

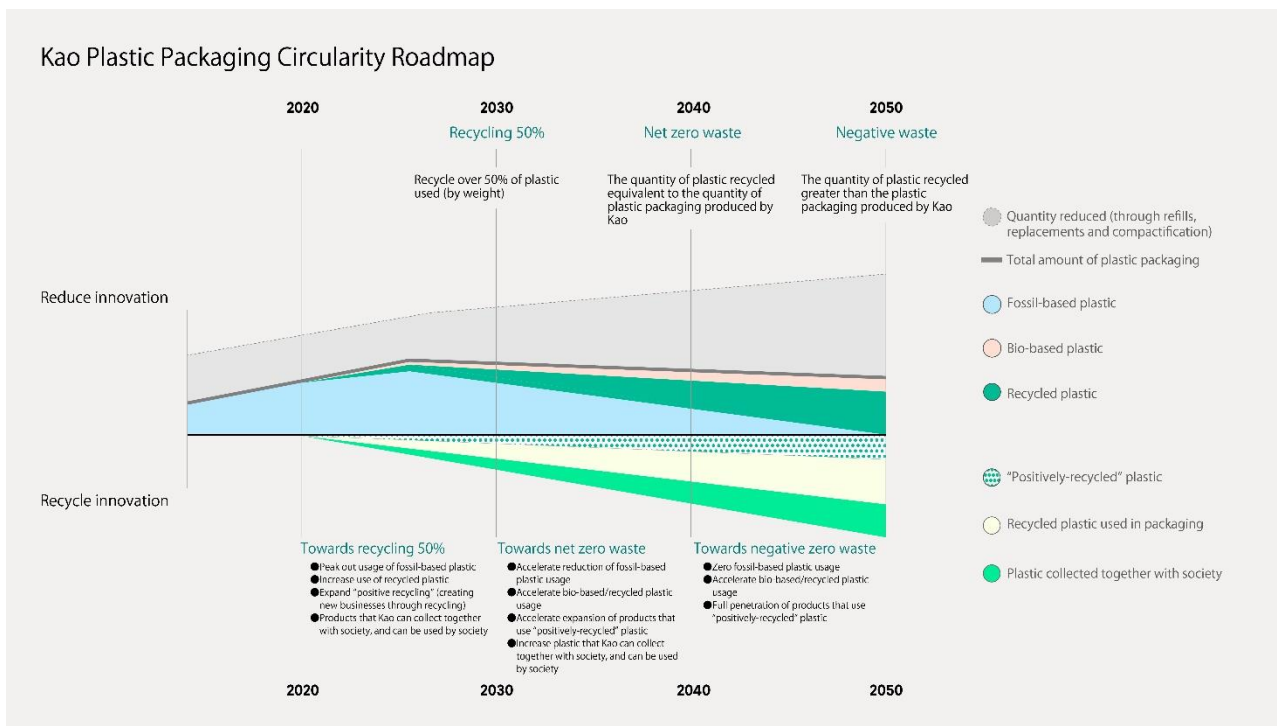
FOR IMMEDIATE RELEASE

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Announcing a Roadmap for Reaching Plastic Packaging Net Zero Waste by 2040 and Negative Waste by 2050

First Product Making Partial Use of Film-to-Film Recycled Plastic Reaches the Market

Kao Corporation aims to achieve plastic packaging net zero waste by 2040 and negative waste by 2050 by cutting down on plastic containers used and emitted in its business activities to achieve resource circularity in society. In April 2019, Kao established its ESG strategy, the Kirei Lifestyle Plan. This plan outlines 19 leadership actions, one of which is zero waste, to which this strategy contributes. The following outlines the roadmap for achieving this goal and reports on progress made in 2022.



Goal: Plastic Packaging Net Zero Waste by 2040 and Negative Waste by 2050

In the Our Philosophy & Action on Plastic Packaging, announced in 2018, Kao pledged to reduce its use of plastic packaging and recirculate used plastic. In line with the 4Rs, Kao is reducing plastic use by making containers and packaging thinner, increasing package capacity, making products more

highly concentrated and using thinner film packaging for primary containers, promoting reuse by offering refill and replacement products, replacing fossil-derived raw materials with sustainable alternatives and promoting recycling so as to recirculate used plastic packaging.

The Kao Sustainability Report 2022 also makes zero waste one of the key leadership action themes of the Kirei Lifestyle Plan ESG strategy, aiming to achieve net zero waste for plastic packaging emitted by the company by 2040 and negative waste for plastic packaging by 2050. Kao's net zero waste initiative aims to make the quantity of plastic recycled equivalent to the quantity of plastic packaging it produces. Negative waste means reaching the stage where the quantity of plastic recycled is greater than the plastic packaging produced by Kao.

Approaches to Reaching the Goal

Innovation in Reduction

Kao will promote the use of recycled plastic and bio-based plastic and reduce fossil-based plastic use, which will peak* by 2030, ultimately phasing them out completely by 2050.

* By reducing quantity vs. the previous year.

Innovation in Recycling

Under Innovation in Recycling, Kao will recycle resources by producing products and services making use of the plastic waste discarded by all sectors of society and will begin by boosting the recycle rate for plastics it uses to over 50% (by weight) by 2030. To promote recycling, Kao is taking three approaches: utilizing its own technology to recycle used plastics into useful products and services ("positive recycling"), using recycled plastic for its packaging, and increasing the quantity of plastic that Kao collects with partners and that can be used by industry and consumers.

● Positive recycling of used plastic

Through its research and development activities, Kao has successfully developed technologies to recycle used plastics into useful products and services. NEWTLAC 5000 asphalt modifier, created by the Kao Chemical Business and launched in December 2020, converts waste PET into a modifier using technology developed in-house. Adding NEWTLAC 5000 to asphalt improves pavement durability by up to five times compared to ordinary pavements. Making asphalt pavement highly durable can help reduce damage to road surfaces and suppress the generation of CO₂ associated with repair work.

[Highly durable asphalt modifier made from waste PET NEWTLAC 5000 | Asphalt, Civil engineering & Construction | Kao Chemical](#)

● Using recycled plastic for packaging

Promoting the use of recycled plastic under Innovation in Reduction also contributes to recycling, as this approach uses plastic waste discarded by all sectors of society. Kao has been using recycled

plastic in packaging for concentrated liquid laundry detergent *Attack ZERO*, *CuCute* dishwashing liquid, *Bioré u The Body* foam body wash, and other products, with 69% of PET plastic containers sold in Japan using recycled PET plastics in 2022, up markedly from 19% in 2021.

● **Turning used plastic packaging collected with partners into useful products**

Kao, partnering with local governments, businesses and other stakeholders, has established a collection scheme for used plastic containers and is developing recycling technologies. Together with Lion Corporation, Kao has been field testing since September 2020 to develop film-to-film technology for refill packs, a technology that has made film-to-film recycling possible. Kao and Lion were the first to launch packaging making partial use of recycled materials, on May 29, 2023. Kao intends to commercialize innovative film packaging made from collected used refill packs by 2025, and while the new packaging is available only in limited quantities for now, the company will continue research and development to ensure continuous product availability.

News Releases from May 2023

[Kao Develops Practicable Technology for Film-to-Film Recycling of Used Refill Packs](#)

[Kao and Lion Partner in Film-to-Film Recycling of Used Refill Packs First Product Making Partial Use of Recycled Materials Reaches the Market](#)

2022 Performance

Of the 91,000 tons of plastics Kao used for its packaging in 2022, 88,000 tons came from fossil-based plastic. Kao aims to reduce the quantity of plastics used in its packaging and in broader society by 200,000 tons by 2030, through promoting the use of refill and replacement products and adopting technology such as making products more highly concentrated. In 2022, reduction achieved was 144,000 tons.

Indicator	Mid-to long-term targets Target Value	Mid-to long-term targets Year	2022 Results (2021 Results)
Quantity of fossil-based plastics used in packaging	Will peak and begin to decline	2030	88,000 tons (Previous year performance currently being recalculated)
Quantity of innovative film-based packaging penetration for Kao and others per annum	300 million	2030	13 million (11 million)
Plastic recycling rate with Kao involvement	50%	2030	3% (1%)
Practical use of innovative film-based packaging made from collected pouches	Product launch	2025	Ongoing development (ongoing)

			development)
% of recycled plastic used in PET containers (Japan)	100%	2025	69% (19%)
Of the waste generated from Kao sites*, ratio of waste that cannot be recycled * Beginning with production sites	Zero (less than 1%)	2030	4.2% (9.1%)
% reduction of discarded products and discarded sales promotion materials (Base year: 2020)	95%	2030	20% (14%)

The Kao Group adopted the Kao Group Mid-term Plan 2025 (K25) in 2021, promoting the vision of “protecting future lives” and “sustainability as the only path.” The Kao Group will continue to integrate its ESG strategy into its management practices, develop its business, provide better products and services for consumers and society, and work toward its purpose, “to realize a Kirei world in which all life lives in harmony.”

About the Kirei Lifestyle Plan

Over the past 130 years, Kao has worked to improve people’s lives and help them realize more sustainable lifestyles—a Kirei Lifestyle. The Japanese word ‘kirei’ describes something that is clean, well-ordered and beautiful, all at the same time. The Kao Group established its ESG strategy, the Kirei Lifestyle Plan in April 2019, which is designed to deliver the vision of a gentler and more sustainable way of living. By 2030, Kao aims to empower at least 1 billion people, to enjoy more beautiful lives and have 100% of its products leave a full lifecycle environmental footprint that science says our natural world can safely absorb. For more information, please click [here](#).

About Kao

Kao creates high-value-added products and services that provide care and enrichment for the life of all people and the planet. Through its portfolio of over 20 leading brands such as *Attack*, *Bioré*, *Goldwell*, *Jergens*, *John Frieda*, *Kanebo*, *Laurier*, *Merries*, and *Molton Brown*, Kao is part of the everyday lives of people in Asia, Oceania, North America, and Europe. Combined with its chemical business, which contributes to a wide range of industries, Kao generates about 1,550 billion yen in annual sales. Kao employs about 35,400 people worldwide and has 136 years of history in innovation. Please visit [the Kao Group website](#) for updated information.

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Related Information

- [Kao launches new ESG Strategy “Kirei Lifestyle Plan” to support consumer lifestyle changes](#)
- [Kao’s New Challenges for the Future: Accelerating Purposeful Business Commitment with ESG](#)
- [Kao sustainability website](#)