Packaging 102-12,103-1,103-2

Kao's approach

Packaging serves an important role and function as part of our products, protecting contents and preserving quality during transport and providing a wide range of information to consumers using the products. As part of our "eco together" activities, we are promoting environmentally conscious packaging.

Kao's creating value to address social issues

According to the results of a survey on the use and discharge of packaging waste materials by the Ministry of the Environment (FY 2016), packaging waste accounts for approximately 55% of household waste in Japan, which speaks to the need to make packaging more environmentally friendly.

We are working to develop packaging technologies with less environmental impact, aiming to establish sustainable patterns of production and consumption in society.

Contributions to the SDGs

Policies

We are working to reduce the environmental impact imposed by packaging with technology development from the perspective of the 4R's: Reduce, Renewable, Reuse, and Recycle.
In terms of Reduce, our main initiatives are to make bottles thinner and make other packaging lighter weight. We are working to reducing the amount of packaging materials used by making products smaller, such as by concentrating products to make them more compact.

Our Renewable initiatives include converting petroleum-based resins to bioplastics derived from renewable plant sources, such as polylactic acid and bio-polyethylene.

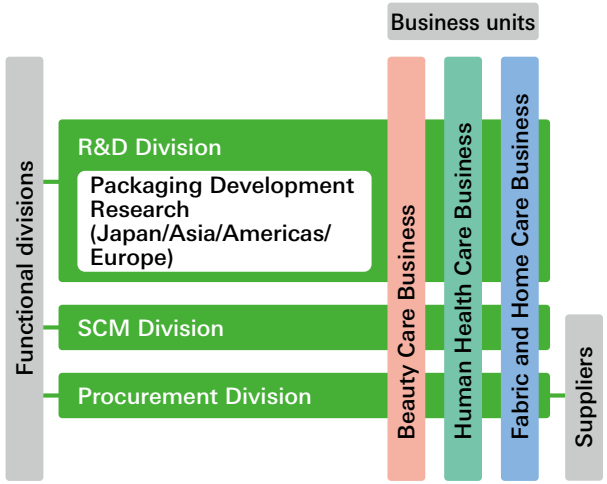
Initiatives for Reuse include proactive development of refill and replacement products to allow reuse of original packaging.

Finally, Recycle initiatives involve proactive efforts to introduce and use recycled materials, including recycled paper and resin.

Framework

These efforts are led by Packaging Development Research and promoted in cooperation with SCM Division members, related divisions, suppliers and other partners.

Packaging Development and Promotion Framework



*Organization names as of December 2017.

Packaging 404-2

Education and promotion

To promote activities and understanding internally, Packaging Development Research holds packaging review meetings when new and improved products are launched. Members from relevant divisions including business units, the SCM Division and the Consumer Communication Center evaluate the environmental performance of the packaging. In 2017, we held packaging review meetings 70 times in Japan. We are also holding similar meetings at Kao Group companies outside Japan.

Collaboration with stakeholders

We participated in the 2017 Packaging Diet Campaign sponsored by a group of nine prefectures and cities in Japan, which promotes reducing the amount of waste and supports companies working to reduce packaging. To reduce packaging waste from households, the campaign introduces companies' efforts to slim down their packaging and the products involved, and encourages consumers to reduce their packaging waste. We have participated in the campaign every year since 2010.

Mid- to long-term targets and performance

Main initiatives

- Promote development of packaging that takes environmental impact into consideration
- Promote the 4R's in packaging

2018 targets

- Promote the use of environmentally-friendly packaging suited to the needs of the future
- Realize the efficient utilization of recycled plastic

Packaging 103-1,103-2,103-3,301-1,305-4,305-5,308-2

Performance in 2017

Reduce

- The amount of resin used for the refill pack of the *Fragrance Newbeads Gel Spout Pouch 1.46 kg* was reduced by approximately 6%, by optimizing the height of the refill pouch without changing the volume
- The amount of paper used in the production of *Segreta Airy Styling Oil* was reduced by approximately 33%, by adopting heat shrink technology for the mounting paper board*
- Reduced the weight of the *Newbeads 850 g* cardboard carton by 5.6%

Renewable

- Blended 35% bio-polyethylene in the *CuCute Large Refill (7 Refills) Bottle*

Reuse

- The amount of plastic used for the packaging of *CuCute CLEAR Foam Spray* was reduced by 23% by introducing a new replacement bottle
- Adopted the Raku-raku Eco Pack Refill for the *Biore u* refill pouch
- Launched e-commerce online sales of *Smart Holders*, which directly hold Raku-raku Eco Pack Refill for use without using for refill

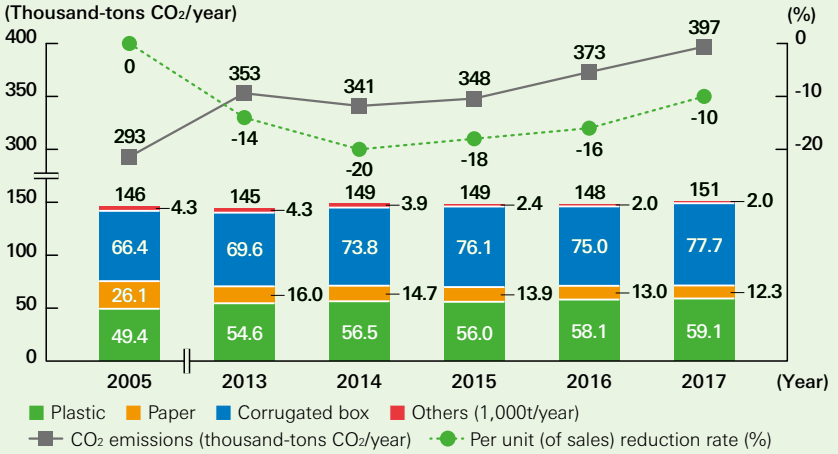
Recycle

- Adopted recycled PET in the packaging for *Quickle Wiper Wet Sheets*
- Blended 10% recycled PET in the shampoo and conditioner bottles for *Merit PYUAN* and *Essential Smart Style*

*Heat shrink technology for mounting paper board
Packaging that tightly wraps products in a film that shrinks when heat is applied and attaches the film to mounting paper board. Has excellent environmental performance with less use of resin and paper compared with the standard packaging used for molded plastic products (the blister pack).

➡ More information on our new refill packaging and *Smart Holders* can be found at: p. 6 The Future of Packaging for a Comfortable and Eco-friendly Life

Volume of packaging materials used



*Boundary: Kao Corporation
*Per unit of sales is calculated based on Japanese standards up to fiscal 2015, and on International Financial Reporting Standards (IFRS) from fiscal 2016.

Packaging 301-2,305-5

Our initiatives

Reduce: Reducing packaging materials

We are reducing the volume of the packaging materials we use through efforts including making bottles thinner and products more compact concentration. Reducing packaging materials reduces costs at the same time as it reduces environmental impact.

In 2017, there were 27 cases of reducing costs for packaging materials, which also reduced environmental impact. In total, these cases reduced annual CO_2 emissions by approximately 813 tons and saved approximately 120 million yen.

Renewable: Switching to renewable raw materials

In 2012, we began to switch petroleum-based plastic to bio-plastic that are renewable and have small environmental impact. The raw materials contained in introduced refill pouch at that time was changed about 10% by packaging weight from petroleum-based polyethylene to bio-polyethylene. The bio-polyethylene is made from renewable ethanol obtained by fermenting the waste residue remaining after producing sugar from intentionally cultivated sugar cane. This plastic has attracted attention due to its low environmental impact. The CO_2 emitted when the plastic is incinerated is considered as zero.

In the label for *Healthya Green Tea 350 ml* bottles, we adopted a shrink film containing more than 50% polylactic acid (PLA) made from corn.

In 2017, we newly switched to using bio-polyethylene for 35% of the *CuCute Large Refill (7 Refills) Bottle* by packaging weight. This can reduce the packaging's CO_2 emissions by about 25% over the previous packaging.

We will continue switching packaging materials to renewables such as bio-polyethylene and polylactic acid.

Large refill bottles that switched to using 35% bio-polyethylene by weight

Packaging 301-2,301-3,305-4,305-5

Reuse: Promoting refill and replacement products

Since we introduced our first refill product in 1991, their number has continued to grow, and as of December 2017 the number of refill and replacement products reached 289. We have also continued to make improvements to these refill products according to bottle size, the viscosity of the contents and so on to make refilling easier for the consumer.

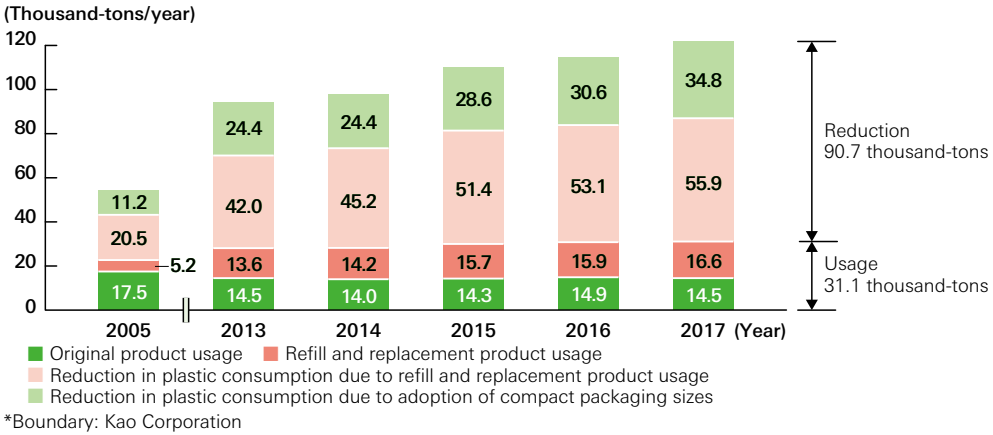
Since 1997, the ratio of refill products to unit sales has rapidly increased, and is currently at more than 80% (based on the number of units). For example, the refill ratio for fabric softener and fabric bleach now stands at more than 90%. All of the refill and replacement products sold in 2017 represent a reduction in plastic use of more than 90,000 tons compared to original packaging (products in plastic packaging).

Based on this ongoing technology development incorporating the 4R's, the total amount of resin reduction since 2009, when the Kao Environmental Statement was released, is approximately 590,000 tons.

In 2017, we developed a new refill pack, Raku-raku Eco Pack Refill, that is both environmentally friendly and easy to use, and adopted it for various shampoo and conditioner products as well as *Biore u* body soap.

The Chemical Business Division is conducting a program to reuse sold product packaging (take back system) to reduce their environmental impact. In 2017, we collected and reused 18,130 one-ton packaging (IBC packaging) used by customer companies.

Usage and reduction volume of plastic in refill and replacement product categories



*Boundary: Kao Corporation

Recycle: Introducing recycled materials

We actively introduce and use recycled materials such as recycled paper and recycled resin. We have been using recycled paper in the carton boxes and instructional inserts of many products since the 1960s, including powder-type laundry detergent. The measuring spoon for *Attack* laundry detergent developed in 1987 uses 100% recycled resin. This has resulted in an annual CO_2 emissions reduction of approximately 2,800 tons.

The dry sheet fiber and wet sheet fiber used in the *Quickle Wiper* floor cleaning tool launched in 1994 use 100% recycled PET material. This represents an annual CO_2 emissions reduction of approximately 1,400 tons.

In 2017, we began using 80% recycled PET by weight in the PET resin blend for the *Quickle Wiper Wet Sheets* packaging.

Quickle Wiper Wet Sheets packaging with 80% recycled PET by weight in the PET resin blend