ESG Highlights

Under the ESG Strategy, the Kirei Lifestyle Plan, Kao pursues the creation of economic value alongside environmental and social value through its business. This section presents the outcomes of those efforts.

Profitable growth and reduced environmental impact, engineered together

+180%
EVA growth
vs. 2022
(ROIC introduction year)

-29%
% reduction in absolute scope 1 + 2 CO_2 emissions
(vs. 2022)

Streamlined inventory management achieved through supply chain reform in the Cosmetics business

-18%
Reduction in product inventory
(YoY)

-22%
Reduction in inventory waste
(YoY, excluding raw materials)

Our advanced surfactant technology enables metal cleaning and rust prevention in a streamlined low-energy process

+15%
YoY sales growth in the Metals segment
(Includes metal cleaners)

-73%
CO_2 reduction
(per cleaning machine)

Kao's advanced cooling solutions help address rising heat stress in everyday life and industrial workplace settings

15 million
Cumulative cooling-towel shipments
(January 2020–December 2025)

-6°C
Reduction in skin temperature when used with an air-conditioned work jacket
(sustained for approximately 30 minutes.)*1

Our science-backed innovation continues to advance comfortable daily UV protection with lower environmental impact

Over **100 million units***2
Cumulative shipments

-63%
CO_2 emissions reduction
(Per unit weight in the Fresh Pouch refill, vs. 70g laminated tube)

Proprietary surfactant *Bio IOS*® enables high performance with reduced carbon emissions

2.6x
Unit price per volume (*Attack ZERO* with *Bio IOS*® vs. baseline)

-37%
CO_2 emissions reduction
Before vs. after *Bio IOS*® incorporation

*1 Research by Kao; results when used outdoors at 30°C (including breaks in sun and shade).
*2 Kao research. Sum of tube-type products (incl. limited edition fragrances, cool type, large-capacity). Includes products exported and locally produced outside Japan (January 2011– October 2023).

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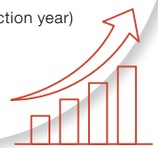
Sustainable Innovation is our Growth Engine

Profitable growth and reduced environmental impact, engineered together.

+180%

EVA growth

vs. 2022 (ROIC introduction year)



-29%

% reduction in absolute scope 1 + 2 CO_2 emissions

(vs. 2022)

-12%

% reduction in absolute lifecycle CO_2 emissions

(vs. 2022)

-13%

Quantity of fossil-based plastic used in packaging

(vs. 2022)

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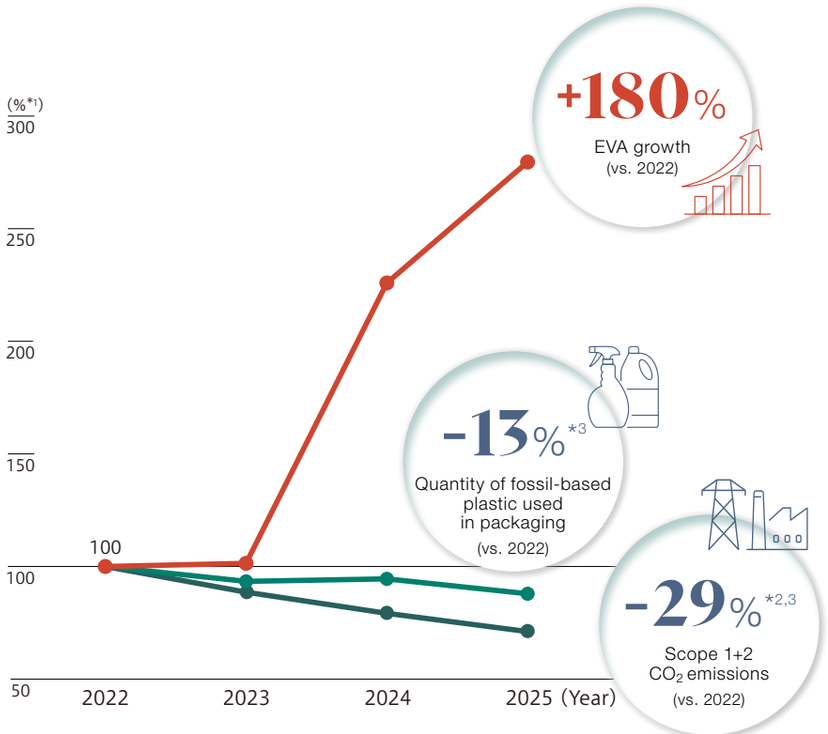
Sustainable Innovation is our Growth Engine

Profitable growth and reduced environmental impact, engineered together.

At Kao, addressing climate change and the plastics issue is positioned as a core management priority for sustainable growth. Under our ESG strategy, we advance profitability and reduction of environmental impact through *Yoki-Monozukuri*, underpinned by our proprietary technologies. In 2025, EVA (Economic Value Added) grew by approximately 180% versus 2022, while CO_2 emissions and fossil-based plastic use declined.



*1 Indexed to 100 in 2022 (the year ROIC was introduced)
*2 Scope of aggregation: all sites of the Kao Group and company vehicles in Japan. Gases covered: the seven gases specified under the Kyoto Protocol (sites outside Japan: CO_2 only).
*3 Greenhouse gas emissions from worksites and fossil-based plastic used in packaging are shown as indices with FY2022 set to 100.
*4 Products that meet Kao's criteria for superior environmental performance

Economic Value

In 2025, EVA increased by approximately **180%** versus 2022 (the year ROIC was introduced), expanding value creation more than the cost of capital.

Net sales of products delivering environmental benefits*4 (such as reduction in water usage) increased approximately **16%** year-on-year.

Environmental and Social Value

Scope 1 + 2 CO_2 emissions fell by approximately **29%** (vs. 2022) through measures such as increased use of renewable electricity.

CO_2 emissions across the full product lifecycle were reduced by approximately **12%** (vs. 2022) by reducing CO_2 emissions from raw material procurement and product use.

Fossil-based plastic used in packaging declined by approximately **13%** (vs. 2022) through designs that reduce plastic usage such as the *CuCute eco-peco* bottle, and increased use of recycled plastic.

For detailed data, please also refer to P143 "Decarbonization" and P161 "Zero Waste." P315 KPI definitions

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Less Inventory. Less Waste. Better Growth.

Streamlined inventory management achieved through supply chain reform in the Cosmetics business.

-18%

Reduction in product inventory

(YoY)

Streamlined inventory

Reduced logistics costs

-22%

Reduction in inventory waste

(YoY, excluding raw materials)

Reducing inventory disposal

Preventing stockouts

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Less Inventory. Less Waste. Better Growth.

Streamlined inventory management achieved through supply chain reform in the Cosmetics business.

In the Cosmetics business, diversifying consumer preferences have driven a growing number of stock keeping units (SKUs) and greater demand volatility, leading to excess inventory, inventory disposal, and lower capital efficiency. At Kao, we are creating systems to prevent overproduction. For example, we opened a materials stock center in Japan that shifts part of the inventory from finished goods to materials, and established an integrated inventory operations structure in China. In 2025, we strengthened our ability to respond to demand fluctuations, reducing finished product inventory and inventory disposal, as well as optimizing overall inventory levels.

Stock center and integrated operations structure achieved:

- Reduction of product inventory
- Reduction of logistics costs
- Reduction in inventory disposal
- Prevention of stockouts

Economic Value

-18% Reduction in product inventory (YoY)

- Improved capital efficiency by reducing inventory assets. EVA improvement in the Cosmetics business contributed to Kao Group's EVA growth.
- Strengthening ability to respond to demand fluctuations addressed challenges on a structural level, such as inventory disposal caused by expiration, and stockouts in market. Achieved improvement in quality of earnings and sales growth by lowering inventory while minimizing missed sales opportunities.

Environmental and Social Value

-22% Reduction in inventory waste (YoY excluding raw materials)

- Reduced waste in raw materials, packaging, and manufacturing energy by lowering disposal of expired inventory caused by overproduction.
- Optimized use of resources by establishing systems to manufacture only what is needed when it is needed, reducing overproduction reducing overproduction by shifting stock to materials.
- Reduced CO_2 emissions across the supply chain. In eastern Japan, integrated and centrally managed logistics between material suppliers and production sites lowered transportation frequency. Existing logistics optimization efforts was also a key factor.

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High-Performance Cleaning Without Heat

Our advanced surfactant technology enables metal cleaning and rust prevention in a streamlined low-energy process.

+15%

YoY sales growth in the Metals segment

(Includes metal cleaners)

-73%

CO_2 reduction

(per cleaning machine)

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High-Performance Cleaning Without Heat

Our advanced surfactant technology enables metal cleaning and rust prevention in a streamlined low-energy process.

Historically, the process to clean metal parts required heat and could lead to oxidation due to the water used. Every step consumed energy; cleaning solutions were heated to unlock their cleaning power, energy was used to increase drying speed, and hot air was used to dry. In addition, rust-preventive oils and protective packaging were required, contributing to waste. Leveraging Kao's expertise in surfactant technology, we developed *STAY BRIGHT*, a single agent that completes everything from cleaning to rust prevention all without heat. In 2025, we expanded deployment at customer manufacturing sites, contributing to reducing both manufacturing costs and environmental impact.

Economic Value

- Sales in the Metals segment, including metal component cleaners, grew **15%** year-on-year.
- Expanded adoption of *STAY BRIGHT* in the high-value-added market. Positioned as a high-performance, integrated solution that delivers heatless cleaning and rust prevention, leading to process simplification and reduction in energy as well as packaging materials.
- Deployed at customer manufacturing sites at a scale of approximately 150 cleaning machines. Starting with automotive parts, application is expanding to aircraft, ships, and manufacturing equipment.

Environmental and Social Value

- Heatless cleaning reduces CO_2 emissions in the cleaning process by over **90%**.
- CO_2 emissions reduced by approximately **73%** per cleaning machine annually by eliminating the need for heating, drying, and rust-preventive treatment.
- The service life of the cleaning solution is extended as evaporation is reduced in the absence of heat. Replacement is required less frequently and water replenishment needs are minimized, reducing water usage to less than one-third, also reducing wastewater treatment needs.
- Eliminating the need for rust-preventive oil, packaging materials, and desiccants contributes to waste reduction and conservation of natural resources.

Eliminate individual packaging

Individual packaging for rust prevention

Packaging after cleaning with *STAY BRIGHT*

For more details, please refer to *STAY BRIGHT*
https://chemical.kao.com/global/metals/staybright/

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Personal Cooling Solutions for a Warming Climate

Kao's advanced cooling solutions help address rising heat stress in everyday life and industrial workplace settings.

15million

Cumulative cooling-towel shipments

(January 2020–December 2025)

Record high

1.7billion yen*1

2025 net sales

-6°C*2

Reduction in skin temperature when used with an air-conditioned work jacket (sustained for approximately. 30 minutes.)*

*1 INTAGE SRI+ "Antiperspirant/Deodorant + Cooling Goods" market, cumulative sales value, January 2025–December 2025
*2 Research by Kao; results when used outdoors at 30°C (including breaks in sun and shade).

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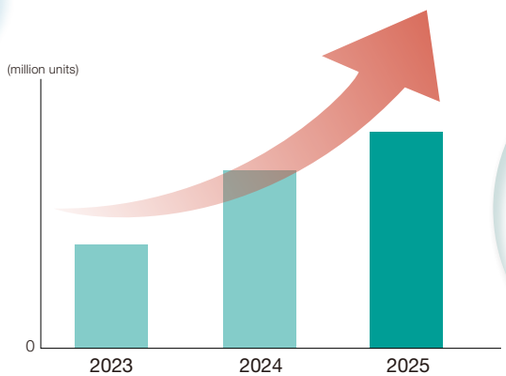
Personal Cooling Solutions for a Warming Climate

Kao's advanced cooling solutions help address rising heat stress in everyday life and industrial workplace settings.

As climate change brings extremely hot and humid conditions as well as prolonged heatwaves, heat-related risks are rising in consumers' daily lives and at outdoor worksites. Kao offers cooling products that harness the heat of vaporization. Offered in both consumer and business markets, these solutions to extreme heat are linked with growth of the *Bioré* brand. In 2025, we saw increases in cumulative shipments of cooling towels, B2B deployments, and net sales, advancing both social value creation and business growth.

Economic Value



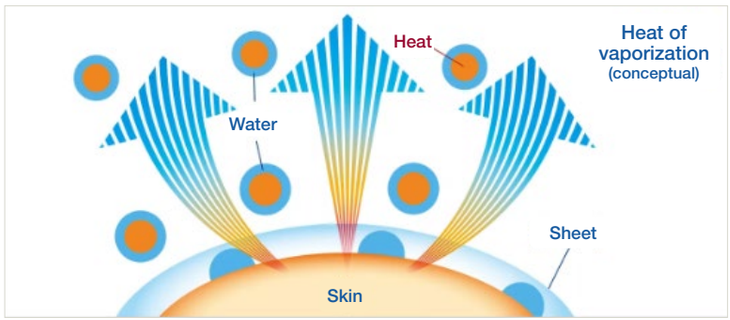
15 million

Cumulative cooling-towel shipments

(January 2020–December 2025)

- *Bioré Cool Support* entered the B2B heat-stress care market in Japan. As of March 2026, the product is adopted by **200 companies**, opening a new B2B market against the backdrop of newly mandated heat-stress countermeasures.
- The cooling towel, our flagship product, has surpassed **15 million** cumulative units shipped since its 2020 launch.
- Achieved a record-high **1.7 billion yen***1 in net sales in 2025. Increased sales opportunities driven by prolonged heatwaves lifted annual revenue.

Environmental and Social Value



- As we see prolonged heatwaves driven by climate change, cooling products that lower skin temperature through the heat of vaporization contribute to protection from extreme heat and improving comfort in daily life.
- Rolled out B2B heat-stress care products that protect the health and lives of outdoor workers, following the mandated strengthening of countermeasures for heat in workplaces in 2025.
- **6°C** reduction from pre-application skin temperatures was confirmed to be sustained for approximately 30 minutes, when used with an air-conditioned work jacket (standard equipment in heat-stress environments).*2

*1 INTAGE SRI+ "Antiperspirant/Deodorant + Cooling Goods" market, cumulative sales value, January 2025–December 2025

*2 Research by Kao; results when used outdoors at 30°C (including breaks in sun and shade)

Bioré Cool Support (Japanese-language website)
https://www.kao.co.jp/bioresheets/hiyashi/support/

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Sustainable Innovation in Everyday UV Protection

Our science-backed innovation continues to advance comfortable daily UV protection with lower environmental impact.

Over
100 million units*1
Cumulative shipments

-63%*2
CO_2 emissions reduction

*1: Kao research. Sum of tube-type products (incl. limited edition fragrances, cool type, large-capacity). Includes products exported and locally produced outside Japan (January 2011–October 2023).
*2: Per unit weight in the Fresh Pouch refill, vs. 70g laminated tube

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Sustainable Innovation in Everyday UV Protection

Our science-backed innovation continues to advance comfortable daily UV protection with lower environmental impact.

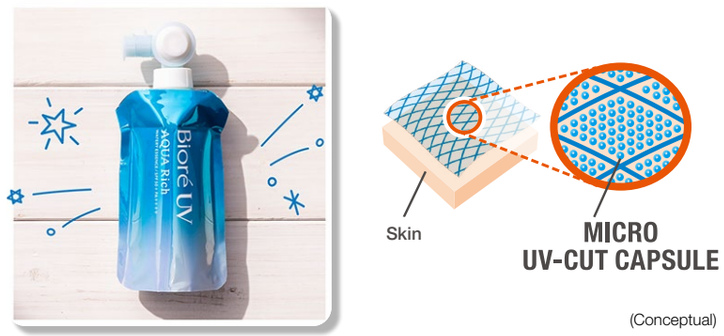
As demands in UV care increase, consumers are seeking products that are easy to use every day while reducing environmental impact. Kao meets these needs through *Bioré UV Aqua Rich Watery Essence*, combining a comfortable user experience with packaging that has a lower footprint.
Cumulative shipments since launch have surpassed 100 million units, improving quality of life (QOL) for consumers, reducing environmental impact, and driving business growth.

Economic Value

- Product offered globally with Kao's proprietary formulation technology that delivers both high UV protection and comfortable wear.
- Increased usage and continued consumer support drove over **100 million**[*1] cumulative units shipped and expansion of Japanese market share to **6.7%**[*3].

*1: Kao research. Sum of tube-type products (incl. limited edition fragrances, cool type, large-capacity). Includes products exported and locally produced outside Japan (January 2011–October 2023).
*2: Ascorbyl glucoside
*3: INTAGE SRI+ UV care products market, cumulative sales value share, January 2025–December 2025

Environmental and Social Value



(Conceptual)

- The Fresh Pouch refill package design makes dispensing easy, and allows people to use up the product to the last drop hygienically. It also reduces CO_2 emissions per unit weight by approximately. **63%**[*4], achieving both reduced environmental impact and increased accessibility.
- Formulation that prevents unevenness in application at the micro level delivers strong UV protection and comfort, making everyday UV protection more accessible and improving daily QOL.

*4: Per unit weight in the Fresh Pouch refill, vs. 70g laminated tube

Bioré UV Aqua Rich Watery Essence (Japanese-language website)
https://www.kao.co.jp/bioreuv/microuv/

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Small Footprint. Big Impact.

Proprietary surfactant *Bio IOS*® enables high performance with reduced carbon emissions.

2.6x

Unit price per volume*1

-37%

CO_2 emissions reduction*2

BIO iOS

*1: *Attack ZERO* with *Bio IOS*® vs. baseline (as of 2025)
*2: Before vs. after *Bio IOS*® incorporation

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Small Footprint. Big Impact.

Proprietary surfactant *Bio IOS*® enables high performance with reduced carbon emissions.

As global demand for detergents is expected to grow, expanding the range of raw material options while reducing environmental impact is an increasingly important challenge. Using fats and oils that were historically difficult to leverage, Kao developed *Bio IOS*®, a proprietary surfactant with a unique structure that combines high detergency with high water solubility. Application of this technology is now expanding across brands, from laundry detergents to body cleansers and hair care, advancing environmental compatibility and economic value in parallel.

Economic Value

- *Attack Zero* with *Bio IOS*® secures **2.6x** unit price per volume; the newly launched 2025 product *Bioré The Body Totonoi Hada* delivers **2.2x**.
- *Attack Zero* achieved a **25%** contribution to net sales; *Bioré The Body Totonoi Hada* achieved **4%** (launched in 2025).

Environmental and Social Value

- *Attack Zero* achieved a **37%** reduction in CO_2 emissions; *Bioré The Body Totonoi Hada* achieved **29%**.
- Leverages fats and oils that previously had limited application as high-performance surfactant feedstock.

Attack Zero (Laundry detergent)	*Bioré The Body Totonoi Hada* (Body cleanser)
New high-value-added positioning	
High-speed cleaning power	Site-selective cleansing
CO_2 emissions reduction*1	
-37%	-29%
Unit price per volume*2	
2.6x	2.2x
Contribution to net sales*3	
25%	4%

*1 Comparison of product formulations before and after *Bio IOS*® incorporation.
*2 Compared to baseline products in each category (as of 2025).
*3 Share of net sales in the same category within the brand in 2025 (for *Bioré The Body Totonoi Hada*, the nine months following its April 2025 launch).

- Kao Integrated Report 2026 P32
  https://www.kao.com/content/dam/sites/kao/www-kao-com/global/en/investor-relations/pdf/kao-reports-fy2026-en.pdf
- Sustainable Surfactant Bio IOS and Precise Oil Conversion Technology
  https://www.kao.com/global/en/innovation/research-development/fundamental/material-science/bio-ios/

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Case study: Scaling Value Creation Through *Bio IOS*® and Its Applications

Making my everyday more beautiful

IMPROVED QUALITY OF LIFE

HABITS FOR CLEANLINESS, BEAUTY & HEALTH

01 Most powerful deodorizing power in *Attack ZERO* liquid detergent history

02 Eliminates clothing and washing machine drum odor

03 Eliminates need for maintenance of washing machine drum*1

UNIVERSAL PRODUCT DESIGN

More accessible dispenser enables measurement with one hand

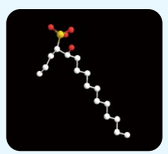
Making thoughtful choices for society

PURPOSE DRIVEN BRANDS

Attack アタック

High “reliable” and “empathy” scores for the brand*2

TRANSFORMATIVE INNOVATION



World’s first high-performance surfactant*3

RESPONSIBLY SOURCED RAW MATERIALS

Sustainable use of palm oil-based raw materials

Making the world healthier & cleaner

DECARBON -IZATION

Compactification reduces energy used in transport

WATER CONSERVATION

Single rinse cycle reduces water usage

ZERO WASTE

100% recycled plastic used (for bottle)*4

See here for progress on initiatives aligned with each target of the ESG Strategy, the Kirei Lifestyle Plan:
P52 Our ESG Vision and Strategy > Metrics and Targets

*1 Refers to effects on eliminating bacteria and preventing mold. Not effective for all bacteria/mold.
*2 Kao survey, N=800, 2025 survey (within Japan, laundry detergent category); scores exceed the category average by 10 points or more
*3 The first use of a surfactant with proprietary molecular structure in a consumer product.
*4 Adoption of 100% recycled plastic (PET) for product bottles

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Value creation unified by our ESG strategy

◎ Central to value creation ○ Clear relation △ Supports indirectly

ESG Strategy Kao Actions→ / ESG Highlights case studies ↓	Making my everyday more beautiful				Making thoughtful choices for society				Making the world healthier & cleaner				Key value created
	Improved Quality of Life	Habits for cleanliness, beauty & Health	Universal product design	Safer Healthier Products	Sustainable lifestyle promotion	Purpose-driven brands	Transformative innovation	Responsibly sourced raw materials	Decarbonization	Zero waste	Water conservation	Air & Water Pollution Prevention	
Cosmetics supply chain reform P13 Read more							◎		○	◎			• Waste reduction • Improved capital efficiency • Sales growth
Rust preventive metal cleaning agent (*STAY BRIGHT*) P15 Read more							◎		◎	◎	◎	○	• CO_2 reduction • Reduced water usage • Waste reduction • Sales growth
Body sheets (*Bioré cooling towel*) P17 Read more	◎	△		○	○	○	○		◎				• Improved quality of life • Occupational safety • Climate change adaptation • Sales growth
Sunscreen (*Bioré UV Aqua Rich*) P19 Read more	◎	△	○	○	○	○	◎		○	○			• Improved quality of life • Waste reduction • Sales growth
Products featuring *Bio IOS*® P21 Read more	◎	○	○			◎	◎	◎	◎	○	◎		• Improved quality of life • CO_2 reduction • Reduced water usage • Sales growth

Initiatives based on the ESG strategy serve as a strategic foundation that links our businesses, technologies, supply chains and brands, supporting the creation of economic value with environmental and social Value.

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