No

## C11.3

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

Yes

## C11.3a

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

### Type of internal carbon price
Shadow price

### How the price is determined
Social cost of carbon

### Objective(s) for implementing this internal carbon price
Change internal
behavior  Drive
energy efficiency
Drive low-carbon
investment
Identify and seize low-carbon
opportunities  Navigate GHG
regulations
Stakeholder
expectations
Stress test
investments
Reduce supply
chain emissions

### Scope(s) covered
Scope 1

### Pricing approach used – spatial variance
Uniform

### Pricing approach used – temporal variance
Evolutionary

### Indicate how you expect the price to change over time
Based on the assumption that the facilities to be newly introduced in the future will continue to operate after 2030, we will calculate carbon emissions based on our own  standards with reference to the carbon price list for developed countries in the scenario with the highest price shown in the IEA World Energy Outlook. adopt the price.  168USD/tCO2-ton was adopted. Exchange rate from 125 yen/USD to 21000 yen/tCO2-ton.
We plan to periodically review it based on our own standards over time. From February 2023, the base currency was changed from Japanese yen to US dollars.

### Actual price(s) used – minimum (currency as specified in C0.4 per metric ton CO2e)
21000

### Actual price(s) used – maximum (currency as specified in C0.4 per metric ton CO2e)
21000

### Business decision-making processes this internal carbon price is applied to
Capital expenditure  Operations  Procurement
Risk management  Opportunity management

### Mandatory enforcement of this internal carbon price within these business decision-making processes
Yes, for some decision-making processes, please specify (Scope 1 related capital expenditures above a certain amount)

**Explain how this internal carbon price has contributed to the implementation of your organization's climate commitments and/or climate transition plan**

CO2 emissions in 2030 (Scope 1+2) are expected to be 1.67 times higher than in 2017 if no measures are taken. However, Kao introduced an internal carbon pricing system in 2006 to curb CO2 emissions (Scope 1+2), and has invested in energy-saving equipment, low-CO2 equipment, and procurement of renewable energy for 17 years to contribute to decarbonization. I have used it for decision making. Last year, Kao set a goal of reducing CO2 emissions by 2030. Reduction target (Scope 1+2) updated from 22% reduction to 55% reduction. In order to achieve this target, equipment to be introduced in the future must be equipment that emits as little CO2 as possible. Kao therefore raised its internal carbon price from ¥3,500/ton-CO2 to $168/ton-CO2. For example, for the introduction of energy-saving equipment, we calculate the cost benefit as the sum of the energy cost reduced by the equipment introduction and the carbon price of the reduced amount of CO2. This initiative is decided and operated by the ESG Committee. Whether or not we make capital investments is determined by whether or not the EVA is positive. In other words, Kao requires EVA to be positive within the base year set for each item. The introduction of the internal carbon price in 2022 has made it possible to invest in projects such as the installation of a hot water heat pump at the Toyohashi Plant (scheduled for completion in May 2023) and the installation of a solar power generation facility (generation capacity: 400 kW) at the Kashima Plant (2024). The amount of CO2 emissions reduced by installing these facilities reaches 570 tons per year.

## C12. Engagement

## C12.1

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

Yes, our suppliers
Yes, our customers/clients
Yes, other partners in the value chain

## C12.1a

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

**Type of engagement**

Engagement & incentivization (changing supplier behavior)

**Details of engagement**

Facilitate adoption of a unified climate transition approach with suppliers

**% of suppliers by number**

100

### % total procurement spend (direct and indirect)
53

### % of supplier-related Scope 3 emissions as reported in C6.5
36.6

### Rationale for the coverage of your engagement
The ratio of GHG emissions by life cycle stage of Kao products is ascertained as follows. 41.7% at the use stage, 36.6% at the raw material procurement stage, and 7% at the manufacturing stage. Kao conducts various activities together with various stakeholders related to its plants, such as consumers and suppliers. Encouraging behavioral change is effective in reducing GHG emissions. Kao has identified 356 direct material suppliers that may have a significant impact on its own standards. Engagement with these 356 companies was taken as a measure of success. Using the CDP SC program, we asked 356 of our key suppliers to complete the survey. On a procured value basis, it was 53%. We evaluate the responses we receive using our own evaluation method, and feed back the results to our business partners to request improvements in their response to climate change. Conducted using Kao's unique evaluation method, which further evaluates the implementation of advanced activities such as setting CO2 reduction targets, building a system to manage progress, promoting reduction activities, and introducing renewable energy. In fiscal 2022, we conducted engagement with all 356 suppliers, including feedback on their responses.

### Impact of engagement, including measures of success
The ratio of Category 1 emissions in Kao's Scope 3 is 36.6%, which is very important, so we believe that it is effective to reduce Category 1 emissions through engagement with suppliers. Kao promotes CO2 reduction activities and requests to our suppliers through the CDP SC Program, which targets suppliers that account for the majority of Category 1 emissions. Kao has identified 356 direct material suppliers that may have a significant impact on our internal standards. For these 356 companies, a response rate to the CDP of 80% or higher and a supplier rating of 3 or higher on a 5-point scale of 50% or higher were used as indicators of success for engagement. We evaluate the responses we receive using our own evaluation method, and feed back the results to our business partners to request improvements in their response to climate change. Conducted using Kao's unique evaluation method to further evaluate the implementation of advanced activities such as setting CO2 reduction targets, building a system to manage progress, promoting reduction activities, and introducing renewable energy. In the case of suppliers of the same raw materials, we give priority to the supplier with the highest Kao evaluation, taking procurement costs into account as an incentive.
In 2022, 288 suppliers responded, resulting in a response rate of 81%. 55% of the 196 suppliers received a rating of 3 or higher. This engagement impacts Scope 3 Category 1. Category 1 in 2022 was 4,109 thousand tons. This is 3% decrease from 4,228 thousand tons in 2021.

### Comment

## C12.1b

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

### Type of engagement & Details of engagement

| | |
|---|---|
| Education/information sharing | Run an engagement campaign to educate customers about the climate change impacts of (using) your products, goods, and/or services |

**% of customers by number**
56

**% of customer - related Scope 3 emissions as reported in C6.5**
41.7

**Please explain the rationale for selecting this group of customers and scope of engagement**
The ratio of GHG emissions by life cycle stage of Kao products is ascertained as follows. 41.7% at the usage stage, 36.6% at the raw material procurement stage, and 7% at the manufacturing stage. Kao conducts various activities together with various stakeholders related to its plants, such as consumers and suppliers. Encouraging behavioral change is effective in reducing GHG emissions. Kao accounts for about 70% of domestic sales, with 81% coming from the consumer business. Since 56% (=70% x 81%) of sales are targeted at Japanese consumers, we believe it is reasonable to target Japanese purchasers and future purchasers of Kao products. Specifically, we will engage with Japanese customers by utilizing eco-friendly products that reduce CO2 emissions and water consumption during use, such as laundry detergents and dishwashing detergents. In particular, most of the emissions during the use stage of Kao's products are due to the use of water. For this reason, we offer programs in elementary schools to teach children to take good care of the water they can use. In 2022, classes were held at 435 schools. By telling parents at home about the habits learned by elementary school students, we encourage customers of all ages to save water.

**Impact of engagement, including measures of success**
Of the CO2 emissions (11,251 Kton-CO2) throughout the life cycle of Kao products, the product usage stage (Scope 3 Category 11) accounts for 41.7%. We are working with our customers to reduce Category 11 emissions. Most of the emissions from Kao's products during their use are due to the use of water. For this reason, we offer programs in elementary schools to teach children to take good care of the water they can use. The goal is to be featured in over 400 school classes each year, which is a measure of the program's success. In 2022, classes were held at 435 schools. By telling parents at home about the habits learned by elementary school students, we encourage customers of all ages to save water. As water-saving at home spreads, customers will select and purchase Kao's water-saving products, which will lead to reductions in Kao's Scope 3 Category 11 emissions. Category 11 in 2022 was 4680 thousand tons. This is an increase of 0.7% compared to 4,647,000 tons in 2021. The reason for the increase was an increase in sales volume, which was supported by customers for CuCute, a dishwashing detergent that saves water by rinsing quickly.
Compared to 4,965,000 tons in 2016, when water-saving products had not penetrated, it has decreased by 6%.

## C12.1d

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

Kao's Scope 3 emissions are the third highest at 12% of the disposal stage. That's why we engage stakeholders involved in product disposal. Stakeholders involved in disposal are consumers, recyclers, distributors and municipalities. Therefore, we are working with these stakeholders on an activity called “Recycreation”. “Recycreation” transforms plastic packaging into new value rather than disposing. Consumers bring refill containers to local governments and distribution stores. These containers are clollect to recycler and recycled. So far, we have regenerated refillable containers into blocks that are

easy to assemble and reuse. Recycled plastic was calculated to be
3.32kg-CO2 / kg while virgin plastic was calculated to be 4.32kg-CO2 / kg . In 2022, 9 ton refill container was regenerated into a block.

## C12.2

**(C12.2) Do your suppliers have to meet climate-related requirements as part of your organization's purchasing process?**

Yes, climate-related requirements are included in our supplier contracts

## C12.2a

**(C12.2a) Provide details of the climate-related requirements that suppliers have to meet as part of your organization's purchasing process and the compliance mechanisms in place.**

**Climate-related requirement**

Complying with regulatory requirements

**Description of this climate related requirement**

Kao has formulated and published a basic procurement policy. We promise to comply with relevant laws regarding legal compliance and ethics.

**% suppliers by procurement spend that have to comply with this climate-related requirement**

100

**% suppliers by procurement spend in compliance with this climate-related requirement**

100

**Mechanisms for monitoring compliance with this climate-related requirement**

Supplier self-assessment

**Response to supplier non-compliance with this climate-related requirement**

Suspend and engage

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**Climate-related requirement**

Climate-related disclosure through a public platform

**Description of this climate related requirement**

We are participating in the CDP Supply Chain Program and asking our key suppliers to disclose relevant information. In 2022, the key suppliers are 356 companies and response rate was 78% in regard to climate change. These suppliers by procurement spend are 41%.

**% suppliers by procurement spend that have to comply with this climate-related requirement**

53

**% suppliers by procurement spend in compliance with this climate-related requirement**

41

**Mechanisms for monitoring compliance with this climate-related requirement**

Second-party verification

**Response to supplier non-compliance with this climate-related requirement**
Retain and engage

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**Climate-related requirement**
Setting a low-carbon energy target

**Description of this climate related requirement**
The requirements for suppliers are disclosed as follows in the partnership requirements for business partners. Environmental management
Promotion of decarbonization throughout the product life cycle (reduction target setting, resource saving, energy saving, utilization of renewable energy, transportation efficiency, etc.)

**% suppliers by procurement spend that have to comply with this climate-related requirement**
100

**% suppliers by procurement spend in compliance with this climate-related requirement**
100

**Mechanisms for monitoring compliance with this climate-related requirement**
Supplier self-assessment

**Response to supplier non-compliance with this climate-related requirement**
Retain and engage

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**Climate-related requirement**
Purchasing renewable energy

**Description of this climate related requirement**
The requirements for suppliers are disclosed as follows in the partnership requirements for business partners. Environmental management
Promotion of decarbonization throughout the product life cycle (reduction target setting, resource saving, energy saving, utilization of renewable energy, transportation efficiency, etc.)

**% suppliers by procurement spend that have to comply with this climate-related requirement**
100

**% suppliers by procurement spend in compliance with this climate-related requirement**
100

**Mechanisms for monitoring compliance with this climate-related requirement**
Supplier self-assessment

**Response to supplier non-compliance with this climate-related requirement**
Retain and engage

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**Climate-related requirement**
Setting a science-based emissions reduction target

**Description of this climate related requirement**
The requirements for suppliers are disclosed as follows in the partnership requirements for business partners. Environmental management
Promotion of decarbonization throughout the product life cycle (reduction target setting, resource saving, energy saving, utilization of renewable energy, transportation efficiency, etc.)
We participate in the CDP Supply Chain Program and seek disclosure from our major suppliers. In 2022, there were 356 major suppliers, and the response rate on climate change was 78%. In addition, 74

companies achieved the SBTi target. It is 11% based on the procurement amount.

**% suppliers by procurement spend that have to comply with this climate-related requirement**
100

**% suppliers by procurement spend in compliance with this climate-related requirement**
11

**Mechanisms for monitoring compliance with this climate-related requirement**
Supplier self-assessment
Supplier scorecard or rating

**Response to supplier non-compliance with this climate-related requirement**
Retain and engage

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**Climate-related requirement**
Waste reduction and material circularity

**Description of this climate related requirement**
The requirements for suppliers are disclosed as follows in the partnership requirements for business partners. Environmental management
Promotion of decarbonization throughout the product life cycle (reduction target setting, resource saving, energy saving, utilization of renewable energy, transportation efficiency, etc.)
% suppliers by pr

**% suppliers by procurement spend that have to comply with this climate-related requirement**
100

**% suppliers by procurement spend in compliance with this climate-related requirement**
100

**Mechanisms for monitoring compliance with this climate-related requirement**
Supplier self-assessment

**Response to supplier non-compliance with this climate-related requirement**
Retain and engage

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## C12.3

**(C12.3) Does your organization engage in activities that could either directly or indirectly influence policy, law, or regulation that may impact the climate? Row 1**

**External engagement activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**
Yes, we engage directly with policy makers
Yes, our membership of/engagement with trade associations could influence policy, law, or regulation that may impact the climate

**Does your organization have a public commitment or position statement to conduct your engagement activities in line with the goals of the Paris Agreement?**
Yes

**Attach commitment or position statement(s)**

environmental-statement.pdf

environmental-statement.pdf

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

In Japan, the person in charge of the environmental department checks the policymaker's and trade association's site site multiple times a year. If there are changes to policies, laws or regulations and the changes are important, they would be deliberated by the ESG Management Committee.
At locations outside of Japan, local environmental department personnel get information from the policymaker's site. If there are changes in policies, laws or regulations and the changes are important, contact the HQ Japan and the ESG Management Committee would discuss them.

**Primary reason for not engaging in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

**Explain why your organization does not engage in activities that could directly or indirectly influence policy, law, or regulation that may impact the climate**

<Not Applicable>

## C12.3a

**(C12.3a) On what policy, law, or regulation that may impact the climate has your organization been engaging directly with policy makers in the reporting year?**

**Specify the policy, law, or regulation on which your organization is engaging with policy makers**

In Japan, the Ministry of the Environment's "Green Life Points" promotion project for food and living is a subsidized project aimed at selecting products and services that reduce CO2 emissions. In Kao's household goods business, we shared the challenges for application.

**Category of policy, law, or regulation that may impact the climate**

Climate change mitigation

**Focus area of policy, law, or regulation that may impact the climate**

Emissions – CO2

**Policy, law, or regulation geographic coverage**

National

**Country/area/region the policy, law, or regulation applies to**

Japan

**Your organization's position on the policy, law, or regulation**

Support with minor exceptions

**Description of engagement with policy makers**

Kao, as one of Japan's leading household goods companies, expressed its opinion on the "Green Life Points" promotion project for food and living planned by the Ministry of the Environment.

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

We consider there are currently no exceptions.

**Have you evaluated whether your organization's engagement on this policy, law, or regulation is aligned with the goals of the Paris Agreement?**
Yes, we have evaluated, and it is aligned

**Please explain whether this policy, law or regulation is central to the achievement of your climate transition plan and, if so, how?**
The Ministry of the Environment's "Green Life Points" promotion project for food and living is to engage Japanese consumers on climate change. While supporting companies, local governments, etc. that are actively working on consumers' lifestyle changes, we will foster an environment where consumers can experience the benefits of working on environmental considerations in a familiar way, and accelerate the shift to a decarbonized lifestyle. In other words, by encouraging behavioral changes in consumers, it will lead to the reduction of emissions nationwide.

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## C12.3b

**(C12.3b) Provide details of the trade associations your organization is a member of, or engages with, which are likely to take a position on any policy, law or regulation that may impact the climate.**

**Trade association**
Japan Chemical Industry Association/日本化学工業協会

**Is your organization's position on climate change policy consistent with theirs?**
Consistent

**Has your organization attempted to influence their position in the reporting year?**
Yes, we publicly promoted their current position

**Describe how your organization's position is consistent with or differs from the trade association's position, and any actions taken to influence their position** Kao is a corporate member of the Japan Chemical Industry Association. By being a corporate member, we can promote the decarbonization efforts of the world as an industry group.
The Japan Chemical Industry Association has announced "a stance as a chemical industry toward carbon neutrality" aiming for carbon neutrality in 2050. Kao is aiming for carbon neutrality in 2040, but both the Chemical Industry Association and Kao agree that the target is consistent with the 1.5C target.
Kao agree with Japan Chemical industry Association's policy as below.
The chemical industry participated in Keidanren's "Voluntary Environmental Action Plan" from 1997 to 2012, promoted energy conservation, and continued activities to curb $CO_2$ emissions. From fiscal 2013, we will participate in Keidanren's "Low Carbon Society Action Plan" to (1) reduce $CO_2$ emissions from domestic business activities, and
(2) reduce $CO_2$ emissions throughout the supply chain through the spread of low-carbon products and technologies. Strengthening cooperation between actors to be promoted, (3) International contribution through overseas expansion of Japanese chemical products and processes, (4) Development of innovative technologies that are medium- to long-term technological developments with a view to practical application after 2020. We are promoting global warming countermeasures with these four pillars.

**Funding figure your organization provided to this trade association in the reporting year (currency as selected in C0.4)**
264000

**Describe the aim of your organization's funding**

Kao is a corporate member of the Japan Chemical Industry Association. By being a corporate member, we can promote the decarbonization efforts of the world as an industry group.
The Japan Chemical Industry Association has announced "a stance as a chemical industry toward carbon neutrality" aiming for carbon neutrality in 2050. Kao is aiming for carbon neutrality in 2040, but both the Chemical Industry Association and Kao agree that the target is consistent with the 1.5C target.
Kao agree with Japan Chemical industry Association's policy as below.
The chemical industry participated in Keidanren's "Voluntary Environmental Action Plan" from 1997 to 2012, promoted energy conservation, and continued activities to curb CO2 emissions. From fiscal 2013, we will participate in Keidanren's "Low Carbon Society Action Plan" to (1) reduce CO2 emissions from domestic business activities, and
(2) reduce CO2 emissions throughout the supply chain through the spread of low-carbon products and technologies. Strengthening cooperation between actors to be promoted, (3) International contribution through overseas expansion of Japanese chemical products and processes, (4) Development of innovative technologies that are medium- to long-term technological developments with a view to practical application after 2020. We are promoting global warming countermeasures with these four pillars.

**Have you evaluated whether your organization's engagement with this trade association is aligned with the goals of the Paris Agreement?**

Yes, we have evaluated, and it is aligned

## 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**

securities-fy2022-all-01.pdf

**Page/Section reference**

securities-fy2022-all-01.pdf P16-20

**Content elements** Governance Strategy
Risks & opportunities

**Comment**

**Publication**

In voluntary sustainability report

**Status**

Complete

**Attach the document**

sustainability2023-e-all.pdf

**Page/Section reference**
sustainability2023-e-all.pdf P102-110

**Content elements** Governance Strategy
Risks & opportunities Emissions figures Emission targets Other metrics

**Comment**

## C12.5

### (C12.5) Indicate the collaborative frameworks, initiatives and/or commitments related to environmental issues for which you are a signatory/member.

| | Environmental collaborative framework, initiative and/or commitment | Describe your organization's role within each framework, initiative and/or commitment |
|---|---|---|
| Row 1 | Japan Climate Leaders' Partnership (JCLP)<br>RE100<br>Task Force on Climate-related Financial Disclosures (TCFD) | Kao is a supporting member of JCLP.<br>Kao will participate in RE100 in June 2021.<br>Through JCI, I am a member of the Race to Zero Circle. Kao supports the TCFD. |

## C15. Biodiversity

## C15.1

### (C15.1) Is there board-level oversight and/or executive management-level responsibility for biodiversity-related issues within your organization?

| | Board-level oversight and/or executive management-level responsibility for biodiversity-related issues | Description of oversight and objectives relating to biodiversity | Scope of board- level oversight |
|---|---|---|---|
| Row 1 | Yes, both board-level oversight and executive management-level responsibility | i) Where does the position or committee fit within the organizational structure?<br>Kao recognizes that the degradation of the world's biodiversity has a significant impact on the development and sustainability of our business. Biodiversity is under the supervision of the CEO because it is a management issue that needs to be monitored.<br>Biodiversity-related risks are managed by the Risk and Crisis Management Committee (chaired by executive manager, meets four times a year) and the Responsible Care Promotion Committee | <Not Applicabl e> |

| | | | |
|---|---|---|---|
| | | (chaired by executive manager, meets twice a year).<br>The Risk and Crisis Management Committee and the Responsible Care Promotion Committee are under the Internal Control Committee (chaired by the CEO, meets at least once a year).<br>Biodiversity-related opportunities are managed by the ESG Committee (meets 6 times a year, chaired by the CEO, with executive managers as members).<br>ii) Clear rationale for why the position or committee is responsible<br>The Internal Control Committee and the ESG Committee, both of which are chaired by the CEO, address issues related to Kao's biodiversity. This is because Kao recognizes that addressing biodiversity is an important issue that requires management judgment as part of its business activities.<br>Because risks related to biodiversity are of management importance, the Risk and Crisis Management Committee is responsible for assessing and managing them. Because biodiversity laws and regulations are important to management, the Responsible Care Promotion Committee is responsible for compliance and management of these laws and regulations. The Internal Control Committee receives reports on the activities of the Responsible Care Promotion Committee and the Risk and Crisis Management Committee and supervises the activities of each committee.<br>Because opportunities related to biodiversity are important for management, the ESG Committee manages, deliberates, and approves basic policies such as the "Basic Policy on Biodiversity", as well as themes and targets for Kao's ESG activity strategy, the "Kirei Lifestyle Plan".<br>The activities of the Internal Control Committee and the ESG Committee are reported to and supervised by the Board of Directors at least once a year.<br>Therefore, the CEO is ultimately responsible for Kao's biodiversity. | |

## C15.2

### (C15.2) Has your organization made a public commitment and/or endorsed any initiatives related to biodiversity?

| | Indicate whether your organization made a public commitment or endorsed any initiatives related to biodiversity | Biodiversity-related public commitments | Initiatives endorsed |
|---|---|---|---|
| Row 1 | Yes, we have made public commitments and publicly endorsed initiatives related to biodiversity | Commitment to no conversion of High Conservation Value areas | Other, please specify (JBIB (Japan Business Initiative for Biodiversity), TNFD Consultation Group of Japan, and the TNFD forum ) |

| | | | |
|---|---|---|---|
| | | Commitment to secure Free, Prior and Informed Consent (FPIC) of Indigenous Peoples<br>Other, please specify (the Cartagena Protocol on Biodiversity) | |

## C15.3

### (C15.3) Does your organization assess the impacts and dependencies of its value chain on biodiversity? Impacts on biodiversity

#### Indicate whether your organization undertakes this type of assessment

Yes

#### Value chain stage(s) covered

Direct operations
Upstream
Downstream

#### Portfolio activity

<Not Applicable>

#### Tools and methods to assess impacts and/or dependencies on biodiversity

ENCORE tool
TNFD – Taskforce on Nature-related Financial Disclosures

#### Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

For impacts, the followings at the direct operations, upstream and downstream were investigated:
<Identification of materiality with ENCORE tool>
In 2021, we used ENCORE to extract the factors that depend on and impact the natural capital of our company, and we extracted five dependent factors and nine impact factors.
in 2022, we followed the LEAP proposed by TNFD and took an in-depth look at the relationship between business and biodiversity, using detergents, one of Kao's core products, as an example and identified 13 issues as biodiversity risks for Kao.
For the above 13 issues, we investigated not only the risks that were already apparent but also potential risks, and further analyzed them using GIS data.
We have extracted the following factor as some issue that could lead to business risk. Wastewater discharge in the direct operational process; wastewater from households after use, chemical substance management and "waste discharge" represented by plastic containers in the downstream value chain.
<TNFD Pilot test>
We have evaluated the state of nature affecting Kao's business using the LEAP proposed by TNFD.
In the "Locate" step, we divided a map of the entire world into units of 0.5° longitude by 0.5° latitude and mapped the places where Kao's business activities are practiced in each component of the supply chain

(raw material production, manufacturing, consumption). We then analyzed the overview of biodiversity in three different perspectives (biodiversity importance, ecosystem integrity, and water stress), and found areas that should be analyzed in detail later. The result was, of the all areas in which Kao may be involved, 28% were higher in priority where the company's risks should be further reviewed.
In the "Evaluate" step, we analyzed areas detected in the Locate step, and found where nature are degrading. Then we estimated the potential impact on business in the case of nature degradation on those areas, based on the level of dependency (based on procurement volume, manufacturing volume, etc.), and identified the processes/areas where biodiversity degradation could lead to large business impact.
The results revealed that water quality and soil pollution in manufacturing and consumption, and GHG emission in all processes of supply chain are deviating largely from the safe zones established in prior research and could lead to larger business impacts.

## Dependencies on biodiversity

### Indicate whether your organization undertakes this type of assessment

Yes

### Value chain stage(s) covered

Direct operations Upstream Downstream

### Portfolio activity

<Not Applicable>

### Tools and methods to assess impacts and/or dependencies on biodiversity

ENCORE tool
TNFD – Taskforce on Nature-related Financial Disclosures

### Please explain how the tools and methods are implemented and provide an indication of the associated outcome(s)

For dependencies, the followings at the direct operations, upstream and downstream were investigated:
<Identification of materiality Kao with ENCORE tool>
In 2021, we used ENCORE to extract the factors that depend on and impact the natural capital of our company, and we extracted five dependent factors and nine impact factors.
in 2022, we followed the LEAP proposed by TNFD and took an in-depth look at the relationship between business and biodiversity, using detergents, one of Kao's core products, as an example and identified 13 issues as biodiversity risks for Kao.
For the above 13 issues, we investigated not only the risks that were already apparent but also potential risks, and further analyzed them using GIS data.
We have extracted the following factor as some issue that could lead to business risk. Deforestation and peatlands development in the country of origin of the palm ("kernel") oil in the upstream value chain; water use in the direct operational process; water use during product use in the downstream value chain,
<TNFD Pilot test>
We have evaluated the state of nature affecting Kao's business using the LEAP proposed by TNFD.
In the "Locate" step, we divided a map of the entire world into units of 0.5° longitude by 0.5° latitude and mapped the places where Kao's business activities are practiced in each component of the supply chain (raw material production, manufacturing, consumption). We then analyzed the overview of biodiversity in three different perspectives (biodiversity importance, ecosystem integrity, and water stress), and found areas that should be analyzed in detail later. The result was, of the all areas in which Kao may be involved, 28% were higher in priority where the company's risks should be further reviewed.
In the "Evaluate" step, we analyzed areas detected in the Locate step, and found where nature are degrading. Then we estimated the potential impact on business in the case of nature degradation on those areas, based on the level of dependency (based on procurement volume, manufacturing volume, etc.), and identified the processes/areas where biodiversity degradation could lead to large business

impact.
The results revealed that, forest coverage (which provides protections against natural disaster) and effect on terrestrial ecosystem in raw material production are deviating largely from the safe zones established in prior research and could lead to larger business impacts.

## C15.4

**(C15.4) Does your organization have activities located in or near to biodiversity- sensitive areas in the reporting year?**
Yes

## C15.4a

**(C15.4a) Provide details of your organization's activities in the reporting year located in or near to biodiversity -sensitive areas.**

**Classification of biodiversity -sensitive area**
Key Biodiversity Area (KBAs)

**Country/area**
Indonesia

**Name of the biodiversity-sensitive area**
Plural KBAs

**Proximity**
Data not available

**Briefly describe your organization's activities in the reporting year located in or near to the selected area**
Palm plantation (Tier-4) from which Kao procures raw materials

**Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity**
Yes, but mitigation measures have been implemented

**Mitigation measures implemented within the selected area**
Operational controls

**Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented**
Forests and peatlands that constitute important areas of biodiversity are under threat of land conversion to palm plantations and other uses. Kao has identified places of palm oil mill of all supplied palm oil.
Kao has developed internal company methods, to evaluate traceability up to the mills and for both of carrying out a risk-assessment and confirming traceability. These methods are mitigation measures that prevent critical areas from being converted to land for palm plantations. The method is as follows.
(1) Kao obtains supply chain information from refineries (Tier-1) about the name of palm kernel oil mills (Tier-2) and palm oil mills (Tier-3), parent company names, locations (latitude and longitude), etc. and prepares a palm mill list. By contacting Tier-1, Kao confirms the status of NDPE/HCSA/FPIC compliance efforts at

Tier-1, its group companies, Tier-2 and Tier-3 in the supply chain. Kao surveys for plantations (Tier-4) by regularly contacting Tier-1 to verify traceability toTier-4.
In 2019, Kao published a palm mill list of 1,045 palm oil mills and updated in 2021 (887 mills). In 2021, Kao confirmed the compliance status of Indonesian Tier-1 by investigating the activities of NDPE, HCSA, and FPIC.
(2) Kao has prepared a palm mill map from the list in (1) and (i) uses satellite photos etc. to check if there are national parks, protected forests and peatlands within a 50km radius of palm mill, etc., (ii) if there were mills that have caused previous problems in the parent company, etc., (iii) upon information from NGOs is confirmed and identified as risk mill.
(3) Kao hears from Tier-1 regarding risk mills. Kao carries out an on-site survey by third-party to check high risk mills, and requests the mills for improvement, and follows up.

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**Classification of biodiversity -sensitive area**
Key Biodiversity Area (KBAs)

**Country/area**
Malaysia

**Name of the biodiversity-sensitive area**
Plural KBAs

**Proximity**
Data not available

**Briefly describe your organization's activities in the reporting year located in or near to the selected area**
Palm plantation (Tier-4) from which Kao procures raw materials

**Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity**
Yes, but mitigation measures have been implemented

**Mitigation measures implemented within the selected area**
Operational controls

**Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented**
Forests and peatlands that constitute important areas of biodiversity are under threat of land conversion to palm plantations and other uses. Kao has identified places of palm oil mill of all supplied palm oil.
Kao has developed internal company methods, to evaluate traceability up to the mills and for both of carrying out a risk-assessment and confirming traceability. These methods are mitigation measures that prevent critical areas from being converted to land for palm plantations. The method is as follows.
(1) Kao obtains supply chain information from refineries (Tier-1) about the name of palm kernel oil mills (Tier-2) and palm oil mills (Tier-3), parent company names, locations (latitude and longitude), etc. and prepares a palm mill list. By contacting Tier-1, Kao confirms the status of NDPE/HCSA/FPIC compliance efforts at Tier-1, its group companies, Tier-2 and Tier-3 in the supply chain. Kao surveys for plantations (Tier-4) by regularly contacting Tier-1 to verify traceability toTier-4.
In 2019, Kao published a palm mill list of 1,045 palm oil mills and updated in 2021 (887 mills). In 2021, Kao confirmed the compliance status of Malaysian Tier-1 by investigating the activities of NDPE, HCSA, and FPIC.
(2) Kao has prepared a palm mill map from the list in (1) and (i) uses satellite photos etc. to check if there are national parks, protected forests and peatlands within a 50km radius of palm mill, etc., (ii) if there were mills that have caused previous problems in the parent company, etc., (iii) upon information from NGOs is

confirmed and identified as risk mill.
(3) Kao hears from Tier-1 regarding risk mills. Kao carries out an on-site survey by third-party to check high risk mills, and requests the mills for improvement, and follows up.

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**Classification of biodiversity -sensitive area**
Key Biodiversity Area (KBAs)

**Country/area**
Indonesia

**Name of the biodiversity-sensitive area**
Hutan Rawa Gambut Barumun-Rokan

**Proximity**
Adjacent

**Briefly describe your organization's activities in the reporting year located in or near to the selected area**
Palm plantation (Tier-4) from which Kao procures raw materials

**Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity**
Yes, but mitigation measures have been implemented

**Mitigation measures implemented within the selected area**
Operational controls

**Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented**
KBA "Hutan Rawa Gambut Barumun-Rokan" consists of 71-80% of peatland, which is under threat of land conversion to palm plantations and other land uses. Kao has identified places of palm oil mill of all supplied palm oil. One of them is adjacent to KBA "Hutan Rawa Gambut Barumun-Rokan".
Kao has developed internal company methods, to evaluate traceability up to the mills and for both of carrying out a risk-assessment and confirming traceability. These methods are mitigation measures that prevent critical areas from being converted to land for palm plantations. The method is as follows.
(1) Kao obtains supply chain information from refineries (Tier-1) about the name of palm kernel oil mills (Tier-2) and palm oil mills (Tier-3), parent company names, locations (latitude and longitude), etc. and prepares a palm mill list. By contacting Tier-1, Kao confirms the status of NDPE/HCSA/FPIC compliance efforts at Tier-1, its group companies, Tier-2 and Tier-3 in the supply chain. Kao surveys for plantations (Tier-4) by regularly contacting Tier-1 to verify traceability toTier-4.
In 2021, Kao confirmed the compliance status of Indonesian Tier-1 by investigating the activities of NDPE, HCSA, and FPIC.
(2) Kao has prepared a palm mill map from the list in (1) and (i) uses satellite photos etc. to check if there are national parks, protected forests and peatlands within a 50km radius of palm mill, etc., (ii) if there were mills that have caused previous problems in the parent company, etc., (iii) upon information from NGOs is confirmed and identified as risk mill.
(3) Kao hears from Tier-1 regarding risk mills. Kao carries out an on-site survey by third-party to check high risk mills, and requests the mills for improvement, and follows up.

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**Classification of biodiversity -sensitive area**
Key Biodiversity Area (KBAs)

**Country/area**
Indonesia

**Name of the biodiversity-sensitive area**
Plural KBAs in Sumatra island

**Proximity**
Data not available

**Briefly describe your organization's activities in the reporting year located in or near to the selected area**
Palm plantation (Tier-4) from which Kao procures raw materials

**Indicate whether any of your organization's activities located in or near to the selected area could negatively affect biodiversity**
Yes, but mitigation measures have been implemented

**Mitigation measures implemented within the selected area**
Operational controls

**Explain how your organization's activities located in or near to the selected area could negatively affect biodiversity, how this was assessed, and describe any mitigation measures implemented**
Forests and peatlands that constitute important areas of biodiversity are under threat of land conversion to palm plantations and other uses. Kao believes that the following engagement with SMALL FARMERS is a mitigation measure to prevent the conversion of critical areas of land to palm plantations.
Kao Corporation, Apical Group, an oil and fat product manufacturing and sales company, and Asian Agri, a plantation company, are implementing the SMILE Program (SMallholder Inclusion for better Livelihood & Empowerment program) to support small-scale palm plantations in Indonesia to improve productivity and obtain certification for sustainable palm oil, with the aim of building a sustainable supply chain for palm oil. This activity aims to improve the living standards of local farmers and curb deforestation. By 2030, about 5,000 farms will be provided with technical guidance by a specialized training team of plantation manufacturers to improve productivity (double the target yield) and training to acquire RSPO certification (RSPO basic principles, safety education, yield management methods), thereby improving the living standards of the farms. Furthermore, if the productivity of all small-scale palm plantations in Indonesia doubles, it can be expected to have the effect of suppressing new deforestation equivalent to the existing palm plantations in Borneo (approximately 4 million hectares). Phase 1 of these activities, which started in 2020, aims to support 781 farms by 2025, and provided education on farmland management, occupational safety, fire management, RSPO certification, etc. for 628 farms on Sumatra. As a result, 390 farms will be RSPO certified by 2022, and Kao has purchased all certification credits for small palm farms that have obtained this certification. Certification credits for small palm farms are a mechanism that allows the farms to directly receive the certification premium, which allows the farms to earn a stable income. In November, we started a new risk survey of 1,688 farms and a fact-finding survey of the farms.

## C15.5

**(C15.5) What actions has your organization taken in the reporting year to progress your biodiversity-related commitments?**

| | Have you taken any actions in the reporting period to progress your biodiversity-related commitments? | Type of action taken to progress biodiversity- related commitments |
|---|---|---|
| Row 1 | Yes, we are taking actions to progress our biodiversity-related commitments | Land/water protection Land/water management Species management Education & awareness Law & policy Livelihood, economic & other incentives |

## C15.6

### (C15.6) Does your organization use biodiversity indicators to monitor performance across its activities?

| | Does your organization use indicators to monitor biodiversity performance? | Indicators used to monitor biodiversity performance |
|---|---|---|
| Row 1 | Yes, we use indicators | State and benefit indicators |

## C15.7

### (C15.7) Have you published information about your organization's response to biodiversity-related issues for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

| Report type | Content elements | Attach the document and indicate where in the document the relevant biodiversity information is located |
|---|---|---|
| In mainstream financial reports | Risks and opportunities | 有価証券報告書 p19 Risks and opportunities related to Kao's business, transition - conservation of biodiversity<br>[This document is written in Japanese. The same contents are written in the Kao Integrated Report 2023 in English]<br>securities-fy2022-all-01.pdf |
| In voluntary sustainability report or other voluntary communications | Risks and opportunities | Kao Integrated Report 2023 page 102, Information Disclosure Based on the TCFD / Main Business Risks and Opportunities / Preservation of biodiversity<br>reports-fy2023e-all-001_01.pdf |
| In voluntary sustainability report or other voluntary communications | Governance<br>Impacts on biodiversity<br>Details on biodiversity indicators<br>Risks and opportunities<br>Biodiversity strategy | Kao Sustainability Report 2023, p91-100 Responsibly sourced raw materials, p327-343 Biodiversity<br>sustainability2023-e-all.pdf |
| In voluntary sustainability report or other voluntary communications | Content of biodiversity-related policies or commitments | Basic Policy on Biodiversity<br>biodiversity-basic-policy.pdf |
| In voluntary sustainability report or other voluntary communications | Content of biodiversity-related policies or commitments | Action Policies on Conservation of Biodiversity, 4. the Cartagena Protocol on Biodiversity<br>biodiversity-action-policy.pdf |
| In voluntary sustainability report or other voluntary communications | Risks and opportunities | Report for the pilot test of TNFD<br>-Case study on the risks and opportunities for their business using TNFD's LEAP approach<br>biodiversity-tnfd.pdf |

## C16. 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.**

## C16.1

**(C16.1) Provide details for the person that has signed off (approved) your CDP climate change response.**

| | Job title | Corresponding job category |
|---|---|---|
| Row 1 | President and Chief Executive Officer | Chief Executive Officer (CEO) |