

SKG-5R

STATEMENT

Sekisui Kasei Group

Message from the President



Sekisui Kasei's corporate DNA

Since its inception as a pioneer in the field of foam plastics in 1959, the Sekisui Kasei Group has been delivering products and services that support the daily lives of people and contribute to industrial development.

The Group has also been proactively conducting activities for the environment. About 50 years ago, in 1971, we began recycling expanded polystyrene (EPS) ahead of others in the industry. Subsequently, this initiative was adopted across the industry and the recycling rate of EPS remains at around 90% in Japan.

Sekisui Kasei has recently celebrated the 60th anniversary of its founding, and we are now required as a company to do our best for the solution of global environmental and social issues, including those highlighted in the Sustainable Development Goals (SDGs) adopted by the United Nations. Inheriting a corporate DNA of valuing people and the environment, we will face and tackle these issues squarely, thereby making steady progress to become a leading environmental company.

Aiming to be a company that creates value
in a sustainable manner

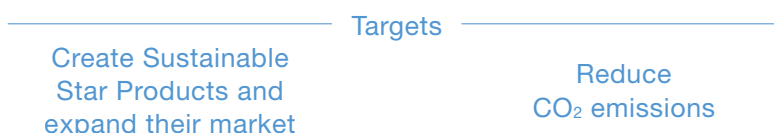


For a sustainable society and corporate growth:

Implementation of SKG-5R



SKG-5R



Become leading environmental company

Driving force to make sustainability and growth compatible

In the Mid-Term Management Plan launched in 2019, we focused on “Contribution to sustainable society” as one of our priorities. Subsequent to the launch, we conducted examinations to decide on our medium- to long-term targets by backcasting from our vision for 2030. We then set out an action plan to achieve the targets. We call this plan “SKG-5R,” with SKG standing for Sekisui Kasei Group and 5R referring to the conventional 3Rs plus our own unique “2Rs.”

Moreover, we have made the SKG-5R STATEMENT to set out our commitment regarding our targets and initiatives to our stakeholders, among which we include the global environment. We are confident that we can build a virtuous cycle of continuing to take on challenges for the creation of a sustainable society and thereby increasing our corporate value.

July 2020

President and Chief Executive Officer

Masato Kashiwabara

Starting with environment-friendly manufacturing

The Sekisui Kasei Group has been advancing its foam and polymerization technologies developed over the years since its founding while at the same time fostering environment-friendly manufacturing, aiming to contribute to the creation of a low-carbon, recycling-based society.

For example, we make use of the features of foam products, such as being light and highly heat insulating, to help increase the fuel efficiency of automobiles and thereby cut CO₂ emissions and also to contribute to the reduction of food loss.

However, the severity of issues such as global climate change and marine pollution now makes us feel that we need to search for new possibilities and solutions to address these environmental problems.

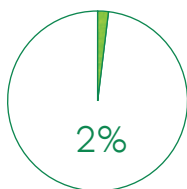
We have therefore set out the SKG-5R in commemoration of our 60th year, which we celebrated in 2019. For a future in which both the Earth and the people who live on it remain sound, we will continue to innovate our products and business activities.

We aim to become a leading environmental

Resource saving

The material itself accounts for only 2% of the volume

We make our foam products by inflating material beads derived from oil to several dozen times their original size, so that air accounts for most of the product volume. A real resource saver.

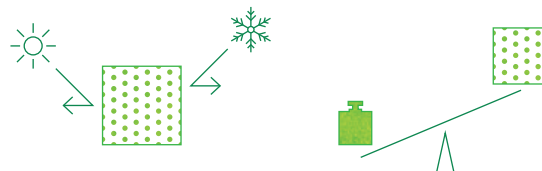


When the expansion ratio is 50 times

Energy-saving effect

Thermal insulation effect & lightweight

Our foam products are excellent at thermal insulation, enabling energy-saving temperature control. They are used as heat insulating materials for buildings and for food containers to keep food fresh as well as to make automobiles lighter for greater fuel efficiency.

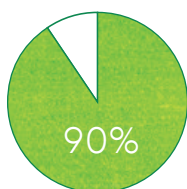


Reduction of waste

The recycling rate is 90%.*

We started recycling EPS in 1971. Today EPS scraps are recycled into a variety of products or thermal energy resources.

*Source: Japan Expanded Polystyrene Association (JEPSA)

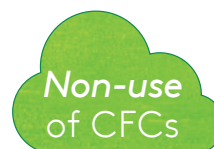


(In Japan) 2018

Preventing pollution

Non-use of CFCs

EPS products generate only carbon dioxide and water when burned. Moreover, we do not use CFCs or other substances that have an impact on the ozone layer.



company by implementing SKG-5R.

What is SKG-5R?

For the creation of a sustainable society, the Sekisui Kasei Group has been fostering SKG-5R since FY2019, and made the SKG-5R STATEMENT and set the two targets to be achieved by FY2030. Toward the achievement, we will foster Reduce, Reuse, Recycle, Replace and Re-Create (5Rs), thereby contributing to the solution of global issues as listed in the SDGs.

SKG-5R

3Rs for the creation of a recycling-based society

Reduce

Reduce the use of resources and energy

Core measures

- Reduce the use of materials by increasing their foam expansion rates and by reducing product weight and thickness
- Promote energy-saving production and logistics operations (to reduce CO₂ emissions)

Reuse

Reuse waste materials and energy

Core measures

- Increase the number of reusable products
- Reuse the materials used for transportation

Recycle

Develop recycling technologies and systems to promote recycling

Core measures

- Market and promote the sales of products made by using recycled materials
- Develop recycling technologies (for material, chemical and thermal recycling)

Targets for FY2030

I Create Sustainable Star Products and expand their market

Total number of registrations

100

Share of total sales

20%

We will support and contribute to the

SUSTAINABLE DEVELOPMENT GOALS

2Rs based on the Sekisui Kasei Group's unique technologies

Replace

Promote replacement with sustainable materials and energy

Core measures

- Shift from oil-derived materials to biomass-derived biodegradable materials
- Shift to renewable energy

Re-Create

Re-Create value and functions to contribute to environmental improvement

Core measures

- Create next-generation products and business models that provide new value and functions for environmental improvement

II CO₂ emissions

-27%

Sustainable Development Goals (SDGs).



Targets for SKG-5R

I Create Sustainable Star Products and expand their market

For a sustainable society, we need to minimize not only the environmental impact of our manufacturing activities but also the impact caused by the materials we procure to make our products and the impact caused after the usage of those products by customers. To meet this requirement, the Sekisui Kasei Group will work to advance its current products and commercialize new materials based on the target set (for FY2030) for the number of its products registered as Sustainable Star Products.

Targets for FY2030

Total number of
registrations

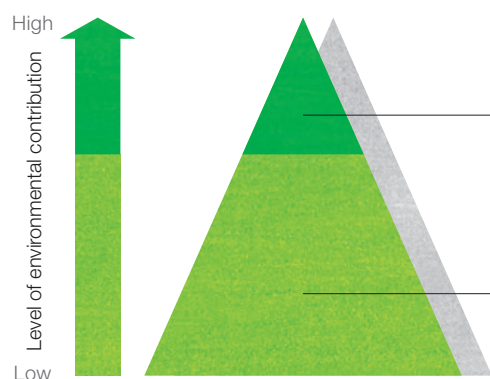
100

Share of total sales

20%

Sustainable Star Products

We develop and design products in consideration of the finiteness of resources used in them and their environmental impact throughout their life cycles, from the procurement of materials and use of the products through to their disposal and recycling. Most of our products are therefore “Sustainable Products” that meet our voluntary criteria.



In SKG-5R, we certify those products among our sustainable products that make even greater contributions to the environment as “Sustainable Star Products,” aiming to expand them in line with the indicators set to this end, specifically the number of registrations and the share of total sales, toward reducing our environmental impact at a higher level.

Sustainable Star Products

Products and systems that make greater contributions to the environment among our sustainable products

Sustainable Products

Products and systems that are useful in daily life and friendly to the environment, such as foam plastics

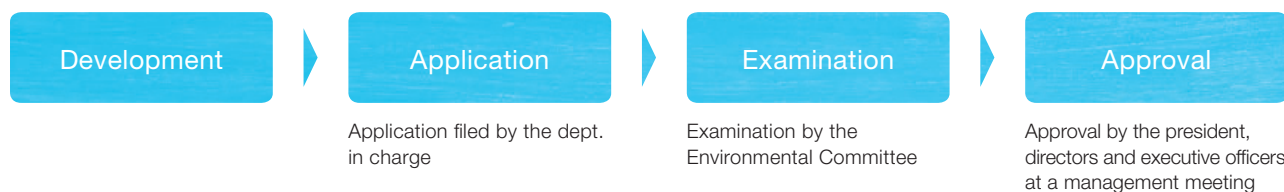
Examination and certification of “Sustainable Star Products”

• Flow for examination, certification and registration

For a product to be registered as a Sustainable Star Product, the department in charge of the product will file an application to the Environmental Committee chaired by the executive officer in charge of the environment. This committee examines the products for which applications have been made. Products that have met the committee’s criteria will subsequently be examined

at a management meeting, and the products that are then qualified by the president, directors and executive officers will be certified and registered as Sustainable Star Products.

Presently, we are examining how to ensure the objectivity of the examination process and will implement the necessary measures as soon as possible.



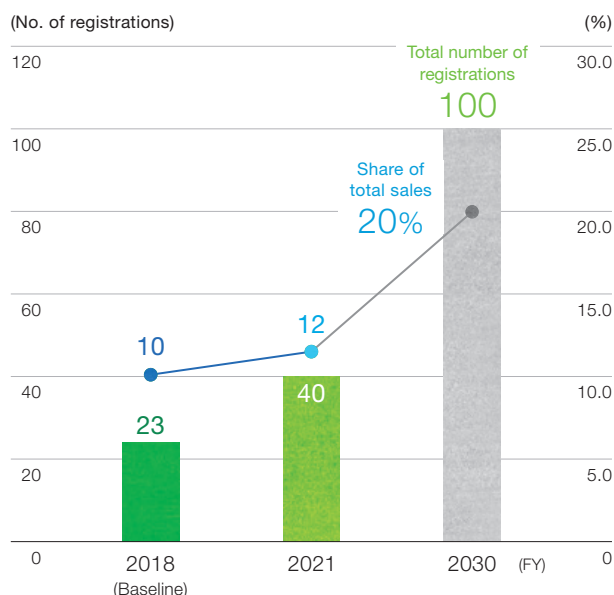
Targets for Sustainable Star Products

By FY2030:

- Increase the no. of registrations to 100
- Expand the share of total sales to 20%

In order to foster the creation of Sustainable Star Products and expansion of their market, we aim to increase the number of registrations and share of total sales to 100 and 20%, respectively, in SKG-5R. As our immediate target for FY2021 set in line with the roadmap for FY2030, we aim to achieve 40 and 12% for the total number of registrations and share of total sales.

Targets and results for the number of registrations and share of total sales



Certification criteria for Sustainable Star Products

We have set detailed criteria for each environmental contribution item for the certification. Products and systems that exceed certain predefined level shall be certified as “Sustainable Star Products.”

Environmental contribution item	
Reduce	<ul style="list-style-type: none"> • Weight and space reduction • Energy saving and CO₂ emissions reduction in the production, transportation and use stages • Suppression of waste generation in the production and after-use stages
Reuse	<ul style="list-style-type: none"> • Reusability • Higher durability (longer product life)
Recycle	<ul style="list-style-type: none"> • Use of recycled materials • Higher recyclability (e.g. easier to sort) • Establishment of an independent recycling system
Replace	<ul style="list-style-type: none"> • Effective use of biomass resources • Substitution of oil-derived materials
Re-Create	<ul style="list-style-type: none"> • Contribution to environmental improvement by the re-creation of value and functions
Other environmental contributions	<ul style="list-style-type: none"> • Products that offset their environmental impact, cause-brand products* and environmental labeling

* Cause-brand products: Products for which part of sales are donated toward environmental conservation activities and are therefore useful for society

Targets for SKG-5R

II CO₂ emissions

The Paris Agreement, which came into effect in November 2016, upholds the target of limiting the rise in global mean temperature to below two degrees Celsius above pre-industrial levels (“2° target”).

The Sekisui Kasei Group has set its CO₂ emissions reduction target to be achieved by FY2030 for the attainment of the 2° target and for “business activities that do not place a burden on society,” as listed in the Mid-Term Management Plan.

Targets for FY2030

Scope 1 + 2
-27%

CO₂ emission reduction target

- Reduce CO₂ emissions in Scope 1 + 2* by 27% (relative to the fiscal 2018 level) by FY2030

In order to help achieve the 2° target, it is important to set an ambitious target based on the Paris Agreement and work to reduce our CO₂ emissions by adopting the backcasting method.

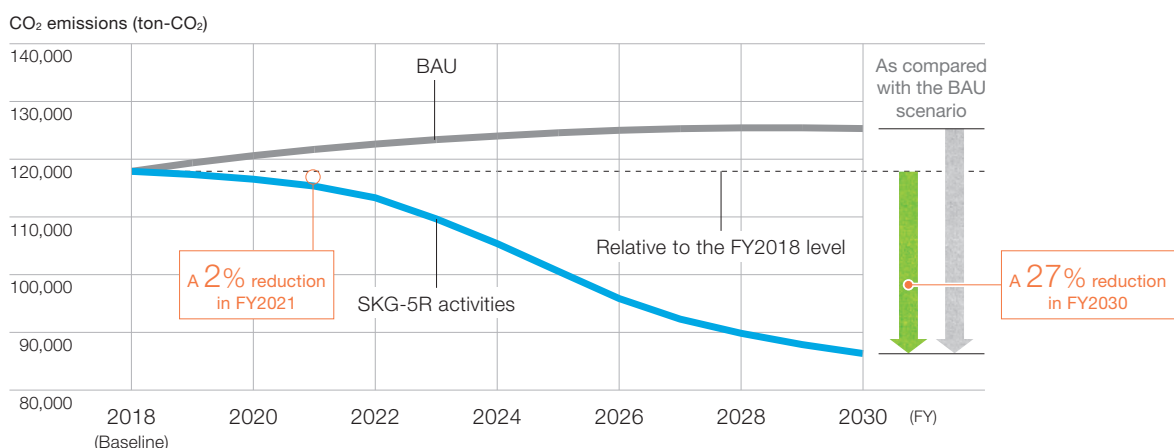
In SKG-5R, we set the target of reducing our CO₂ emissions by 27% relative to the fiscal 2018 level in FY2030, in reference to the criteria set by the Science Based Targets (SBT) Initiative.

However, as we need to consider an increase in the use of energy in line with the expansion of our business activities, we will have to reduce our CO₂ emissions

by more than 27%. In SKG-5R, we will work to reduce our CO₂ emissions substantially from the level of emissions expected in a business-as-usual (BAU) scenario, and proactively implement measures across the Group according to the reduction plan set for fiscal 2030, including promoting more energy-saving production and reviewing our energy procurement method.

* Scope 1 is greenhouse gases directly emitted by companies. Scope 2 is greenhouse gases indirectly emitted by companies through the use of electricity, heat and steam supplied to them by other companies

Scope 1 + 2 reduction plan



Specific measures

- Reduce** Save energy (by improving production efficiency and eliminating loss)
- Reuse** Make effective use of waste heat as energy
- Replace** Procure electricity generated by using renewable energy/
Shift to fuels with low CO₂ emissions

CO₂ emissions reduction in the supply chain (Scope 3^{*1})

We think it is important to reduce CO₂ emissions from our business activities and also work to reduce total CO₂ emissions from our entire supply chain. In implementing SKG-5R, we calculated emissions from our supply chain^{*2} and identified the hot spots (categories with large emissions and with room for substantial reductions) in Scope 3.

In SKG-5R, with a focus on the identified hot spots (categories 1, 4, 9, 10 and 12), we will make more contributions through our Sustainable Star Products and foster collaboration with our supply chain-related companies to reduce total CO₂ emissions in Scope 3 effectively.

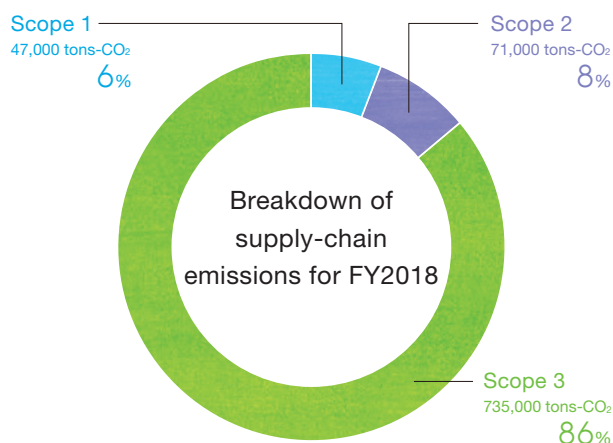
^{*1} Scope 3: Indirect CO₂ emissions not included in Scope 1 + 2

^{*2} Implemented based on the GHG Protocol, which represents the international standards, and the Japanese Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain

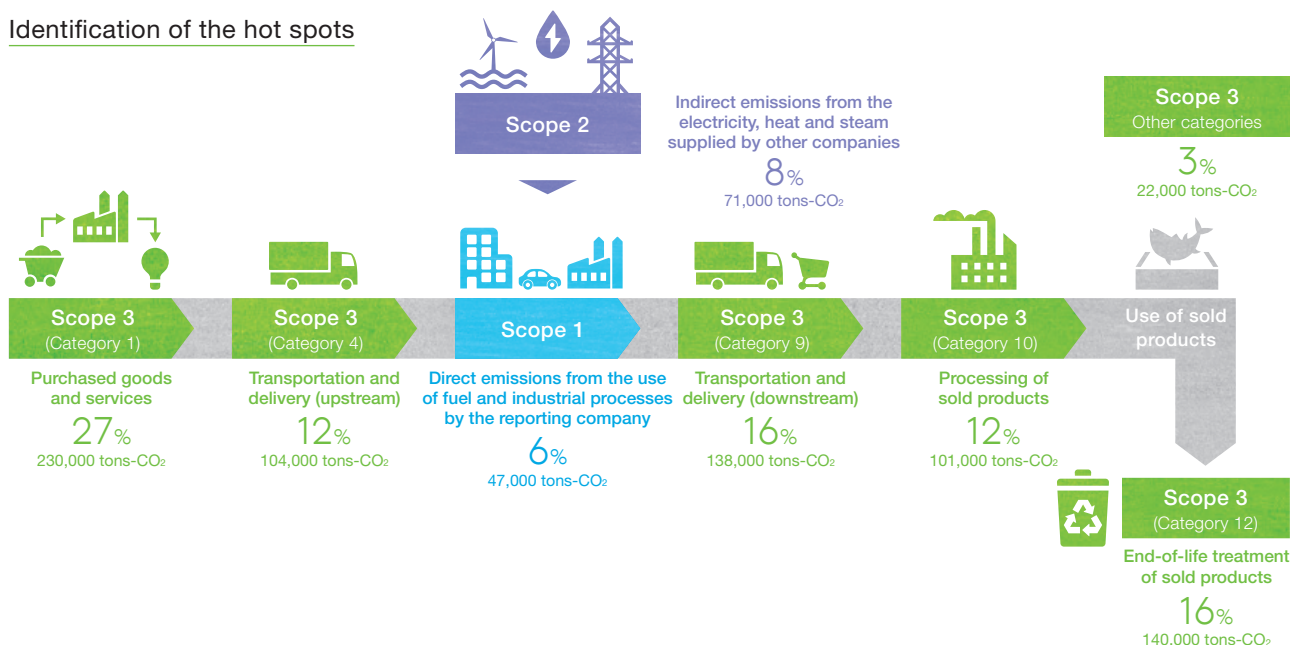
CO₂ emissions from the supply chain (Estimates for Scopes 1, 2 and 3)

Total emissions for FY2018:

853,000 tons-CO₂



Identification of the hot spots



Specific measures

- Reduce** Reduce materials used in products/foster energy-saving transportation and delivery
- Recycle** Increase the number of products made using recycled materials/foster the recycling of end-of-life products
- Replace** Promote a shift from oil-derived materials to biomass-derived biodegradable materials
- Re-Create** Create new value and next-generation products to contribute to the environment

Examples of measures promoted in SKG-5R

In SKG-5R, we are upholding the promotion of 5R initiatives to achieve the two targets.

We develop and design sustainable products to support people's daily lives and society at large and to minimize the impact caused by our products to the environment. We can do this by capitalizing on the Sekisui Kasei Group's technological strength.

3Rs for the creation of a recycling-based society

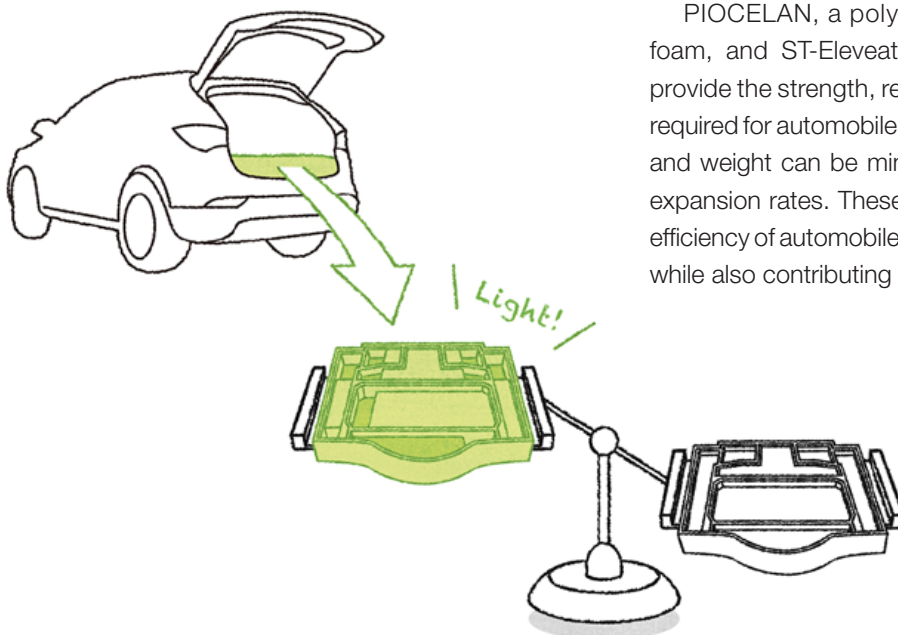
Reduce

Eco-friendly and comfortable automobiles

Technology to minimize thickness and weight without compromising functionality

The fuel consumption of automobiles can be reduced by reducing their body weight. Recently, however, the weight has tended to increase as automobiles are equipped with more devices to make driving more comfortable. Also, some components tend to be made thicker and stronger to provide more protection against collision.

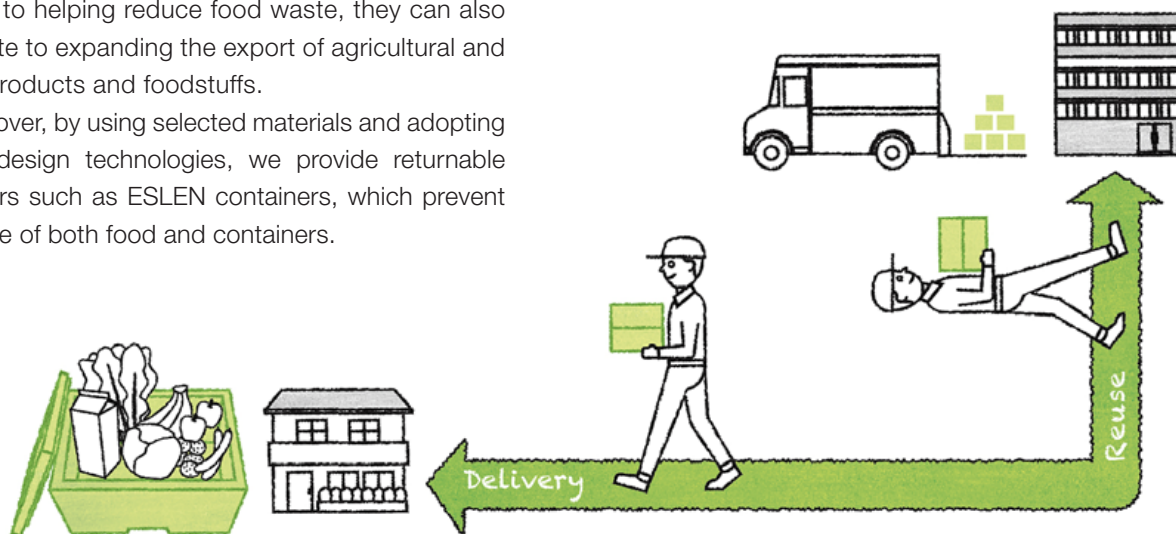
PIOCELAN, a polystyrene-polyolefin hybrid resin foam, and ST-Eleveat, a highly heat-resistant foam, provide the strength, resistance and other performance required for automobile components, and their thickness and weight can be minimized by increasing their foam expansion rates. These materials help increase the fuel efficiency of automobiles and reduce their CO₂ emissions while also contributing to better safety.



Technologies to develop materials and design solutions for repeated use

Foam plastics are widely used as material for food packages and containers for food delivery, which need to be handled with care. With their excellent thermal insulation and shock-absorbing properties, these containers help keep foodstuffs fresh and protect them from shocks during transportation. In addition to helping reduce food waste, they can also contribute to expanding the export of agricultural and fishery products and foodstuffs.

Moreover, by using selected materials and adopting special design technologies, we provide returnable containers such as ELEN containers, which prevent the waste of both food and containers.

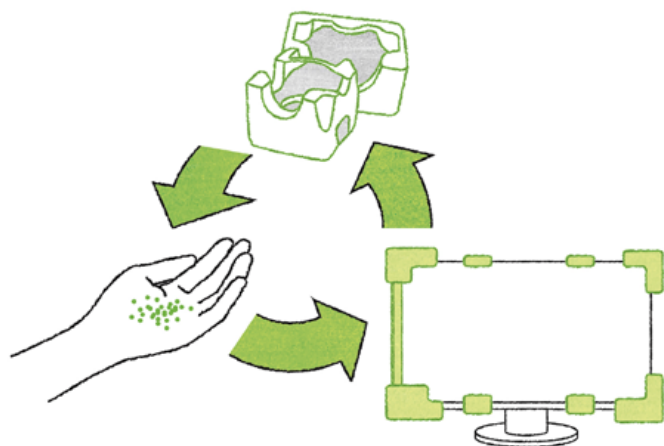


Reuse

Reusable containers for food delivery

Recycle

100% recyclable cushioning and packaging materials



Use of recycled materials in business and development of a chemical recycling technology

EPSREM is a 100% recycled material made by using polystyrene taken from the molded parts of disposed home electrical appliances and EPS foam scraps.

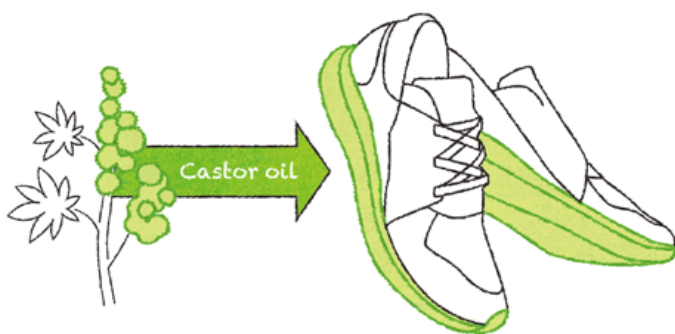
It is used as cushioning and packaging materials. However, although we can make EPSREM from waste plastics by applying our material recycling technology, due to the issue of chemical degradation, there is some difficulty in endlessly repeating the recycling process.

We are therefore conducting R&D for chemical recycling, which can be repeated indefinitely. In the future, foam plastics that are made from 100% recycled materials should commonplace.

2Rs based on the Sekisui Kasei Group's unique technologies

Replace

Running shoes made from vegetable plants



Effective use of sustainable resources (biomass plastics) and biodegradable plastics

The midsole of running shoes is required to provide outstanding resilience for fast running and better cushioning to mitigate the burden imposed on runners' feet. ELASTIL is an elastomeric bead foam that helps meet these two requirements at a high level.

ELASTIL BIO is made by using a plant-derived material and provides the same performance as conventional ELASTIL. Adopted for use in running shoes, it is friendly to both people and the Earth.

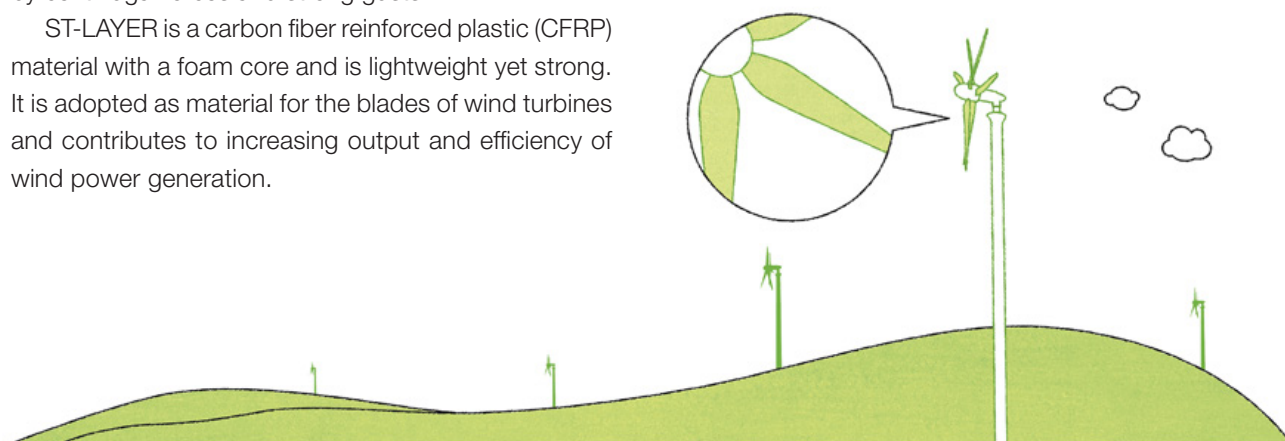
Creation of new value and next-generation products to contribute to the environment

For the efficient generation of electricity by a wind power generation system using natural energy, it is important for the blades of the wind turbines to be rotated by the wind efficiently according to the wind direction and velocity. Lighter blades can be rotated more quickly to generate more power, but they need to be made by using highly durable materials so as not to be damaged by centrifugal forces and strong gusts.

ST-LAYER is a carbon fiber reinforced plastic (CFRP) material with a foam core and is lightweight yet strong. It is adopted as material for the blades of wind turbines and contributes to increasing output and efficiency of wind power generation.

Re-Create

Even more efficient wind power generation system



For 10 years into the future

Global warming and marine pollution are issues to be tackled on a global scale, and we need to have the ability to respond flexibly to the constantly changing situations and expectations regarding these issues.

SKG-5R shows our commitment to becoming a leading environmental company.

In SKG-5R we list the optimal solutions that we can currently think of, but what is optimal will change in line with the rapid changes occurring around the world.

We will regularly check the suitability of our targets and initiatives, pursue new technologies that are useful for people's lives and society, and examine measures to ensure harmony with the global environment.

We will report the details of these measures on our official website and through our integrated reports.

Become leading environmental company

Sekisui Kasei Co., Ltd.

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Easy to read universal
design fonts are used.