SKG-5R

Report 2024

SEKISUIKASEI

Message from the President

The starting point is *monozukuri* in harmony with the natural environment.

Since its inception as a pioneer in the field of foam plastics in 1959, SEKISUI KASEI Group has been bringing products and services that support the daily lives of people and contribute to industrial development. At the same time, we have also actively engaged in environmental activities. Early in our Group's history, in 1971, we began recycling expanded polystyrene (EPS) ahead of others in the industry. These efforts later spread throughout the industry, and today Japan has an effective domestic utilization rate of 90 percent or more.

In recent years, expectations have risen for chemicals manufacturers, including us, address global environmental issues, such as responding to climate change and transitioning to a circular economy.

As we take these challenges head-on, we continue to aim to preserve and pass on “Our Planet. Our Tomorrow.” that is our corporate message, to the next generation.

Corporate Vision: A new chemical solutions company that cares for people and the planet as it creates new value

Business Direction for 2030
Target 2030

Basic Policy: Realize co-existence of “Contribution to a Sustainable Society” and “Sustainable Enhancement of Corporate Value.”

SKG-5R

Targets

Create Sustainable Star Product and expand their business

Increase recycled and biomass material usage ratio

Reduce CO_2 emissions and achieve carbon neutrality

Become a leading environmental company

Contribution to a sustainable society and sustainable enhancement of corporate value

We launched SKG-5R in 2019, and in July 2020, we announced our SKG-5R STATEMENT, which sets out our initiatives and targets. In addition to the targets of “creating Sustainable Star Products and expand their business” and “reducing CO_2 emissions,” it added the targets of “taking on the challenge of carbon neutrality” and “increasing the ratio of recycled and biomass raw materials in our total production volume,” We have been implementing SKG-5R through efforts such as launching the “ReNew+” and “BIO Cellular” brands.This report was created to present stakeholders with information regarding SKG-5R-related initiatives and the current progress against our targets.

We are confident that by working together as SEKISUI KASEI Group to deliver innovations that meet society's expectations, we can continue to increase our Group's environmental, social, and economic value.

October 2024

President and Chief Executive Officer

Masato Kashiwabara

What is SKG-5R ?

SEKISUI KASEI Group (SKG) has set targets to be achieved by FY2030 with the aim of realizing a sustainable society. To achieve these targets, we are contributing to the solution of the global issues listed in the SDGs by promoting SKG-5R: Reduce, Reuse, Recycle, Replace, and Re-create.

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 in production and logistics operations (to reduce CO_2 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 and chemical recycling)

2Rs based on SEKISUI KASEI Group's unique technologies

Replace

Promote replacement with sustainable materials and energy

Core measures

- Shift from oil-derived materials to biomass and 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

Targets for FY2030

I Sustainable Star Product	Total number of registrations	100	Share of total sales	50%	II Recycled and biomass	Material usage ratio	50%
III CO_2 emissions	-27%	Achieve carbon neutrality by 2050					

We support and contribute to the Sustainable Development Goals (SDGs)

SUSTAINABLE DEVELOPMENT GOALS

Targets for SKG-5R

I

Create Sustainable Star Product and expand their business

For a sustainable society, it is essential to minimize the environmental impact, not only in the manufacturing products stage but also in the materials that are sourced, and to minimize the environmental impact of products even after they have been used by customers.
With regard to Sustainable Star Product (environmentally-friendly product), we have set targets for the number of registrations and share of total sales for FY2030 and are working to further advance our existing products and commercialize new materials.

Targets for FY2030

Total number of registrations
100

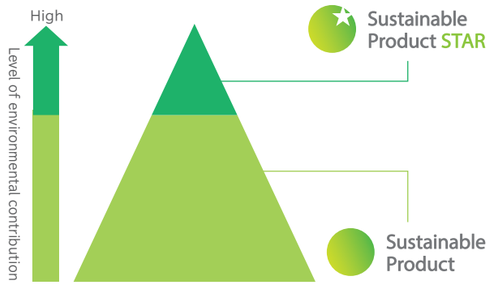
Share of total sales
50%
(Reset in April 2022)

Sustainable Star Product

SEKISUI KASEI Group defines products that consider the limited resources they use and their environmental impact throughout the life cycle, from the raw material procurement stage to the use stage and the disposal and recycling stage, as “Sustainable Product.”
We certify those products among our sustainable products that make even greater contributions to the environment as “Sustainable Star Product,” aiming to promote the creation those products and expansion their business.

Sustainable Star Product

Products and systems that make greater contributions to the environment among our “Sustainable Product”



Sustainable Product

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

Examination・Certification/Registration

The Environment Committee examines products before they are registered as “Sustainable Star Product,” products that meet the criteria are then approved in management meetings before being certified and registered. In addition, the validity of this certification and operation is evaluated by a third party.

Flow for examination, certification, and registration

Development/Design
↓
Application by the business dept.
↓
Examination by the Environment Committee
↓
Approval at a management meeting
↓
Certification/Registration

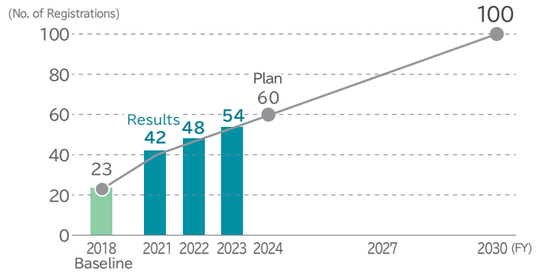
Targets for Sustainable Star Product

By FY2030:

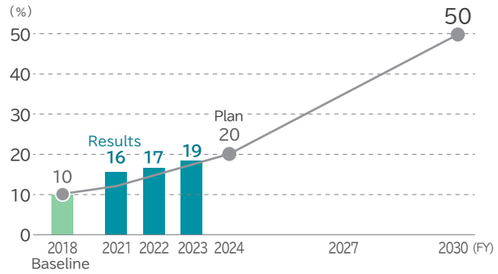
- Increase the total number of registrations to 100
- Increase the share of total sales to 50%

SKG-5R sets the targets of increasing the total number of registrations of Sustainable Star Product to 100 and raising the share of total sales to 50% by FY2030.
The targets for FY2024, the final year of the mid-term management plan, “Spiral-up 2024,” are the total number of registrations of 60 and the share of total sales of 20%.
In FY2023, there were a total of 54 registrations, and the share of total sales rose by 2 points to 19%, so both the number of registrations and the share of total sales are advancing roughly in line with the plan. We will continue to contribute to the solving of environmental and social issues by developing Sustainable Star Product.

Targets and actual results of the number of registrations



Targets and actual results of the share of total sales



Certification criteria for Sustainable Star Product

We have set detailed criteria for each environmental contribution item for the certification of products and systems that exceed a certain predefined level as “Sustainable Star Product.”

	Environmental Contribution Item
Reduce	Weight and space reduction Energy saving and of CO_2 emissions reduction in production, transportation and use stages Suppression of waste generation in the production and after-use stages
Reuse	Reusability Higher durability (longer product life)
Recycle	Use of recycled materials Higher recyclability (e.g. easier to sort) Establishment of an independent recycling system
Replace	Effective use of biomass resources Substitution of oil-derived materials
Re-create	Contribution to environmental improvement by the re-creation of value and functions
Other environmental contributions	Products offsetting environmental impact, environmental labeling

Sustainable Star Product

We are committed to sustainable business activities through manufacturing that is kind to people and the planet using SEKISUI KASEI Group's materials, technologies, and expertise.

Sustainable Product STAR

3Rs for the creation of a recycling-based society

Reduce

ESLEN Sheet　PZ Series

Foamed Polystyrene Sheet

ESLEN Sheet PZ Series is a new material for large food containers developed jointly with FP Corporation.
This product enables expansion into the market for non-foamed containers that have been difficult to mold and process, such as large sushi containers that require a tight fit with the lid and is 50 to 60% lighter than conventional non-foamed products.

Reuse

PIOCELAN™ Packaging material for transporting automobile parts

Polystyrene / Polyolefin Hybrid Resin Foam

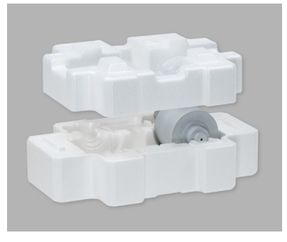
The packaging material molded with PIOCELAN can be reused repeatedly as a container for transporting automobile parts with excellent impact resistance and shock absorption properties. With safe and efficient packaging design for transportation, this product improves the loading efficiency and contributes to energy saving during transportation.

Recycle

PIOCELAN™ RNW Knock-Down packaging

Polystyrene / Polyolefin Hybrid Resin Foam

Knock-Down packaging material made of PIOCELAN RNW using recycled raw materials. This product has the same crack-resistant properties as conventional products made from virgin raw materials and is excellent for repeated use. Our proprietary technologies make it possible to recycle resources from collected used products.



2Rs based on SEKISUI KASEI Group's unique technologies

Replace

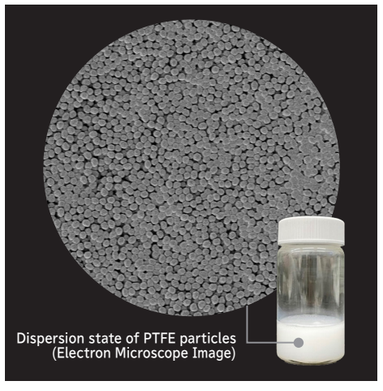
RETONA FOAM™ BIO

Biodegradable Foam

RETONA FOAM BIO is foam made from biodegradable plastics such as PLA*1 and PBS*2 and is a material that contributes to the global environment, and can be broken down into CO_2 and water by the action of microorganisms found in nature, such as compost. The product is flexible and can be attached to follow a curved surface.

*1 PLA: Polylactic acid　*2 PBS: Polybutylene succinate

Re-create



Fluxflow

Polymer Material Using Solution Polymerization

Fluflow is a liquid or wax-like polymer material developed using polymer structure control technology to meet new needs for dispersants, binders etc.
We aim to put this material to practical use as a dispersant, as it can realize highly concentrated aqueous dispersions of PTFE particles without using fluorochemical surfactants, which have become increasingly regulated in recent years.

Targets for SKG-5R

II

Recycled and biomass material usage ratio

To create Sustainable Star Product and expand their business, we have set targets for recycled and biomass material usage ratios for the products we manufacture. To achieve these targets, we have created our category brands, “ReNew+” and “BIO Cellular,” and we are expanding our lineups for each brand.

Targets for FY2030

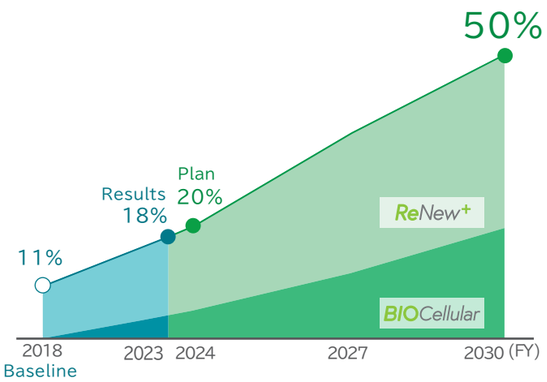
50% or higher

Recycled and biomass material usage ratio target

- Increase to 50% or more materials used to be recycled or biodegradable/biomass-derived raw materials by FY2030

In order to create and expand Sustainable Star Product, we have set a target to be achieved by all products manufactured by SEKISUI KASEI Group by FY2030: 50% of the materials used in our products to be recycled or biodegradable/biomass-derived raw materials.

Targets and actual results of raw material usage ratio to the total production volume



- Creation of category brands

To reach our targets, we have launched two new category brands, “ReNew+” and “BIO Cellular”. By accelerating our development of new materials in harmony with the natural environment and expanding the lineups of these brands, we will promote the shift to businesses that solve environmental and social issues, and we will contribute to the realization of a recycling-oriented society.

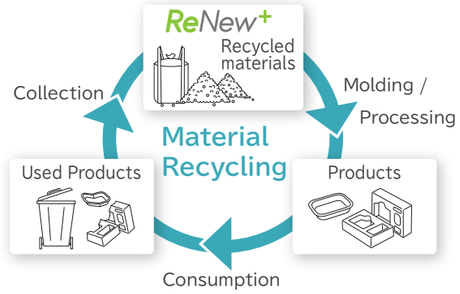
Category brand logos

ReNew+ Product category brand using recycled raw materials

BIOCellular Product category brand using biodegradable or biomass-derived plastics

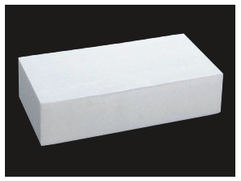
ReNew+

SEKISUI KASEI Group collect used products and offcuts from manufacturing processes and reprocess them so they can be easily reused as raw materials for new products.
Developing materials that are made from recycled raw materials that perform as well as conventional products requires overcoming a number of technical challenges. However, we believe it is important to reduce waste.



ESLEN Block RNW

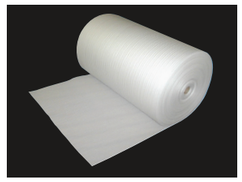
Lightweight Embankment Material



ESLEN Block RNW is a lightweight embankment material that collects used EPS, processes it into raw material, and foam-molds it into blocks.

LIGHTLON™ RNW

Non-cross-linked Low Density Polyethylene Foam Sheet



LIGHTLON is a foamed polyethylene sheet that uses 30% or more recycled materials. This product promotes plastic recycling reduces environmental impact.

BIOCellular

“Bioplastic” is the collective term for biomass plastic and biodegradable plastic. Biomass plastic is made from recyclable organic materials such as plants, while biodegradable plastic can be broken down by actions of microorganisms and the like into, ultimately to CO_2 and water. By commercializing materials such as these, which have the potential to reduce environmental impact, we are committed to helping solve the problems that are threatening our global environment, including climate change and ocean pollution.

- Biomass

- Biodegradable

ST-Eleveat™ BIO

High Heat-resistant Lightweight Foam

ST-Eleveat BIO is high heat-resistant lightweight foam with a biomass content of 25% or more, by replacing conventional raw materials with plant-derived materials and has excellent flame-retardant and heat-insulating features and meets the needs of the next-generation mobility market.

ELASTIL™ BIO

Thermoplastic Elastomeric Bead Foam

ELASTIL BIO is a foam molded product of thermoplastic elastomer with a Biomass content of 45% or more, using a plant-derived material made from castor beans and can reduce the weight of products by 30% compared to conventional petroleum-derived raw materials.

Targets for SKG-5R

III

CO_2 emissions

Following the enforcement of the Paris Agreement in 2016, an international framework for addressing climate change, in October 2020, Japan declared that it aims to achieve carbon neutrality by 2050. SEKISUI KASEI Group has identified addressing climate change as one of its materiality (key management issues) and has set a target to reduce CO_2 emissions by FY2030 to achieve carbon neutrality by 2050.

Targets for FY2030

Scope1+2

-27%

Achieve carbon neutrality by 2050

CO_2 emissions reduction targets

Scope1+2*:

- **Reduce CO_2 emissions by 27% by FY2030 (from FY2018 levels)**
- **Reduce CO_2 emissions to virtually zero by 2050**

To achieve carbon neutrality by 2050, we believe that it is important to set ambitious targets and reduce CO_2 emissions by backcasting from those targets.

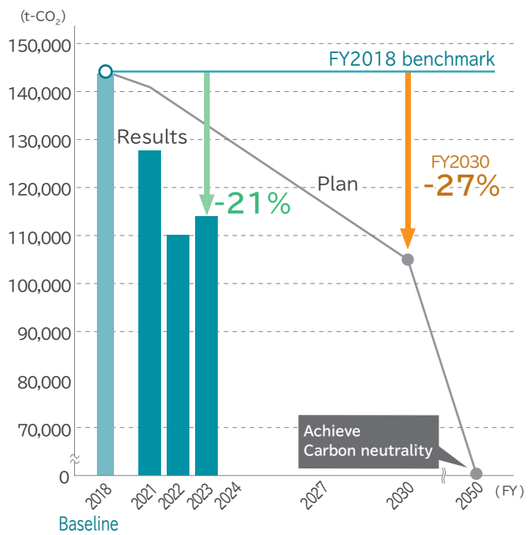
In SKG-5R, we have set a target to reduce Scope 1+2* CO_2 emissions by 27% by FY2030 from FY2018 levels, that was based on the standards of the Science Based Target (SBT) initiative.

In line with our reduction plans, the entire Group is actively working to promote energy savings in production activities and to review and revise our energy procurement methods and we view our reduction target for FY2030 as a milestone on the path to achieving virtually zero CO_2 emissions by 2050.

In FY2023, we reduced CO_2 emissions by 21% from FY2018 levels, surpassing our plans, by improving production efficiency and introducing renewable energy.

* Scope 1: Direct greenhouse gas emissions by the company itself
  Scope 2: Indirect emissions from the use of electricity, heat, or steam provided by other companies

Targets and actual results of reducing Scope 1+2 CO_2 emissions



Initiatives for achieving our target

- **The entire Group is promoting energy saving and utilization of renewable energy**

To achieve its CO_2 emissions reduction targets, SEKISUI KASEI Group, led by its Energy Strategy Promotion Committee, is rationalizing production processes, and accelerating energy saving while developing new processes and introducing production facilities under environmental investment limits.

Toward a shift to renewable energy, we have introduced solar power generation systems (with a total power generation performance of 2.4GWh in FY2023) in nine facilities: Sekisui Kasei Tenri, Sekisui Kasei Kanto (Head office and Shimodate), Sekisui Kasei Saitama, Sekisui Kasei Toubu (Head office and Kanuma), Sekisui Kasei Hokkaido (Chitose and Kushiro), and SEKISUI KASEI (Tenri), and these systems supplement the power used in our production activities.

We will continue to introduce solar power generation systems in our Group sites, not only reducing our own CO_2 emissions, but also improving the stability of power supplied to our sites and communities and contributing to the achievement of carbon neutrality.

Energy conservation and CO_2 emissions reduction initiatives

Energy consumption reduction	・Introduction of high-efficiency equipment ・Improvement of production efficiency while considering shifting operations ・Reduction of energy loss (elimination of air and steam leaks, improved thermal insulation) ・New process development and introduction of production facilities
Energy conversion	・Switching to fuels with lower CO_2 emissions (using STEAM-FIT, etc.) ・Introduction of renewable energy

Solar power generation equipment

Sekisui Kasei Kanto (Shimodate)

Sekisui Kasei Tenri

Reducing CO_2 emissions in the supply chain (Scope 3*1)

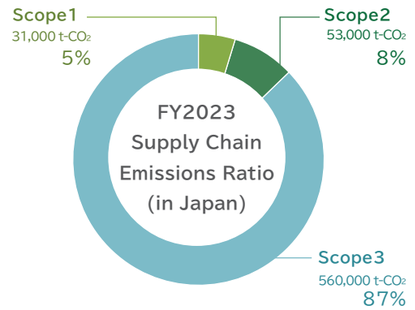
It is important to reduce CO_2 emissions associated with our business activities while also working to reduce them throughout the supply chain.

Under SKG-5R, we will contribute through our Sustainable Star Product and collaborate with companies involved in the supply chain, focusing on hotspots*2 that are identified based on calculations of supply chain emissions*3, thereby contributing to the reduction of CO_2 emissions in Scope 3

*1 Scope 3: Other indirect CO_2 emissions not included in Scope 1+2
*2 Performed based on the GHG protocol international standard and the Japanese Ministry of the Environment's Basic Guidelines on Accounting for Greenhouse Gas Emissions throughout the Supply Chain
*3 Categories with high CO_2 emissions and large potential for reduction

Total CO_2 emissions in FY2023: 644,000 t-CO_2

Rough calculation of supply chain CO_2 emissions (Scope 1, 2, 3)



Endorsement of the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)

- **We are committed to improving transparency in order to achieve a decarbonized society.**

We have endorsed the recommendations of the Task Force on Climate-related Financial Disclosures and disclose information as necessary.

Visit Our Website
Scan QR Code

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Sustainable Star Product List

54 registered items
(as of the end of March 2024)

Product name	Environmental contribution content (certification basis)	Reduce	Reuse	Recycle	Replace	Re-create
AQUAROAD™	57% reduction in CO_2 emissions from raw materials to product use [Comparison: Concrete cistern].	●				
INTERFOAM™ BIO	Biomass content of 10% or more				●	
ESLEN Wood Panel RNW PRC grade	100% recycled resin used (Eco Mark certified)			●		
ESLEN Wood Panel RNW RC grade	50% or more recycled resin used (Eco Mark certified)			●		
ESLEN Container	Repeated use		●			
ESLEN Sheet Laminated RNW	10% or more recycled polystyrene used + Proprietary recycling system			●		
ESLEN Sheet PZ Series	50-60% lighter than conventional non-foamed products but with equivalent to container strength, fit and gloss	●				
ESLEN Sheet RNW	25% or more recycled polystyrene used			●		
ESLEN Beads HCMH Foam with 100 times Expansion Rate	Product liability compliance and 36% reduction in plasticizer additives [Comparison: Molded products with 90 times expansion rate] 10% reduction in weight per cubic meter of molded product [Comparison: Molded products with 90 times expansion rate]	●				
ESLEN Beads RNW	30% recycled resin used + Proprietary recycling system	●		●		
ESLEN Beads RNW Returnable Box(NFB)	ESLEN Beads RNW + Eco Mark certified product	●		●		
ESLEN Beads RNW ERX-ZERO	ESLEN Beads RNW + Carbon offset	●		●		
ESLEN Block RNW	30% recycled polystyrene used			●		
ELASTIL™	50% reduction in weight compared to non-foam PU/EVA competitive products	●				●
ELASTIL™ BIO	ELASTIL + Biomass content of 45% or more (Biomass Mark certified)	●			●	●
KATAEMON™	Ideas for eliminating waste without the need to dismantle formwork	●				
SUPER SOILEN SYSTEM™	100% crushed grains of used expanded polystyrene		●			
SET BOX™	Repeated use		●			
CELPET™ RNW K grade (Industrial Use)	80% or more used PET bottle flakes as a raw material			●		
CELPET™ RNW S grade (Food Use)	30% to 50% recycled PET bottles used + Proprietary recycling			●		
SOILEN Mat RNW	100% recycled resin used, 21% reduction in CO_2 emissions [Comparison: The Company' s conventional products]	●		●		
Foldable Thermal Insulation Container	Repeated use		●			
TECHTELAS™	50% reduction in CO_2 emissions during product use [Comparison: Fluorescent lamps]	●				
ST-gel™ Electrodes for low-frequency therapy equipment	Repeated use		●			
ST-gel™ Hydrogel pack AI-FIT high moisture type/ sustained moisturization type	Biomass content of 18% or more				●	●
TECHEATER™	Approx. 30% reduction in CO_2 emissions during product use [Comparison: Common Electrothermal Heaters]	●				
TECHPOLYMER™ Microparticles for LCD	21% reduction in power consumption of product use (comparison with and without the product as a component in LCD TV backlights)	●				
TECHPOLYMER™ Cosmetic grades	Residual monomer reduced to less than 1/100 [Comparison: Industrial grades]	●				
TECHPOLYMER™ Microparticles used as component in light cover material	27% reduction in CO_2 emissions compared to inorganic diffusing agents	●				
TECHPOLYMER™ BIO EF-A series/EF-B series	Biodegradable polymer microparticles decomposed in the natural environment	●			●	
TECHPOLYMER™ BIO EF-C series	Biomass content of 40% or more, 70% or more reduction in wastewater from the cleaning process	●			●	
TECHPOLYMER™ HSC series	Approx. 36% reduction of energy loss (transmission loss) [Comparison: No microparticles added]	●				●
NEOMICROLEN™ SHE	30% or more weight reduction through high foaming [Comparison: Conventional products]	●				
PIOCELAN™ Flat-panel TV glass panel transporting container	Repeated use		●			
PIOCELAN™ Packaging material for transporting automobile parts	Repeated use		●			
PIOCELAN™ Molded Product High expansion and flame-retardant grade	25% lighter with same strength (saving resources) [Comparison: The Company' s conventional products]	●				
PIOCELAN™ RNW Knock-Down packaging	15% or more recycled resin used, repeated use	●	●	●		
FRAHASANA™	Cause brand product (A protion of the proceeds is donated to animal welfare and protection activities)					●
LIGHTLON™ BIO	Biomass content of 10% or more (Biomass Mark certified)				●	
LIGHTLON™ RNW	30% or more recycled polyethylene used	●		●		
CMT bathtub pan	Approx. 75% reduction in weight compared to competitive FRP products	●				●
Sponge carrier for DHS Water Purification System	Environmental impact reduction in water bodies	●				
ESLEN Block for EPS civil engineering method	48% reduction in CO_2 emissions from raw materials to product use [Comparison: Air bubble mixed lightweight soil]	●				
EPS Slope Lightweight Leveling Ramp	Newly designed disaster recovery item without the need for heavy machinery Approx. 79% reduction in CO_2 emissions per set of 30cm level difference elimination [Comparison: Sandbags and laid iron plates]	●				●
ES Dan Mat LV Thermal Insulation Board	73% reduction in CO_2 emissions from raw materials to product use [Comparison: No heat insulation material used]	●				
FJ-Ring™	36% reduction in industrial waste during construction (comparison between pipe jacking method and open-cut method)	●				●
Fluxflow	New alternative dispersing agent for fluorinated dispersing agent of environmental a concern	●				●
RETONA FOAM™ BIO HS Grade	A biodegradable foam resin sheet made primarily from PLA(Polylactic acid)				●	
RETONA FOAM™ BIO SS Grade	A biodegradable foam resin sheet made primarily from PBS(Polybutylene succinate)				●	
Formwork / Thermal Insulation Panel	9% reduction in discarded formwork plywood, 18% reduction in formwork setup and removal time [Comparison: Conventional construction methods]	●				●
ST-Eleveat™	80 to 90% reduction in weight compared to non-foam competitive products	●				●
ST-Eleveat™ BIO	ST-Eleveat + Biomass content of 25% (Biomass Mark certified)	●			●	●
ST-Eleveat™ BIO High flame-retardant grade	Biomass content of 15% or more, no halogenated flame tardants used	●			●	●
ST-LAYER™ Wind turbine blade	80% lighter than steel ones and 60% lighter than aluminum ones when comparing the same strength	●				●

Topics

Certified as an Eco-First Company by the Ministry of the Environment, Japan

Committed to working to conserve the global environment as an environmentally advanced company

The Eco-First Program is a certification program in which the Minister of the Environment, Japan (MOE) certifies companies that are conducting "advanced, unique and industry-leading business activities" in the environmental field (environmentally advanced companies in their industry).
With the aim of realizing a sustainable society, SEKISUI KASEI Group is implementing SKG-5R, which adds our unique 2Rs (Replace, Re-create) to the conventional focus of 3Rs (Reduce, Reuse, Recycle). In doing so, we contribute to the solution of the global environmental and social issues outlined in the SDGs.
We have compiled these initiatives and declared them as our "Eco-First Commitment," and have been recognized as an environmentally advanced company for our efforts.

SEKISUI KASEI "Eco-First Commitment" (Summary)

- By FY2030, replace 50% of materials used with recycled materials or biodegradable/biomass-derived raw materials
- Act on Promotion of Resource Circulation for Plastics - obtain certification for voluntary collection and resource recycling project plans, extend expanded polystyrene resource recycling activities throughout Japan
- By FY2030, create a total of 100 Sustainable Star Products (environmentally friendly products) and achieve a share of 50% or more of net sales

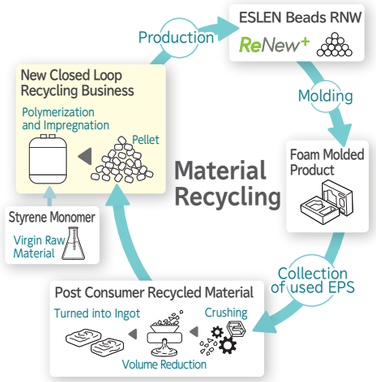
THE OFFICIAL ECO-FIRST LOGO

Certification Ceremony

Launch of "EPS to EPS" Closed Loop Recycling Demonstration Project

SEKISUI KASEI have launched a demonstration project for closed loop recycling with the aim of mass-producing reusable EPS raw materials. We aim to develop a scheme to recycle higher quality raw materials by making pellets from used EPS ingots and polymerizing them through impregnation with styrene monomer.
This initiative has been selected for the "FY2023 Subsidies for Carbon Dioxide Emission Reduction Measures Project Costs, etc., Projects to Promote the Establishment of a Carbon-Free Circular Economy System (of which, Demonstration Projects for Establishing a Recycling System for Plastics and Other Resources)."

"EPS to EPS" Closed Loop Recycling



SEKISUI KASEKI CO., LTD.

https://www.sekisuikasei.com/en/

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