Water conservation 102-15, 103-1, 103-2, 103-3, 303-1 (Water and effluents 2018)

Kao is promoting water conservation throughout the entire product lifecycle, by providing products that conserve water during use, and which have high water-saving benefits.

Kao's creating value to address social issues

Social issues we are aware of

Water is necessary to life for all plants and animals on the planet. All humans also need access to sustainable sources of sanitary water in order to maintain wholehearted satisfaction and enrichment. In Japan, water used for washing apparently accounts for the largest share of total household water usage*1. Furthermore, given that water used by Japanese households when using Kao products accounts for around 15% of all household water usage in Japan*2, we recognize that we have a big role to play within society in relation to water resource conservation.

Currently, problems including localized torrential rains and floods, chronic drought and related long-term dry conditions, are arising in many regions and are predicted to grow in severity due to future population growth and climate change.

In addition, water is a local resource, and consequently, for example, even when the same amount of water is taken from a river, there is a significant difference in terms of the impact on water resources between water taken in a water resource-rich basin and water taken in a water-stressed watershed. For this reason, when we undertake sustainable operation, we are aware that we need to take action both to reduce the company's own water risk and to give consideration to the local environment and local residents.

*1 Water Resources Department, Water and Disaster Management Bureau, Ministry of Land, Infrastructure, Transport and Tourism

*2 Based on a survey conducted by Kao Corporation

Risks related to realization of What Kao Aims to Be by 2030

The number of people living in the world's major cities continues to increase. If urban water infrastructure is unable to keep pace with urban residents' continually increasing demand for water, then residents may not have enough water to use, and it may be impossible to implement wastewater treatment properly. In this case, citizens' cleanliness and sanitation may be under threat. Furthermore, if the cost of municipal water supply rises, then plant operation costs will rise too, with a risk that this may lead to reduced profits. Plants need to act with consideration for the environment and residents of watersheds, and we believe that failure to do so will give rise to reputation risks among local residents and others.

Due to the effects of climate change, the impact of drought and localized torrential rains is being seen all over the world. Governments and business enterprises are implementing various measures to reduce GHG emissions, but further rises in temperature are inevitable, and the resulting impacts are sure to become even more serious.

Starting in 2020, the COVID-19 pandemic has seen the emergence of new risks and opportunities. At the same time, water consumption has increased throughout the product lifecycle, particularly during use. As a result, there is a growing possibility that we may not be able to achieve our water reduction targets. Failure to achieve these targets could incur risk of damage to the company's reputation. Even though people's awareness of sanitation has been heightened, if drought occurs, there is a risk that they will not be able to perform cleaning activities adequately, and so will not be able to maintain the Kirei Lifestyle.

Opportunities related to realization of What Kao Aims to Be by 2030

Because the rise in awareness of the need to save water and the need for cleanliness and hygiene, which has emerged in relation to climate change, is closely linked to our business areas, current developments also represent a significant opportunity for us. Continuous implementation of measures to reduce plant water usage in response to the situations outlined above should lead to both cost reductions and increased profits.

Rising awareness of the need to save water will create opportunities for increased sales of water-saving products for washing clothes, washing one's body, etc. Furthermore, rising awareness of the importance of cleanliness and hygiene will generate opportunities for increased sales of all cleaning products.

Water conservation 102-12, 103-1, 103-2, 103-3, 303-1, 303-2 (Water and effluents 2018)

Kao's creating value

We aim to substantially improve water usage efficiency in all stages of the product lifecycles. At our plants, we set targets and continue to aim for water use reduction. We believe that this contributes toward safeguarding the river basins (rivers and their sources) that are used to supply water to the plants.

When the livelihoods of local residents are threatened by water risk, as a good corporate citizen with strong roots in the community, we work actively to provide support for local residents.

We are also developing water-saving products, which we are rolling out globally, to reduce water consumption during product use. As we see it, in this way, even if restrictions are placed on water usage, consumers can continue to enjoy lives of cleanliness.

Contributions to the SDGs

Policies

The product use stage accounts for around 90% of total lifecycle water usage for Kao products, with the raw materials procurement stage accounting for only around 10%. As one of Japan's leading manufacturers of consumer products, we are demonstrating leadership by actively rolling out new, water-saving products and striving to realize effective engagement with government bodies and suppliers.

We continue to implement activities aimed at minimizing the negative impact on water conservation at every stage, from product development through to disposal.

We will promote "eco together" activities in relation to water-saving products, in line with the Kao Environmental Statement, which embodies our commitment to ensuring that "Kao products utilize original Kao-developed technologies to minimize the impact they have on the environment, not just in the manufacturing process, but in the daily life of the customers who use them. From materials procurement and manufacturing, to distribution, sales, usage and final disposal, we want to engage in 'eco together' with stakeholders including consumers worldwide."

In our Basic Principle and Basic Policies on Environment and Safety, we undertake to "assess environment and safety aspects throughout the entire lifecycle of the products, from manufacture through disposal, when developing products and technologies" and to "offer products with a lower environmental burden." Furthermore, the Kao Group Responsible Care Policy contains the following declarations: "We will strive to develop technologies for products that consumers and customers can use with peace of mind, as well as striving to provide products that have a low environmental impact," and "We shall strive to continue to reduce the environmental impact of our business operations by promoting reduction of uses of resources such as water."

Web

Basic Principle and Basic Policies on Environment and Safety
www.kao.com/content/dam/sites/kao/www-kao-com/global/en/sustainability/pdf/environment-safety-principle-policies.pdf

Kao Group Responsible Care Policy
www.kao.com/content/dam/sites/kao/www-kao-com/global/en/sustainability/pdf/responsible-care-policy.pdf

Kao Environmental Statement
www.kao.com/content/dam/sites/kao/www-kao-com/global/en/sustainability/pdf/environmental-statement.pdf

Water conservation 102-20, 102-43, 404-2

Education and promotion

As the product use stage accounts for around 90% of total product lifecycle water use, it is important to design products that contribute to saving water. For this reason, we provide employees with numerous opportunities to learn about this.

By giving our employees opportunities to learn about water through various programs, we can ensure that they will actively engage in water preservation activities of their own accord when engaging in water conservation at plants or conducting R&D on water-saving products. This will raise the overall level of our water saving activities.

Not only are our employees in a position to develop and supply products, when they are not at work, they are consumers, and as such are among the people who select those products. Therefore, it is important that employees also undertake measures to conserve water in the role as consumers. Starting in 2021, we have begun making and disseminating educational videos relating to water conservation for internal use by all employees that are specific to the themes of the Kirei Lifestyle Plan.

Collaboration and engagement with stakeholders

We recognize that, in order to help consumers realize the Kirei Lifestyle, it is vital for us to deepen mutual understanding with all stakeholders and to collaborate with them, by developing two-way communication.

As the water consumed in our production activities impacts local communities, having good communication with local communities is vitally important. Many of our plants compile an annual environmental report, and communicate with local residents.

In order to solve water issues faced by countries and regions, we actively participate in programs organized by central government, local government authorities, NPOs and others. We play a leading role in the Future of Washing Initiative, which is gathering wisdom from industry, academia, government and ordinary citizens across the boundaries of traditional business domains and academic fields, and discussing and proposing washing solutions for the future. We are implementing a water conservation campaign in China and are participating in the Water Project conducted by the Ministry of the Environment of Japan.

It is essential that suppliers in high water risk sectors understand the need to improve their water management standards and to take appropriate actions. Through the CDP Supply Chain Program, we request that suppliers respond each year. We provide feedback on supplier assessment results in order to enhance the overall level of the activities undertaken by each supplier.

Consumer behavior needs to change in order for consumers to attain the Kirei Lifestyle. We provide opportunities to think about the Kirei Lifestyle through visits to museums and plants that adopt as a theme the water that all consumers use daily. For example, the Kao Eco-Lab Museum has displays that vividly indicate the amount of household water usage.

Framework

Risk management is carried out by the Internal Control Committee and opportunity management is carried out by the ESG Managing Committee, under the supervision of the Board of Directors. These committees are headed by the President.

The Responsible Care Promotion Committee, which manages policy / regulatory regime and technology risks, and the Risk and Crisis Management Committee, which manages market, reputational and acute risks, are under the Internal Control Committee. These committees are headed by the executive officer in charge of the Corporate Strategy.

The Risk Management and Responsible Care group of the Corporate Strategy Division acts as the secretariats for the Responsible Care Promotion Committee and the Risk and Crisis Management Committee.

The Responsible Care Promotion Committee meets twice a year to report on and discuss compliance with laws and regulations, status of water use reduction and other matters. It also sets targets for the following year. The Responsible Care Promotion Committee Secretariat conducts monthly checks on compliance with laws and regulations, and monitors water use, mainly at plants which have a large impact on water issues, reporting on these and other matters to the head of the committee, committee members, members of the Internal Control Committee, auditors and others. The Risk and Crisis

Water conservation 102-20, 303-1, 303-2, 303-3, 303-4, 303-5 (Water and effluents 2018)

Management Committee which manages natural disaster including caused by climate change and reputational risks, meets four times a year.

The Internal Control Committee meets one or more times a year, receiving activity reports from the Responsible Care Promotion Committee, the Risk and Crisis Management Committee and other subordinate committees that it oversees and auditing the activities of those committees.

Opportunity management relating to water issues is handled by the ESG Managing Committee, which meets six times a year. Committee members are the persons in charge of the Business, Sales, R&D, SCM and other divisions, an arrangement which connects divisions horizontally. The ESG Managing Committee, and the ESG Promotion Meeting which it supervises, discuss water and environmental issues as well as social and governance issues. The committee reports on its activities to the Board of Directors one or more times a year and is audited by the Board of Directors.

The risk and opportunity management system for water resources is the same as the management system for decarbonization.

→ P16 Kirei Lifestyle Plan—Kao's ESG Strategy > ESG governance structure

Mid- to long-term targets and performance

2030 long-term targets

Item	Scope	2030 targets
Water consumption (per unit of sales)	All Kao Group sites	45% reduction (2005 baseline)
	Overall Kao Group product lifecycles	10% reduction (2017 baseline)

At all Kao Group sites, water-saving is promoted on a daily basis in all activities, including production, research and operations. Besides providing water-saving products that help to save water across the entire product lifecycle, we also seek to spread awareness of the importance of saving water to all of our stakeholders.

Anticipated benefits from achieving mid- to long-term targets

Business impacts

Achieving water consumption targets for all Kao Group sites will contribute to lowering operational costs and to improving earnings. Achieving targets for water consumption during product used and during the product lifecycle will require increased sales of water-saving products, and as a result, increased sales by achieving these targets can be expected.

If no action is taken to reduce usage, the overall municipal water usage of the Kao Group as a whole in 2030 will be 1.66 times higher than in 2017. Assuming that water charges rise by 20%*, then it can be anticipated that our costs will rise by 771 million yen. We have set ourselves the goal of reducing water usage by 45% by 2030 compared to 2005, which is expected to keep the increase in costs down to 51 million yen.

* Source: Development Bank of Japan, The Water Supply Sector: Future Forecasts and Management Reform, 2017.

Social impacts

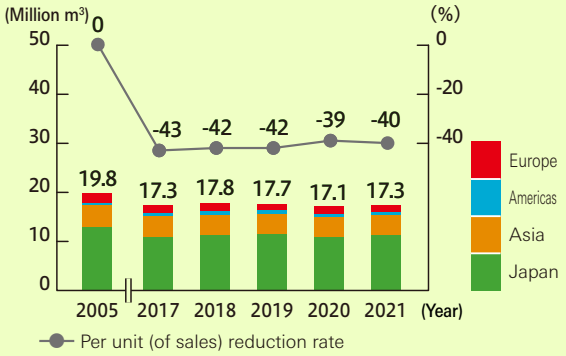
Achieving water consumption targets for all Kao Group sites will contribute to sustainable availability or supply of fresh water in the river basin where water sources used by plants are located, and will have a positive effect on conserving ecosystems. Moreover, achieving targets for water consumption during product used and during the product lifecycle will reduce the burdens of waterworks infrastructure maintenance, and reducing water usage by consumers will lead to lower fees consumers pay for water and sewer service.

Water conservation 303-1, 303-2, 303-3, 303-4, 303-5 (Water and effluents 2018)

Performance in 2021

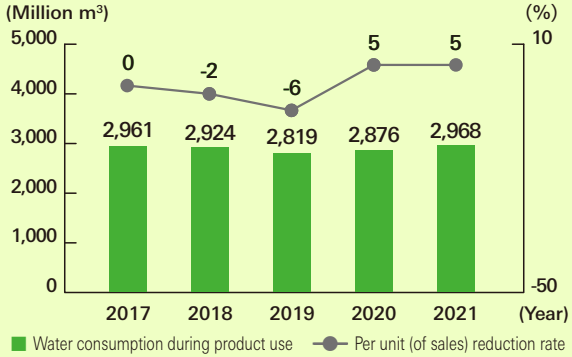
Performance*

Water consumption (withdrawal) ☑ (all sites)



* Boundary: For 2005, all Kao Group production sites and non-production sites in Japan. From 2016 all non-production sites are included.
* Assurance provided for water consumption (withdrawal)

Water consumption across the entire product lifecycle ☑ (Kao Group)



* "Water consumption across the entire product lifecycle" is calculated as the combined total of the amount of lifecycle water consumption of individual products sold within and outside Japan (excluding use during manufacturing and distribution) multiplied by their annual sales quantity and the amount from the group's manufacturing and distribution processes. This amount includes water used for procurement in regard to Chemical products but does not include water used in the use and disposal of such products.
* Assurance provided for water consumption and per unit (of sales) reduction rates

Water withdrawal amount by source (Million m³)* ☑ (all sites)

	2019	2020	2021
Surface water	0	0	0
Brackish water / seawater	0	0	0
Rainwater	0	0	0
Groundwater (renewable)	5.1	5.1	5.2
Groundwater (not renewable)	0	0	0
Oil-contaminated water / process water	0	0	0
City water	12.5	11.8	12.0
Wastewater from other organizations	0.07	0.1	0.01

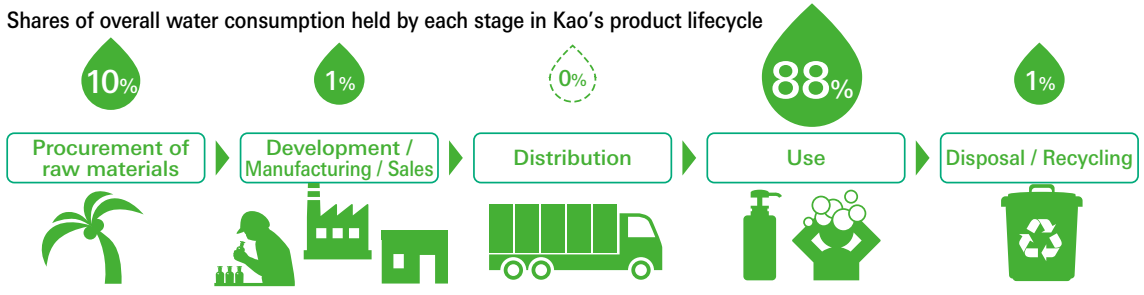
* Boundary: All Kao Group sites

Wastewater discharge by destination (Million m³)* ☑ (all sites)

	2019	2020	2021
Rivers / lakes	2.5	2.7	2.9
Brackish water / seawater	6.3	5.7	5.7
Groundwater	0.0	0.0	0.0
Sewage system	2.8	2.8	2.9
Wastewater to other organizations	0.0	0.0	0.0
Total	11.7	11.2	11.4

* Boundary: All Kao Group sites

Shares of overall water consumption held by each stage in Kao's product lifecycle



→ P103 Making the world healthier & cleaner > Decarbonization > Performance in 2021: CDP evaluation

Water conservation 303-1, 303-2, 303-3, 303-4, 303-5 (Water and effluents 2018)

Reviews of performance

Our water consumption (all sites) came to 17.3 million m^3, slightly higher than in the previous year. As sales increased, the per unit (of sales) reduction rate rose to 40%, which was an improvement compared to the previous year, but we did not achieve our target of 41% for 2021. Water consumption at production sites with water intake risks came to 2.9 million m^3.

Water consumption across the entire product lifecycle (for the Kao Group as a whole) rose by 92 million m^3 year-on-year. The per unit (of sales) reduction rate for water consumption across the entire product lifecycle was the same as in the previous year, up 5 percentage points compared to 2017.

Demand for hand soap and hand sanitizer had been unusually strong due to the impact of the COVID-19 pandemic. This high demand fell off slightly, and so the water usage associated with this demand also fell. On the other hand, sales of laundry detergent, which has high water usage per unit of sales, rose, and so overall there was a slight increase.

The challenge is to reduce water consumption during the use stage. We are working to further expand our water-saving products.

Water conservation 102-12, 102-43, 308-2

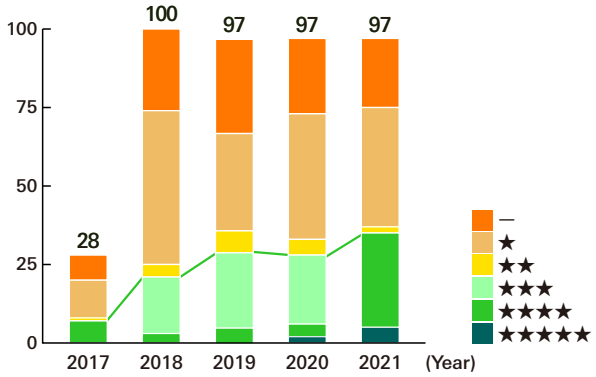
Our initiatives

Efforts in raw materials procurement

We began participating in the CDP Supply Chain Program in 2015 and we encourage suppliers in high water risk sectors to work on improving their water management standards. More specifically, we ask suppliers to fill out the CDP questionnaire survey. We use our unique methods to evaluate suppliers' water management status, and we provide feedback on the evaluation results.

The 2021 survey results showed that the number of suppliers obtaining an evaluation of at least "three stars" had increased by seven compared to the previous year, indicating that the overall supplier activity level had risen. At the same time, in regard to the roughly 25% of suppliers who failed to respond to the survey, we are working on engagement to encourage these suppliers to respond.

Supplier activity level (Water)



Efforts in development, manufacturing and sales

Initiatives to reduce water consumption

We use water as a product ingredient as well as to clean and cool equipment at our plants. We set targets to reduce water consumption at each plant and are working to reduce consumption and increase recycling based on the 3Rs (reduce, reuse and recycling).

Reduce

Multiple plants including Kao Chemicals GmbH in Germany conduct efforts to increase the number of times that water is reused for boilers and for cooling to reduce their water consumption.

Reuse

Rainwater is collected and used to water green spaces at the Sumida Office, Kao Chemical Corporation Shanghai and Fatty Chemical (Malaysia).

Recycle

Active recycling efforts, such as recovering steam and treating and reusing water that has been used in production processes, are being carried out at many plants.

Examples of 3R activities

Company name	Description of activity
Kao Chemical Corporation Shanghai	Reduces its water consumption for the manufacturing of some products by reusing water from reaction processes of other products
Kao Vietnam	Introduced a spray technique for washing and sanitizing tanks, resulting in reducing its use of water and steam
Kao Industrial (Thailand)	Returns cooling water overflow to a cooling water pool to help eliminate unnecessary water consumption
Quimi-Kao, S.A. de C.V. (Mexico)	Concluded an agreement with the local community to receive treated water from the community's wastewater treatment plant. Reverse osmosis is employed to use sewerage effectively, and Quimi-Kao further purifies the treated water it has purchased and releases water left over from production into a river through the community's facility, thus contributing to local water recycling

Climate change scenario analysis

It is reported that changes in the amount of rainfall and the rise in sea level caused by climate change are not the same around the world, and are different between regions. According to the RCP 8.5 scenario, future average annual rainfall will increase in high latitude and Pacific Ocean equatorial regions, and will decrease in arid mid-latitude and subtropical regions during the period from 2080 to 2100. According to that scenario, global average sea level rise will be 0.71m during that period, with a range from 0.51m to 0.92m, a substantial difference.

Accordingly, we assessed water risks caused by climate change at worksites, plants and distribution sites.

For the initial screening, we determined site conditions (primarily confirming nearby rivers, coastlines, elevations and so on from the perspective of flooding and storm surges), performed checks using existing tools (Aqueduct, hazard maps, etc.),

Water conservation 102-43

and confirmed past examples (whether there had been past water damage and other natural disasters). Next, we used climate models to compare heavy rain, light rain and storm surge risks with the current climate (1951–2011) at sites identified in the initial screening.

The results indicated that light rain will occur at all sites at about the same frequency as under the current climate, and that heavy rain and storm surges will occur more frequently at some sites, and flooding damage will be at about the same levels that we assumed until now.

There are several sites where a high level of drought risk is anticipated. We have been implementing quantitative evaluation of water resource risk in the drainage basins where these sites are located, using a methodology based on the CBWT method. The results confirmed that the evaluation method used was effective. It was also confirmed that, for some plants, the risk is growing higher. Going forward, besides expanding the scope of quantitative evaluation to include more sites, we will also be evaluating preventive measures to prevent latent risks from being actualized, and evaluating countermeasures that can be adopted if risks are actualized.

Efforts during use

As water consumption in the product use stage accounts for around 90% of water consumption across the entire lifecycle, we are providing water-saving products and implementing consumer communication in regard to how to use these products properly.

In 2009, we launched *Attack Neo* laundry detergent, which enables washing to be completed properly with only one rinse cycle, in Japan. The year 2019 saw the launch of *Attack ZERO*, which combines superb washing power and odor removal capability with zero detergent residues. Our products for front-load washers, which use less water, can also be used with just one rinse cycle. Laundry detergents that require only one rinse cycle are now offered in Japan and Taiwan. We aim to make one rinse cycle the norm for clothes washing.

Through our Essential Research focused on foam, we have also succeeded in reducing the amount of water used when rinsing with other product categories too. In 2010 we launched *Merit Shampoo*, which uses 20% less water for rinsing than conventional products, followed in 2014 by *CuCute* dishwashing detergent, which also reduces the amount of water needed for rinsing by 20%, and in 2015 by *Bath Magiclean* bathroom cleaning liquid, which uses 10% less water for rinsing. We plan to continue rolling out new water-saving products based on our Essential Research.

We also communicate ways to save water to consumers using a variety of approaches. For example, we have developed eco shampoo techniques to use less water when shampooing hair, and we communicate these to consumers. Communicating ways to conserve water while offering water-saving products truly embodies “eco together,” the slogan of the Kao Environmental Statement.

Implementing education and activities based on “eco together”

Employees

- In regard to employee education based on Responsible Care activities, we implement relevant education for all employees.
- We implement relevant education for all employees working at applicable worksites at plants and research institutes that have secured ISO 14001 certification.
- We hold guided tours of the Kao Eco-Lab Museum for our employees.
  (We have been conducting online tours for employees to prevent the spread of COVID-19.)

Customers

- We exhibit on water conservation at the Kao Eco- Lab Museum. (We have suspended tours for the general public to prevent the spread of COVID-19. We explained the role of water in our lives to elementary school students by conducting online tours.)

Business partners

- We hold the Kao Vender Summit for important suppliers.
- We asked suppliers to complete the CDP questionnaire survey.

Local communities

- Many plants prepare annual environmental reports and communicate with local residents.

National and local governments

- We conduct a water conservation campaign in China.
- We participated in the Water Project conducted by the Ministry of the Environment of Japan.

Water conservation 102-12, 102-43

Participation in China's Nationwide Cleanliness and Water-saving Initiatives—a water conservation campaign—for ten consecutive years

Kao (China) has conducted the Nationwide Cleanliness and Water-saving Initiatives jointly with the Center for Environmental Education and Communications of Ministry of Ecology and Environment, since 2012. In 2021, these activities were conducted from July onwards.

Until now, we focused mainly on water conservation as an activity to draw the attention of university students and the general public in China to water conservation, but starting in 2020, we expanded our efforts to cover a wider range of environmental protection perspectives with additional activity themes, including water conservation and safeguarding of water resources, biodiversity, low-carbon emissions, eliminating plastic and sustainable development.

Although there were effects from COVID-19, undertaking activities with a focus on university students in different areas, we received 138 proposals from 79 universities in 22 provinces and cities throughout China during the approximately four-month period. From these, we selected 20 projects, which we helped implement.

Students from throughout China implemented proactive measures to help conserve the environment by putting into practice activities of their own design, and developed different activities to improve the environmental awareness of people in the community. These measures and activities were evaluated through expert review and by online voting, and the winning university was announced online.

Employees' voice

Using hair-washing in space, where the available water is very limited, as a source of inspiration

Hiroshi Yoshida
Hair Care Products Research Laboratories, Research and Development

At the Hair Care Products Research Laboratories, as part of our ESG initiatives, we are taking steps to contribute toward the cleaning and washing of the hair and scalp, which is vital for everyone, and to reduce the burden that hair-washing places on the environment. In the past, we have developed shampoo and conditioner products that anyone can use easily and which come out as foam and are washed away quickly, and we have also developed shampoo sheet products that can remove dirt from the hair and scalp when the user does not have access to water.

In a survey in which people's hair-washing behavior was observed, it was found that, on average, women in Japan use around 20–30 liters of hot water each time they wash their hair. This high water usage in the hair-washing process not only places a burden on water resources, it also results in increased CO_2 emissions. It is a little-known fact that CO_2 emissions associated with providing the hot water used when washing one's hair with shampoo and conditioner products account for around 80% of the total emissions associated with these products over the entire product lifecycle.

Kao provides shampoo sheet products that do not require water for the Japanese astronaut in the International Space Station (ISS), the first time that our company has provided products of this type for use in space. Water is very precious in the ISS, so it is not possible for the astronauts to wash their hair using the same large amounts of hot water that would be used on Earth. Kao proposed a method whereby astronauts could remove dirt from their hair by wiping it with a three-dimensional non-woven fabric sheet containing a cleaning agent that does not require rinsing. The aim was to achieve strong sebum cleaning capability, make the product convenient to use under conditions of very low gravity, and enable the astronauts to enjoy the comfort of having clean hair. An astronaut who actually used this product during the process of evaluation for use in the ISS was full of praise for it, commenting that "You get a real feeling of cleanliness just by wiping your hair with the sheet."

Thinking about hair-washing products and behavior for use in space, which has the most extreme conditions possible for hair-washing, made us rethink how people can wash and clean their hair and scalp on Earth in a way that depends as little as possible on resources such as water and waste disposal that we have come to take for granted. I hope that Kao's involvement in developing shampoo sheet for use in space will serve as a catalyst for new solutions that can provide products for cleaning the hair and scalp that can be utilized in any environment and under any circumstances, that reduce the amount of water used in hair-washing, and that encourage hair-washing habits that are not dependent on water.

Water conservation 102-44

Stakeholder engagement

Norihiro Itsubo
Dean, Graduate School of Environmental and Information Studies, Professor of the Faculty of Environmental Studies, Tokyo City University

Kao's response to the views expressed last year

Taking into account the suggestions that we received last year, we have been working to develop and launch water-saving products. In 2021, we launched *Merit The Mild Foaming Shampoo* and *Merit The Mild Foaming Conditioner*, the foaming action of which is expected to reduce the amount of hot water used when rising the hair. By using these foaming products, the amount of hot water used is reduced by 25% as compared with having the product come out of the bottle as liquid.

We are also continuing to develop water-saving products for other usage scenarios besides the bathroom.

Strategic water conservation expectations based on a product lifecycle perspective

Damage resulting from natural disasters continues to increase throughout the world. Over the period 2000–2019, the world experienced around 7,300 significant natural disasters, affecting around 4 billion people, and causing 3 trillion USD of economic damage. By comparison with the period 1980–1999, these figures represented an increase of 72%, 25% and 82% respectively. Most of these disasters involved flooding, drought or storms, all of which are water-related. With the effects of global warming becoming more apparent, and demand for water rising due to population increase, the impact of natural disasters can be expected to become even more severe in the future. The question of how to cope with competition for water in the agricultural, residential and industrial sectors is a matter of shared global concern.

In order to achieve the United Nations Sustainable Development Goals (SDGs), there are several issues that need to be tackled at the same time. Kao is utilizing the experience that it has accumulated when implementing countermeasures in response to climate change to effectively address water-related issues. Kao has expanded the scope of its Scope 3 data, which estimates an organization's total CO_2 emissions over the entire product lifecycle, to include emissions associated with water use. Through this analysis, Kao was able to identify product use by consumers and water use relating to raw materials procurement as key "hotspots." By focusing its efforts on initiatives tailored to these stages in the product lifecycle, Kao is implementing strategic water conservation measures.

As one of its water conservation measures targeting product use, Kao is promoting early, widespread adoption of water-saving versions of its core products, such as detergent and shampoo, and Kao is also working on the development of detergent products that do not require water. I anticipate that these initiatives will be particularly effective in areas with an especially high risk of drought, and when natural disasters occur.

At the raw materials procurement stage, Kao is utilizing the CDP Supply Chain Program to coordinate the collection and management of water risk data with suppliers. As Kao is dependent on developing nations for many raw materials, the collection of data on water use during cultivation and at processing plants can be challenging, but I hope Kao will be able to realize effective implementation of water conservation measures through collaboration with international NPOs.

Kao has received an A rating, the highest possible, for each of Climate Change, Water Security and Forests from the CDP. This is the fruit of its comprehensive efforts to realize strategic, sustainable management that covers the whole of the product lifecycle. In today's world, where there is a need for business models that are not dependent on water, it is vitally important to undertake product development, and early implementation of such products, that endeavors, from multiple perspectives, to prevent water pollution, control water consumption, and mitigate social problems that derive from water risk. According to United Nations forecasts, by 2050, some 5.0 billion people around the world will be affected by water shortages. I hope that Kao will continue to make a contribution in this area, both before and after the realization of the SDGs.