

## ENVIRONMENTAL REPORT

Vol.

Our packages contribute to both customers and society's in environmental sustainability

Recently, social awareness about the environment, such as marine plastic, is intensively spreading. In fact, we have been making attempts in Reduce – Reuse activities. We would like to introduce some of our efforts.

Fuji Seal Group

## Shrink sleeve labels for environmental sustainability

#### Shrink sleeve labels

Those labels are excellently compatible with different shapes of bottles. No ink or glue spot is left on containers in printing phase, allowing wider space for display and decoration. Not only improving container recycling function, the labels are also suitable for applying on either recycled bottles or reused bottles.

Below is the line-up of environmental-friendly packages.

#### Environmental-friendly package line-up



#### Recycling

#### **■** Perforation

Shrink Sleeve labels with different perforations ease container-recycling process of removing labels and in opening on consumers.

#### Low-dense shrink sleeve label

\*Achieved the recognition from APR and EPBP(P3)

Label removal in recycling process is facilitated, which boosts the efficiency of container recycling.

#### ■ White PET (label function alternative)

Adding UV and light-barrier function to labels simplifies containers and reinforces recycling progress. This extends expired dates and contributes to food-loss issue.



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Shrink sleeve labels for environmental sustainability



#### Reduction

#### Down-gauging

We have invented shrink sleeve label application machines for down-gauging, enabling us to provide labels which are half as thick as conventional ones.

#### ■ Shrink Sleeve Label made from recycled materials

The shrink film materials for label-making consist of recycled elements, which decreases single-use plastic consumption.

#### ■ Shrink cardboard

Packages are the substitution of blister packs for shrink labels, so they can cut down plastic consumption in comparison to conventional products.



#### Carbon neutrality

#### Biomass

Labels are made from plant-based materials, which helps reduce CO2 emission.



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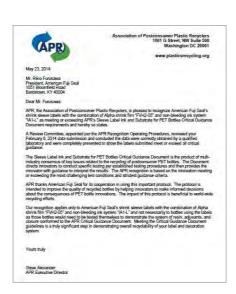
Our packages contribute to both customers and society's initiatives in environmental sustainability.

Recently, social awareness about the environment, such as marine plastic, is intensively spreading. In fact, we have been making attempts in Reduce – Reuse activities. We would like to introduce some of our efforts.

#### Our low-dense shrink sleeve label has achieved the recognition from APR\* and EPBP\*

#### Reference material

In Americas and Europe, our low-dense shrink sleeve labels known as ALPHA film are shown to be effortlessly separated from PET bottles. APR and EPBP also approve that our labels do not have any adverse impact on PET bottle recycling process.





- \* APR: The Association of Plastic Recyclers
- \* EPBP: European PET Bottle Platform



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Self-adhesive labels - Spouted pouches for environmental sustainability

#### Pressure-sensitive label / Self-adhesive label (PSL/SAL)

Pressure-sensitive labels are ones with special adhesive being applied to the back of substrate in advance. Labeling process can be done effortlessly without using energy such as heat. By decorating the label with hot stamping or hologram, attractive expressions are possible even for labels with limited size.

Below is the line-up of environmental-friendly packages.

#### Environmental-friendly package line-up





## Reuse & Recycle

#### ■ De-label tack

Either consumers or recycling companies can easily remove those labels, which considerably enhances recycling rate of containers.



#### e-Tack

We reduce waste by not using release liners for labels. This concept of 'less label' is also applied for other labels such as heat-sensitive adhesive labels or shrink adhesive label.



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Fuji Seal Group
Self-adhesive labels - Spouted pouches
for environmental sustainability

#### ■ Labels made from recycled materials

Recycled materials are used to make labels, which decrease single-use plastic consumption.



#### **■** Biomass

Labels are made from plant-based materials, which help reduce CO2 emission.

#### Spouted pouches

With a cap on, spouted pouches function as normal bottles. Their packaging materials consume less plastic than rigid containers, devoting to "Reduce" activities. Moreover, those capped refill pouches stimulate "Reuse" activities of the containers. Not only promoting our customers' environmental strategies, yet these eco-friendly packages also let consumers experience ecological initiatives.



#### ■ Development of volume-efficient pouches

\*Some will be introduced in the next page.

We have developed bottle-shaped spouted pouches with optimal capacity. We attempt to not only reduce plastic consumption volume but cut down on CO2 emission as well with improvements in transport efficiency.



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## Winning "Technical Packaging Award" in Packaging contest 2016

#### **Reference materials**

In "Japan Packaging Contest 2016", our bottle-like pouches used for "Refill products/ Rakuraku eco pack (KAO)" have won "Technical Packaging Award".

Japan Packaging Contest is the greatest contest in Japanese packaging industry, which is organized by Japan Packaging Institute. Its purpose is to propagate excellent packages and their technological development. Several faculties, namely materials, design, technology, design, logistics, sales promotion, ideas, environmental sustainability, appropriate packaging, etc., are screened annually, and brilliant ones will be selected



The above package has also won 40th Kinoshita Award for New Creation field from Japan Packaging Institute.

"Development of new refill containers with the ease of refilling, universal design, and environmental concerns" KAO Corporation, Fuji Seal, Inc.

\*Design in time of award reception.





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Fuji Seal International, INC.

Fuji Seal Group Shrink sleeve labels

for environmental sustainability

#### Fuji Seal's newly-invented Shrink sleeve label Recshrink™ has gained the recognition from APR.

On 6th September 2019, American Fuji Seal, Inc.'s RecShrink™ and washable ink system were recognized as meeting APR's Critical Guidance Protocol for Clear PET Articles with Labels and Closures (PET-CG-02).

%PET-CG-02 is a procedure manual, newly published in April 2019, for simultaneous recycling of PET bottles and labels.



American Fuji Seal RecShrink<sup>tm</sup> Sleeve Label Meets Critical Guidance from:







Fuji Seal Group
Shrink sleeve labels
for environmental sustainability

#### Shrink sleeve labels

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Below is the line-up of environmental-friendly packages.

#### Environmental-friendly package line-up



## Acceleration of "Recycling" for containers

#### ■ Perforation

Shrink Sleeve labels with different perforations ease label removal in container-recycling process, and boost the easiness of opening containers.

■ Low-dense shrink sleeve label \*\*Recognized by EPBP, APR

Label removal in recycling process is facilitated, which enhances the efficiency of container recycling.

■ White PET (label function alternative)

Adding UV and light-barrier function to labels simplifies containers and reinforces recycling function.

This extends expired dates and contributes to food-loss issue.

NEW

#### ■ Recyclable label RecShrink<sup>TM</sup> \*\*Recognized by APR

Containers are recycled together with their labels, which lessens single use of plastic.

# Our packages contribute to both customers and society's inition environmental sustainability.

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Shrink sleeve labels for environmental sustainability



#### Reduction

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#### ■ Shrink Sleeve Label made from recycled materials

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## Environmental Initiatives of Packaging Machinery System

We are flexibly taking eco-initiatives in delivery forms and production systems of our integrated services of packaging materials and machinery, namely "Environment-friendly delivery", "Response to environment-friendly packaging materials of considerable difficulty", "Machinery that reduces environmetal burdens itself". Below is the line-up of eco-friendly packaging machinery systems.

We stimulate development and introduce measures to the customers while trying to reduce environmental impacts by cutting down on energy consumption, CO2 emissions and water usage.

#### Environment-friendly Packaging Machinery System line-up



#### Reduction in waste disposal

#### ■ Environment-friendly Packaging: Label & Pouch Supply System

We provide label and pouch supply systems suitable for packaging that requires less cardboard and outer boxes or not at al.

#### ■ Downgauging-compatible Shrink Labeler

The machine can rapidly and stably provide downgauged shrink labels while using only as half of the materials as conventional material.

#### ■ Efficient Pouch Manufacturing System

The system produces bottle-like pouches of large capacity, while reducing waste disposal.



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Environmental Initiatives of Packaging Machinery System





## Reduction in energy consumption & CO2 emissions

#### ■ Shrink Tunnel with Improved Thermal Efficiency

Developing technology which efficiently generates the heat required for shrink labels, we affix labels with less energy.

#### ■ Remote Maintenance Service

Utilizing IT system, we remotely grasp the condition of machine operation and always maintain its best state.



#### Reduction in water usage

#### ■ Steam Shrink Tunnel with Competent Steam Supply

The technology that efficiently provides necessary heat allows shrink label production with less water consumption.



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## Environmental initiatives of Manufacturing Department

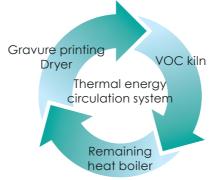
Our Manufacturing Department is putting efforts into relieve the burdens on the ecology and local environment. Along with the manufacture of shrink label, tack label, pouch, packaging machinery, we take actions aiming for sustainable development and production, and reduced disposal of garbage, waste liquid, drainage, and exhaust fumes (chemical substances, CO2). We collect various ideas from employees through TQM (Total Quality Management) activities, Idea Bank and other projects, hold regular meetings on environmental conservation and energy saving, etc., as well as promote energy saving activities among the group.



#### **Environmental Initiatives**

#### ■ Reduction in emissions of CO2 and chemical substances

Fuji Seal Group encourages the development of environment-friendly production technologies and processes. In FY 2018, CO2 emissions per unit of sales for the Group were reduced by 1.5% compared to previous year. In Japan, our constant efforts result in the reduction of CO2 emissions for 5 consecutive years. Especially, thermal energy circulation system at Tsukuba factory uses VOC kiln (volatile organic compound) and remaining heat boiler, which prevents air emissions into VOC, and reduce energy consumption.







Remaining heat boiler



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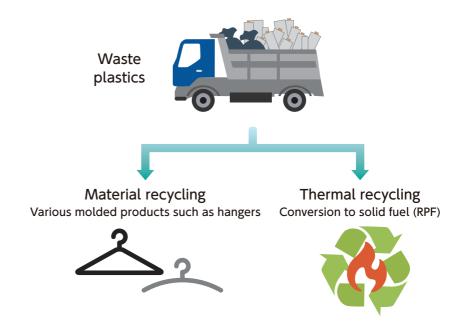
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Environmental initiatives of Manufacturing Department

#### ■ Reduction in waste disposal

In Japan, we have achieved a 100% recycling rate for waste plastics through proper disposal of garbage. We are working on material recycling as much as possible at our business sites in Japan and overseas. We are also working on recycling of papers and solvents beside plastics. We will continue to improve recycling rate and reduce waste toward a recycling-oriented society.



#### ■ Reduction in waste liquid

Factories in Japan use recycled water in some production phases. Washing water in factories is filtered, which recycles for more than 10 tons of water/day.



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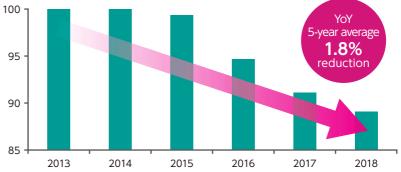


#### External evaluation

#### ■ Company classification system based on Energy Saving Law report

Fuji Seal, Inc. has been evaluated as S class for 4 consecutive years by the Ministry of Economy, Trade and Industry, recognized as a company with excellent energy conservation under the business classification evaluation system.

\*Evaluation criteria for S class: achieve energy savings of at least 1% for averagely 5 years



Figures for offices and factories subject to the Japan Energy Saving Act

#### **■** CDP - Carbon Disclosure Project

On 20th January 2020, Fuji Seal International, Inc. was rated as "B-" in "CDP Climate change 2019". Our score increased this time because we have enforced the disclosure of environmental management. We will try harder on this issue.

CDP, an NGO founded in the UK in 2000, operates a global disclosure system for investors, entreprises, cities, nations and regions to manage the environmental impact. This information disclosure system, receiving responses from more than 8,000 companies, is known as one of most influential data used by more than 650 investment institutions and more than 115 major purchasing companies.

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Fuji Seal Group

# Environmental Initiatives for Promotional Pressure Sensitive Labels

Fuji Seal Group is attempting to reduce environmental impacts on climate change, resource sustainability, and marine plastic problems through our development of shrink labels, pressure sensitive labels (PSL), pouches, and machinery.

In this Environmental Report Vol.6, we focus on how we are working to reduce the impact of our promotional PSLs on the environment. Fuji Seal Group is putting effort into promotion PSL optimization by engaging in dialogue with our suppliers, customers, and recycling companies in order to provide feasible solutions for effective sales promotions at retail stores while reducing environmental impacts.



#### Optimization of Packaging Design

#### ■ Design considering adaptation to recycling process

One of our environmental measures is eco-friendly packaging design. To relieve environmental impacts on the society, it is necessary to consider the packaging design after use and at disposal.

For the first time in the world (%1) we introduce promotional PSL that can be peeled off more easily from beverage PET bottle without residual glue.

The PSL for the Pepsi Special promotion of Suntory Beverage and Food Limited was developed with a new design that incorporates "ease of peeling off by hand" and "ease of peeling off in automated recycling process".

With the cooperation of Suntory Beverage and Food Limited and recycling companies, we could develop a new PSL " with no residual glue on containers" required for PET bottle recycling process. Furthermore, the PSL also demonstrated "a high-speed applicability to shoulder of PET bottles", satisfying demand of economical production.

\* 1 Survey by Suntory Beverage and Food Limited by 1st March, 2020.



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**Environmental Initiatives** Sensitive Labels

This environmentally friendly design makes it easier for consumers to peel off the label from the bottle. In case where the label is left on the container after consumption, the newly developed capability will ensure at 99% of the labels can be separated in the recycling process.

Fuji Seal Group believe that our positive contribution to the improvement of the PET bottle recycling rate throughout Japan will play a more important role in the future.

#### **Success story**

#### Function 1 Ease of peeling off by hand

Newly developed Promotion PSL – designed to have no residual adhesives on bottle.



There is no glue left.

#### Function 2 Ease of peeling off in recycling process

Caustic washing allows greater than 99% of PSL to be removed without glue remaining in processed PET bottle flakes.

#### Impact of new promotional labels on recycling process

1) The operators peel off PSL

▶ Without residual glue on containers Manually Bales De-Baling Grinding Sorting Label Specific gravity Caustic Separation separation & Flakes Washing by Wind centrifugation 2 Labels are blown 3 Adhesive dissolution (4) Separation driven off from PET flakes ▶ Adhesive removal

by wind except those with glue



by centrifugal force and difference in specific gravity

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Photographs and Figures: Provided by Suntory Beverage and Food Limited





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Environmental Initiatives for Promotional Pressure Sensitive Labels



#### Optimization of raw materials

#### Use of materials that are more environmentally friendly

Another environmental initiative is the selection of environmental-friendly materials. In particular, using recycled materials can maintain material sustainability and alleviate the impact on climate change.

Since 2016, along with the cooperation from our suppliers, we have been producing PSL with substrates containing more than 80% of recycled PET resins, derived from used PET bottles.

This ratio of reclaimed materials is one of the highest in the world, and it can be supplied not only by simply switching materials, but also by ensuring final appearance and quality, supported by securing stable resource of raw materials.

Fuji Seal Group will contribute positively to contribute to the customers, consumers, and the society through our products and services. We will continue to develop environmentally friendly products furthermore with our own strong leadership and collaborative efforts with our affiliated companies.

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#### Participation in Nikkei ESG Management Forum

Fuji Seal, Inc. becomes a member of Nikkei ESG Management Forum, which enables us to intensify our efforts to resolve social issues and conduct ESG management expected by our stakeholders.





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#### New Approach to the Future

#### R Plus Japan Ltd. - A new joint venture company that will invest in the development of cutting-edge recycling technology for used plastics

Fuji Seal Group is proud to announce the establishment of R Plus Japan Ltd., a new joint venture company that will invest in the development of cutting-edge recycling technology for used plastics. R Plus Japan (CEO: Mr. Tsunehiko Yokoi, Location: Tokyo, Japan) was established in partnership with Fuji Seal, Inc. and 11 other cross-industry partners within the plastics supply chain in June, 2020. This collaboration aims to find effective solutions to address plastics waste issues to create a more sustainable society. Member partners include Suntory MONOZUKURI Expert Ltd., TOYOBO Co. Ltd., Rengo Co. Ltd., Toyo Seikan Group Holdings Ltd., J&T Recycling Corporation, Asahi Group Holdings Ltd., Iwatani Corporation, Dai Nippon Printing Co. Ltd., Toppan Printing Co. Ltd., Hokkaiseican Co. Ltd., and Yoshino Kogyosho Co. Ltd..

Our mission statement is "Each day, with renewed commitment, we create new value through packaging." We are strengthening our ESG initiatives to form a better society and to make the company more sustainable. In particular, we recognize that the environmental problem is an important issue for humanity, and our creativity and efforts should be made to manufacture products with environmental aspects in mind. We aim to contribute positively to the environment and society through our products such as shrink sleeve labels, pressure sensitive labels, spouted pouches, and packaging-related machinery. We are also working to reduce industrial waste, liquidous waste, volatile organic compounds, and greenhouse gases generated during production, thereby suppressing any negative environmental impacts.

Our specific measures to mitigate climate change, resource depletion, and marine plastic issues include: reducing the amount of materials used, designing packaging materials that are easy to separate, using biomass and recycled materials, and developing machinery that reduces energy use. They are all consistent with our policies for "3Rs + Renewable" and CO2 reduction.

We believe it is also important to make our produced packaging materials recyclable for resource circular society. This joint venture is positioned as one of our approaches to prevent resource depletion and protect the diversity and abundance in the land and sea by recycling our waste and used packaging materials from our manufacturing processes.



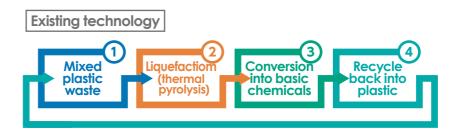
#### Fuji Seal International

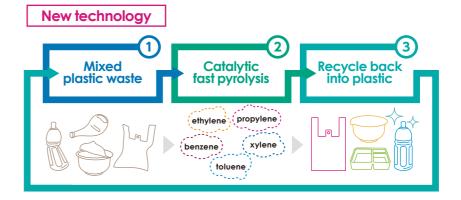
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New Approach to the Future

#### ■ About the recycling technology of used plastic

Many plastic packaging materials are unable to be recycled and are instead thrown away after a single use, often landfilled, incinerated\*1, or littered. Unlike the existing multi-step processes which first liquefies plastic waste back into low value "synthetic oil" intermediate products, Anellotech's Plas-TCat chemical recycling\*2 technology uses a one-step thermal-catalytic process. This process converts single-use plastics directly into basic chemicals such as benzene, toluene, xylenes (BTX), ethylene, and propylene, which can then be used to make new plastics. The technology's process efficiency has the potential to significantly reduce CO2 emissions and energy consumption. Once utilized across the industry, this technology will be able to more efficiently recycle single-use plastic, one of the world's most urgent challenges.





- \*1 Including thermal energy recovery
- \*2 Chemical recycling is a process by which a polymer is chemically reduced to basic chemicals so that it can eventually be processed and remade into new plastic materials that go on to become new plastic products.

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New Approach to the Future

## R PLUS JAPAN

With the engagement of various industries throughout the supply chain, from raw materials manufacturers, and packaging suppliers to beverages companies, the newly established R Plus Japan, together with Anellotech, will advance the development and commercialization of this eco-efficient plastic recycling technology by 2027.

#### ■ Company Profile

Company name: R Plus Japan, Ltd. Date of commencement of business: June 2020 Headquarters: 2-3-3, Daiba, Minato-ku, Tokyo, Japan Representative: Tsunehiko Yokoi (President & CEO) Business: Expanding development of recycling technology for used plastics



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#### **Environmental Initiatives** through Printing Technology

Fuji Seal Group is working on various types of environment-friendly options for shrink labels, pressure sensitive labels, and spouted pouches. Printing is one of critical processes during production for any packaging material from the viewpoint of design and display. We are developing and deploying eco-friendly printing technologies and inks in cooperation with our suppliers to ensure that consumers and customers are satisfied with our products.

#### ■ Packaging printed with inks that contain plant-derived components

Biomass inks have been introduced to various shrink labels and pressure sensitive labels since 2019. By using biomass raw material in printing inks, it is now possible to replace more than 10% of oil-based ingredients in dry weight with plant-based counterparts.

Replacing with plant-derived materials is generally considered to be favor for carbon neutral and is consistent with not only Fuji Seal Group's environmental policy, but also our customers'.

One of our customers, Kagome Co., Ltd. has also formulated the Kagome Plastics Policy, which aims to reduce the environmental impact of its operations in harmony with the natural environment as a "vegetable-oriented company". As part of this policy, the company is committed to reduce the use of plastics made from petroleum and to replace them with recycled and/or plant-based materials that can be recycled after use. As one specific initiative, the plastic caps for paper beverage containers have been replaced with plant-derived materials since April 2020. In another promotion to win environmentally and life-style friendly prizes, which was launched on September 1, 2020, a combination of recycled PET substrate and plant-derived inks has been used to produce environmentally friendly promotional labels.





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In addition, the use of plant-based inks is thought to contribute positively to a reduction in CO<sub>2</sub> emissions in the recycling process. In Japan, most colored plastics, including waste inks, are thermally recycled. Effective use of waste materials as solid fuels instead of fossil fuels can lead to the reduction of CO<sub>2</sub> emissions. In our opinion, if part of them are derived of plants, it should lead to further reduction of CO<sub>2</sub> emissions.

#### Packaging with water-based inks

In general, shrink labels have been mainly printed with oil-based inks that use organic solvents as a diluent in order to achieve better expression and content resistance by their stronger adhesion. In recent years, Fuji Seal Group has introduced a different printing process with water-based inks in order to reduce the impact on air pollution and climate change. Fuji Seal, Inc. is currently promoting fully water-based inks (with an organic solvent content of 5% or less in weight where water is used as a diluent) among various water-based inks. As a result, emissions of suspended particulate matter and volatile organic compounds (VOCs), one of the causes of photochemical oxidants, should be substantially reduced, and reduction in CO2 emissions during the label production\* can be also achieved. (\*Compared to existing printing specifications for shrink labels)

#### Anti-microbial and anti-virus packaging materials

As COVID-19 spreads and rages around the world in 2020, the role of packaging in protecting products is being reassessed. Amidst such environmental changes, we are developing labels using anti-virus and anti-bacterial inks so that consumers can take products decorated with our packaging in their hands without concerns or increasing the amount of plastic used.

Fuji Seal, Inc. arranged anti-microbial and anti-viral tests on three different packaging articles, and received the corresponding SIAA\* certification marks for anti-microbial and anti-microbial/anti-viral products. Fuji Seal Group will continue to verify such anti-bacterial and anti-viral treatment on various packaging materials for product development and registration of the products into the certification bodies in the future.

\*SIAA (The Society of International sustaining growth for Antimicrobial Articles) is an organization of manufacturers and antimicrobial testing institutions of antimicrobial agents, fungicides, and treated Kohkin/Boukabi products whose goal is the popularization of appropriately treated and secure Kohkin/Boukabi products. With the opinions of industry and customer representatives, specialists, and the government, SIAA maintains rules governing the quality and safety of treated Kohkin products and certifies the labeling and use of SIAA marks, symbols for the security of products that comply with the rules and standards. (cited from SIAA homepage: https://www.kohkin.net/en\_index/en\_siaa.html)



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A list of anti-bacterial and anti-viral products produced by Fuji Seal Group on SIAA website



The SIAA mark is displayed on products that have been evaluated according to the ISO 22196 method and for which quality control and information is disclosed in accordance with the guidelines of The Society of International sustaining growth for Antimicrobial Articles.

#### <Anti-bacterial>

- It inhibits the growth of bacteria on the surface of the packaging material.
- This product is not a drug.
- This product does not inhibit the growth of all bacteria.
- The product complies with SIAA safety standards.



The SIAA mark is displayed on products that have been evaluated according to the ISO 21702 method and for which quality control and information is disclosed in accordance with the guidelines of The Society of International sustaining growth for Antimicrobial Articles.

#### <Anti-virus>

- It reduces the number of specific viruses on the surface of the packaging material.
- This product is not a drug.
- The antiviral treatment is not intended to treat or prevent disease.
- The product complies with SIAA safety standards.



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Recently, social awareness about the environment, such as marine plastic, is ntensively spreading. In fact, we have been making attempts in Reduce – Reuse activities. We would like to introduce some of our efforts.

Fuji Seal Group

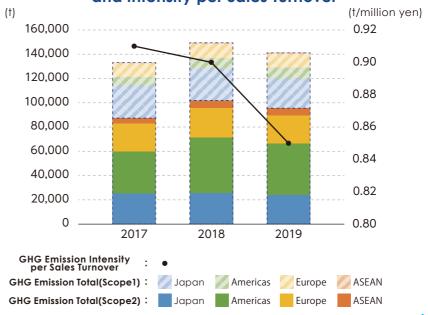
#### Climate Change Initiatives

Each company in Fuji Seal Group has been working on climate change initiatives based on two axes: efforts in manufacturing and contributions through products. In March 2019, the target for greenhouse gas (GHG) reduction was expanded from a regionally focused approach to a company-wide target in order to reduce GHG emission intensity per sales turnover (Scope 1+2) by 6% from the fiscal year 2017 level (by the fiscal year 2023).

Specific examples of GHG reduction initiatives include: reducing energy use of gas and other fuels (Scope 1); switching from gas-fired boilers to waste heat boilers that utilize VOCs; upgrading to more energy-efficient printing machines; and preventing energy loss by insulating various boilers. In addition, in order to reduce electricity consumption (Scope 2), we are switching to more electrically efficient air conditioning systems at our plants in Japan and US, and strengthening thermal insulation at our plants in Japan and Europe. Both activities are intended to improve the efficiency of temperature management, which is essential in shrink label production. We are also working on the replacement of lighting equipment with LEDs throughout Fuji Seal Group.

As a result of these efforts, greenhouse gas emission intensity in Scope 1 and 2 at major manufacturing sites in Fuji Seal Group was 0.85 tons of CO<sub>2</sub> per million yen, a 7% reduction compared to fiscal 2017. The graph

#### Trends in GHG Emission Total and Intensity per Sales Turnover





## ENVIRONMENTAL **REPORT**

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In addition to the substantive efforts described above, Fuji Seal Group recognizes climate change as an important management issue and has begun to verify countermeasures through scenario analysis. We are disclosing information on "Governance", "Risks and Opportunities" and "Business Strategy" as well as GHG emissions (Scope 1, 2 and part of Scope 3\*) in our reply to CDP questionnaires. To ensure consistency, transparency, and accuracy of disclosed GHG emissions and energy consumption data, SGS Japan K.K. has conducted a third-party verification starting this fiscal year (data in fiscal 2019).

#### <Third-party verification on GHG emissions>

Criteria of Verification: ISO14064-3: 2006 Scope of Verification: Scope 1 and 2

(energy related CO<sub>2</sub> emissions and energy consumption)

**Boundary:** Fuji Seal Group 24 sites (all 13 sites in Japan and 11 oversea

sites except Fuji Seal Engineering and PAGO Italy)

Conclusions: Nothing has been noted to believe that

Fuji Seal Group's assertion was not calculated and

reported in conformance with the criteria.





We will continue to make group-wide efforts to promote continuous GHG reductions, and we will strengthen our disclosure to our stakeholders, by expansion of accounting boundary in Scope 3, for example.

\* Scope 3 reporting to CDP accounts mainly for Category 1 (158,556 t-CO2 for purchased goods and services) in Japan and Pago Switzerland where data were available by the time of reporting, which has not yet been verified independently.



#### **Verification Statement**

SGS

15 JULY 2020 Statement No : SGS20/043

Ms. Shigeko Okazaki President and CEO Fuji Seal International, INC.

#### Objective

SGS Japan Inc. (hereinafter referred to as "SGS") was commissioned by Fuji Seal International, INC. (hereinafter referred to as "the Organization") to conduct independent verification based on Criteria of Verification (ISO14064-3: 2006 and the SGS verification protocol) regarding the data prepared by the Organization on the scope of verification (hereinafter referred to as "the GHG assertion"). The objective of this verification is to confirm that the GHG assertion in the Organization's applicable scope has been correctly calculated and reported in the GHG assertion in conformance with the criteria, and to express our views as a third party.

#### Scope

The scope of verification is Scope 1 and 2 emissions, energy consumption.

The period subject to report is from 1 April 2019 to 31 March 2020 for Japan and from 1 January 2019 to 31 December 2019 for overseas.

Refer to the attached sheet for the detailed scope of verification.

#### **Procedure of Verification**

The assertion was verified in accordance with Criteria of Verification, and the following processes were implemented at a limited level of assurance:

- Verification of the calculation system: Interviews on the measurement, tabulation, calculation and reporting methods employed by the Organization as well as review of related documents and records.
- Verification of the assertion: On-site verification and vouchers review carried out remotely at Headquarters with Fuji Seal Inc. Nabari Factory and Tsukuba Factory via the remote meeting system as special measures due to COVID-19 outbreak. Analytical procedures and interviews for the other sites within the scope of verification carried out at Headquarters.

The criteria for this review are based on, Act on the Rational Use of Energy, GHG Emissions Calculation and Reporting Manual Ver. 4.4 and the protocol specified by the Organization.

#### Conclusion

Within the scope of the verification activities employing the methodologies mentioned above, nothing has come to our attention that caused us to believe that the Organization's assertion was not calculated and reported in conformance with the criteria.

SGS Japan Inc. affirms our independence from the organization, being free from bias and conflicts of interest with the Organization.

For and on behalf of SGS Japan Inc.

Senior Executive & Director
Certification and Business Enhancement

Yuji Takeuchi



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Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings as the time of its intervention only and within the limits of Client's instruction, if any. The Company's sole responsibility is to Client and this document does not exonerate parties to transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.



attached sheet

15 JULY 2020 Statement No : SGS20/043

The details of the scope of verification

The scope	The boundary	The assertion
Scope 1 and 2 (energy related carbon dioxide emissions and energy consumption, excluding the vehicles which run outside of the sites)		Scope 1: 45,596 t-CO <sub>2</sub> Scope 2:  Market-base: 95,526 t-CO <sub>2</sub> Location-base: 105,381 t-CO <sub>2</sub>



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Fuji Seal Group

# Participation in various Initiatives to mitigate Environmental Impacts through Supply Chain Collaborations

Fuji Seal Group recognizes the importance of safety and environmental protection, and aims to contribute positively to global environment through our creation and efforts while always keeping in mind the harmony with nature. In developing and marketing packaging for the recycling of plastic resources, we understand that collaboration across the entire supply chain is essential. Therefore, we are actively participating in various initiatives and industry associations on a global basis. In this report, following the Environmental Report No. 7, we would like to share with you the environmental initiatives we are a member of.

#### ■ Participation in HolyGrail 2.0

In October 2020, Fuji Seal International, Inc. has joined the HolyGrail 2.0 Initiative. We are providing financial and technical support for this initiative, which will help to reduce the environmental impact and increase the added value of packaging.

HolyGrail 2.0 is a cross-supply chain initiative facilitated by AIM\*, the European brands association, which aims to improve waste recovery rates through the application of watermark technology\*\* and to exhibit a successful business model of resource recycling on a commercial scale. Therefore, conducting multiple-phase tests using products sold in the market to prove the concept in real world at large scale is also a part of the initiative. The watermark technology, which involves applying an invisible code to the surface of a package that is read by a high-resolution camera, is expected to dramatically improve waste sorting. By precisely identifying the material of the package, which is one of the most difficult challenges in the recycling process, the post-consumer waste can be better sorted, resulting in a recycling process that is better suited to obtain a higher purity recycled product.







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Fuji Seal Group, through its collaboration with HolyGrail 2.0, will utilize its printing technology and other knowledge to provide packaging that enables better sorting and recovery, thereby promoting circular economy to make our society more sustainable.

- \* AIM is the European Brand Association, representing European manufacturers of branded consumer goods and discussing key issues affecting the design, distribution, and sale of brands. AIM represents 2,500 companies, from small- and medium-sized enterprises to multinational corporations, directly or indirectly through its corporate and national association members.
- \*\* Watermark technology allows a postage-stamp-sized code on the surface of a consumer product package that is imperceptible to the human eye to represent a wide range of attributes, for example, the name of the product, the manufacturer, the type and composition of the plastic used, and the classification of food and non-food items.

#### <HolyGrail 2.0 initiative>

http://www.aim.be/priorities/digital-watermarks/

#### ■ Working with recycling organizations around the world

In addition to the activities with HolyGrail 2.0, Fuji Seal Group also participates in the following recycling-related organizations. Fuji Seal Group is deeply involved in the recycling systems in various countries and puts efforts to realize a recycling-oriented society, for example, through the design of recyclable packaging materials.

#### • Plastic Packaging Recycling Council

The Plastic Packaging Recycling Council is a business association whose members include organizations of specified businesses and companies that promote the 3Rs of plastic containers and packaging. Fuji Seal, Inc. is promoting various 3Rs and environment-conscious designs for refillable pouches, shrink-wrapped backing papers, and other products with brand owners, and is working together with the Council and other companies in the industry to build a rational recycling system for plastic packaging and promote the 3Rs.

<Plastic Packaging Recycling Council> http://www.pprc.gr.jp/



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#### • The Association of Plastic Recyclers (APR)

American Fuji Seal, Inc. works with APR, an international plastics recycling association that supports the circular economy with its own certification program to ensure recyclability. We have developed RecShrink<sup>TM</sup> labels that can be recycled together with the containers. This label product can enhance the reduction of

one-way disposable plastics. We will continue to contribute positively to the circular economy through the development of products that aim to reduce the environmental impact.



<The Association of Plastic Recyclers> https://plasticsrecycling.org/

#### Petcore Europe

Petcore Europe is the association based in Brussels representing the complete PET value chain in Europe, from PET manufacture to conversion into packaging and recycling, and other related activities.

Fuji Seal Europe joins Petcore Europe working with the entire PET supply chain to achieve a circular economy in the European region. Most recently, we have been in discussion about how to adopt RecShrink in the European market and are promoting activities to develop PET bottles and PET film into a single material cycle.



<Petcore Europe> https://www.petcore-europe.org/

Fuji Seal Group contributes to the development of technology throughout the entire supply chain, aiming at resource recycling in order to solve environmental issues such as climate change, marine plastic waste, and resource depletion from a packaging perspective through these initiatives. Activities in these initiatives also involve resolving institutional issues and formulating new regulations. We believe by playing a part in these initiatives that we can pursue sustainability for society as a whole. We will continue to develop new products to increase the added value in our packaging to solve social challenges throughout the supply chain collaborations.



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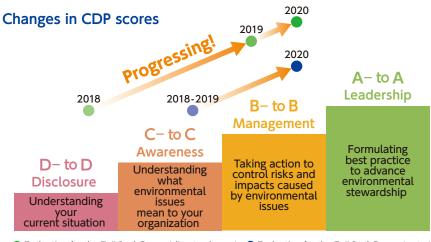
Fuji Seal Group

## CDP 2020 Score Results and Other Supply Chain Platforms

Fuji Seal Group strives to build stronger relationships with stakeholders and to ensure management transparency in order to enhance corporate value and social responsibility by disclosing financial and non-financial information on these platforms such as CDP, EcoVadis and Sedex. Fuji Seal Group is promoting responsible behavior and sustainability initiatives in various categories such as environment, society, governance, and sustainable procurement.

#### **■ CDP**

On December 08, 2020, Fuji Seal International, Inc. was awarded a management-level "B" score for the CDP 2020 Climate Change. For the CDP 2020 Water Security, the score was upgraded from Awareness level to Management level, which was the first time for Fuji Seal Group. In addition to our efforts against climate change, we will continue to disclose information on our environmental management and to strengthen our efforts in the future.



- Evaluation for the Fuji Seal Group (climate change)
   Evaluation for the Fuji Seal Group (water)
- \* CDP is a non-governmental organization (NGO) established in the U.K. in 2000, which operates a global information disclosure system for investors, companies, cities, nations, and regions to manage their environmental impacts. Its disclosure system has received responses from more than 8,000 companies and is known as one of the most influential data sources used by more than 650 investment institutions and 115 major purchasing companies.

[CDP website] https://www.cdp.net/



DISCLOSURE INSIGHT ACTION



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#### **■ EcoVadis**

Fuji Seal International, Inc., on behalf of Fuji Seal Group, discloses corporate information regarding its supply chain activities through Eco-Vadis. The partnership with EcoVadis enables us to improve the sustainability of Fuji Seal Group by utilizing the scorecards as our benchmarks as well as the performance improvement tools provided in the common platform.

\* Founded in 2007 in Paris, EcoVadis is the world's largest provider of corporate sustainability ratings. EcoVadis evaluates more than 65,000 companies using its proprietary evaluation methods and has established a global network of sustainability information.

[EcoVadis website] https://ecovadis.com

#### ■ Sedex

As a member of Sedex, Fuji Seal Group is committed to responsible and sustainable business practices and to improving its performance in the areas of procurement and environment at all packaging manufacturing sites and major machinery manufacturing sites.

\* Sedex is one of the world's leading providers of ethical trading services and is committed to improving working conditions in the global supply chain. With more than 55,000 members in 180 countries across 35 industry sectors, including food, agriculture, financial services, clothing, apparel, packaging and chemicals, Sedex provides practical tools, services and community networks to help companies improve responsible and sustainable business practices and source responsibly. It provides practical tools, services and a community network to help companies improve their responsible and sustainable business practices and procure responsibly.

[Sedex website] https://www.sedex.com/





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Fuji Seal Group

# Recycling of production waste generated at the manufacturing process of spouted pouch and pressure sensitive label

## Development of recycling technology for plastic composites and efforts toward social implementation

Fuji Seal International, Inc. (hereinafter referred to as "Fuji Seal"), Joto Techno Co., LTD. (hereinafter referred to as "Joto Techno") and G-Place Corporation (hereinafter referred to as "G-Place") are jointly undertaking a project to develop recycling technology for composite plastic materials that are currently considered difficult to recycle.

#### Background

The creation and social implementation of recycling system for plastics and other resources to shift a decarbonized society is an environmental challenge common to the world. In the case of containers and packaging, composite materials have been used for a long time from the perspective of adding functions. When reuse is considered, it would be extremely difficult to realize recycling of composite materials because of a limited scope by a single company or industry. In such a case, the only options would have been thermal recycling or disposal.

#### ■ Outline of the project

In this project, three companies from different industries formed an alliance to study the possibility of reusing plastic resources in order to build a circular economy system based on the following two points:

#### (1) Technology to produce "useful raw materials" as recycled resources(2) Opportunity to create a "path" for the use of recycled raw materials

Specifically, as a first step, we are planning to recycle waste generated in Fuji Seal's "container packaging" manufacturing processes and use it as part of the raw materials for "housing materials" manufactured by Joto Techno. Next, through these efforts, we will continue to develop technologies to recycle and reuse difficult-to-recycle materials and develop container packaging that would be more suitable for recycling, while at the same time seeking other sources of use, aiming for broader social implementation. Fuji Seal, Joto Techno, and G-Place are also participating in CLOMA (Japan Clean Ocean Material Alliance)", and by further promoting inter-industry collaboration, we aim to build a recycling system that involves various stakeholders and affiliated companies.

\*1 A new platform that helps a wide variety of cross-sectoral stakeholders to collaborate and accelerate innovation in order to solve the issues of marine plastic litter, a newly emerging global challenge.



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#### ■ Ideal resource circulation model

#### Joto Techno Co., LTD

- Production using recycled raw materials
- Development of recycling technology

#### **Joto Vent (Housing Materials)**



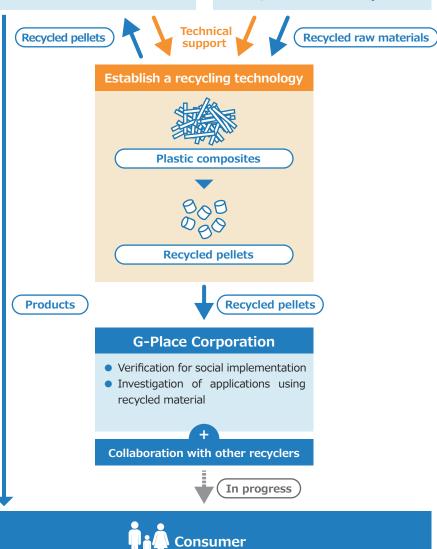
This facilitates underfloor ventilation of wooden houses and keep from termites

#### Fuji Seal International, Inc.

- Development of packaging materials suitable for recycling
- Supply of recycled materials after proper sorting

Waste generated during the manufacturing process







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#### **■** Reference



Regular product



**Prototype** 

This is a prototype of "Joto Vent (Housing Materials)"\*2 produced by Joto Techno using a portion of the waste material generated from Fuji Seal's pouch manufacturing process.

It is still necessary to improve its physical properties for a long-term use on a scale of several decades.

\*2 "Joto Vent (Housing Materials)": The parts are to separate the concrete foundation from the wooden still plate to prevent moisture in the concrete from permeating the wood, ventilates the crawl space to facilitate the drying of the wood and soil without cutting any openings in the concrete foundation or the rim joist framework. This is the first indispensable part of the Joto-Vent System that has been certified by IAPMO for use in US market.



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## **Environmental Consideration** in E-commerce Packaging: Development of pouches using mono-materials

In the e-commerce market, which has been growing rapidly in recent years, the 3Rs (reduce, reuse, recycle) and reduction of greenhouse gas emissions are required. Fuji Seal Group is working with customers and the entire supply chain to find solutions to these issues.

#### Post-consumer recycling demonstration project

Fuji Seal Group is participating in a demonstration project with Kimura Soap Co., Ltd. ("customer") and G-Place Co., Ltd. to sell spouted pouches and pressure sensitive labels ("PSL") in the e-commerce market and to collect them from consumers after use for their recycling purposes. In consideration of recyclability, the customer has adopted a "PSL on Pouch" specification for its 12/JU-NI refill 450ml package, which uses an unprinted pouch using mono-materials and a PSL that can be easily and neatly removed after use. In this project, we will not only study the horizontal recycling of the pouches, but also collect the spouts and PSLs to determine the best recycling destination for each. In addition, the customer has also adopted the postable packages for the delivery of this product.



Fig.1) PSL on Pouch.

Pouches made of mono-materials with pressure sensitive labels that are easy to peel off and do not leave adhesive residue.





Fig.2) Postable Package for e-commerce products.

Before (left) and after opening box (right).

Products and some of their pictures for "12/JU-NI refill 450ml" packages provided by Kimura Soap Co., Ltd.



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## ■ Mono-material pouch

In order to protect the contents and maintain strength with a small amount of plastic, pouches are usually made of composite films, each of which has a specific function. In some cases, composite materials can be cascade recycled (recycling with quality loss), but single materials (mono-materials) can be recycled for higher quality applications. Therefore, in recent years, the demand for mono-material pouches has been increasing globally from the viewpoint of recycling. Fuji Seal Group, along with partners in each region, has been developing and studying olefin-based mono-material pouches by incorporating the elements required in each region, and will make further efforts to develop and expand sales.

### ■ Pressure sensitive label on pouch

When considering material recycling, coloring with printing ink may limit the range of destinations for reuse. Recyclability of pouches can be improved by use of "PSL on Pouch" where an unprinted pouch is decorated with pressure sensitive labels that can be easily peeled off, and do not leave adhesive residue. In addition, it is possible to manufacture products according to the demand of the final products, reduce intermediate inventory, and reduce waste on design change by using the same volume and plain format of pouches with pressure sensitive labels displaying product information according to the contents and country of sale.



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## ■ Postable package

In the field of e-commerce, re-delivery due to absenteeism is becoming a problem. In recent years, there have been cases where products

are delivered to the front door in the absence of consumers, such as in the case of "delivery by mail," but there is still a strong demand for postable packages. Fuji Seal, Inc. has developed a postable package for e-commerce that is designed to meet the needs of such delivery, while saving space when stored and making the pouch easy to hold when in use. The deployment of this new package type should contribute to the reduction of greenhouse gas emission from redelivery, which is estimated to be 418,271 tons of CO2\* per year, and to the reduction of working hour for drivers, which is also another social issue.

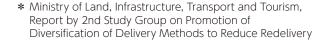




Fig.3) Postable package for e-commerce products.

By cutting off the shoulder of the box, the spout cap is exposed and the content can be poured without removing it from the box.







Fig.4) Benefits of postable package for e-commerce products.

In the future, we will continue to develop and deploy products that are friendly to both the environment and people, not only in the e-commerce market, but also in response to changes and potential demands in various markets.



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Fuji Seal Group

# Environmental Consideration in E-commerce Packaging: Development of pouches using mono-materials

Follow-up on the progress of the same topic in Environmental Report Vol. 13.

### ■ the "Future Residents" project

Fuji Seal Group has been working with Kimura Soap Co., Ltd. and G-Place Corporation on the "Future Residents" project, a validation project of spouted pouch recycling where spouted pouches were collected after use by mail from consumers. This project was named as "Future Residents Project" partly because it is to find what we can do for the earth and residents ("Ju-Nin" in Japanese) in the future, and also because Kimura Soap Industry's hair care brand 12/JU-NI ("Ju-Ni" is twelve in Japanese) was used in the project.

The 450-ml refill of 12/JU-NI Shampoo and Conditioner came in a plain mono-material pouch for recyclability with a pressure-sensitive label on, which can be easily and neatly removed after use of the pouch. The product was sold exclusively online (e-commerce), and the postable packaging was also adopted in order to reduce green-house gas emissions associated with redistribution. Along with the product, consumers received explanatory materials describing the purpose of the project, instructions on how to return the pouch, a return bag, and a return envelope.



Fig.1) PSL on Pouch.

Pouches made of mono-materials with pressure sensitive labels that are easy to peel off and do not leave adhesive residue.





Fig.2) Postable Package for e-commerce products.

Before (left) and after opening box (right).

Products and some of their pictures for "12/JU-NI refill 450ml" packages provided by Kimura Soap Co., Ltd.



## ENVIRONMENTAL REPORT

After use, consumers were asked to wash and dry the pouch with water, place it in the enclosed bag, and return it with the return envelope. The product was sold for a period of approximately one year, and the pouches were collected as planned. As a result of the cooperation of consumers who endorsed the main purpose of this demonstration project and showed a high level of interest in environmental issues such as climate change, we were able to achieve a very high collection rate of 67% as of the end of January 2023.

Currently, we are sorting the collected pouches, converting them into films, spouts, and caps, and identifying problems during recycling. We have proved that we can create a pouch that contains 100% recycled material for the spouts and caps, and more than 30% for the pouch as a whole. Samples of the same size as the product are currently being prepared for comparative evaluation of physical properties. The evaluation is scheduled to be completed in May 2023, and we will update the information as soon as the evaluation results are obtained.



Fig.3) Spouts and caps. 100% recycled material (left) and 100% new material (right)



Fig.4) Pellets from collected pouches.

Through this project, we will establish one form of recycling methods and continue to accelerate our efforts toward a circular economy. We will pursue the realization of horizontal recycling cycles in order to build a recycling-oriented society for our limited and precious resources.



Fig.5) Sample with recycled materials



Fig.6) FSG Initiative for a circular economy



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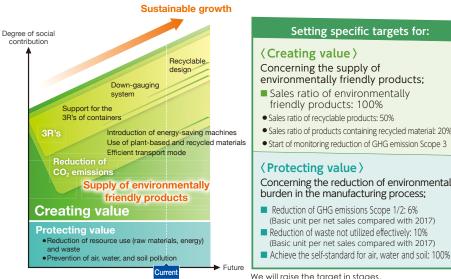
Fuji Seal Group

## Environmental Targets and Efforts for Resource Recycling at Fuji Seal Group

Fuji Seal Group has set new environmental targets since fiscal 2021 in response to the Environmental Vision formulated in fiscal 2020. In this article, we will explain the environmental targets at Fuji Seal Group and also introduce the establishment of a resource recycling system of our products on the market where it would be one of the keys to the development of renewable product design, which is also included as one of our

### Environmental Visions and Targets

Fuji Seal Group considers climate change, ocean plastic issues, and resource depletion to be important environmental issues. In order to solve these environmental issues, as introduced in Integrated Report **2020**, we have formulated an environmental vision that focuses on "Creating Value" actions, such as the development and supply of environmentally friendly products, while building on "Protecting Value" actions that focus on reducing environmental impact in manufacturing. In response to these efforts, we have set environmental targets for fiscal 2025 (the target year for the existing GHG emissions reduction target is 2023) in our medium-term management plan starting in fiscal 2021.



#### Setting specific targets for: (Creating value) Concerning the supply of environmentally friendly products; ■ Sales ratio of environmentally friendly products: 100% • Sales ratio of recyclable products: 50% • Sales ratio of products containing recycled material: 20% • Start of monitoring reduction of GHG emission Scope 3 (Protecting value) Concerning the reduction of environmental burden in the manufacturing process; Reduction of GHG emissions Scope 1/2: 6% (Basic unit per net sales compared with 2017) ■ Reduction of waste not utilized effectively: 10% (Basic unit per net sales compared with 2017)

We will raise the target in stages, aiming for net zero in 2050.



We have set three targets for "Protecting Value": (1) reduce greenhouse gas emissions during manufacturing, (2) reduce landfill waste, and (3) comply voluntary standards for air, water, and soil. The main target for "Creating Value" is to ensure that all products are designed with environmental consideration, and among these, we have set individual KPI targets for recyclable design products and products using recycled materials.

## **Recyclable Design Products**

#### Product itself is recyclable

- ① Products are designed based on third-party guidelines:

  Customers, recycling associations in each country, or suppliers
- 2 Products with established in-house recycling systems

### Products containing recycled materials

#### Product to which external recycled material is added intentionally

- 1) Products containing post-consumer-derived recycled materials
- 2 Products containing post-industrial-derived recycled materials

\*Products only with internal recycled material are not included

In addition to the results of the development and supply of these environmentally friendly products, recyclable design products, and products containing recycled materials, we expect to reduce GHG emissions in the entire supply chain not only by ourselves but also in cooperation with our business partners. Our immediate goal is to establish a system to monitor Scope 3 GHG emissions.

Some of our efforts to achieve these goals are disclosed in **ESG 2021 Data Book** and **Integrated Report 2021**, and we will continue to disclose them on a regular basis.



# ENVIRONMENTAL REPORT Vol. 14

## ■ Establishment of resource recycling system of our products on the market

In addition to products that are recognized as "recyclable" by guide-lines issued by customers, recycling associations in various countries, and business partners, we have also established a standard for products for which we have established our own recycling system. We believe that it is very important to shift the design of the products we supply to be suitable for recycling. Among our own products, for shrink labels, which were developed by Fuji Seal, first in the world, in 1961, we are also making efforts to build a resource recycling system for our products in the market.

The recyclable design of shrink labels is based on either one of two concepts in line with local customs: (1) "label to bottle," in which a label is recycled into a bottle, and (2) "label to label," in which a label is recycled into a label. The RecShrink<sup>TM</sup> shrink label, which can be recycled into bottles, was launched in the Americas in 2018, and we have worked with customers, suppliers, and recycling associations to create rules and regulations that have led to its current market development. The RecShrink<sup>TM</sup> shrink label is also launched in regions other than the Americas where we are working on the development of the recycling system.

#### APR recycling scheme

Used PET bottles + Labels + Caps

RecShrink™ label ink is removed in the conventional process of cleaning bottles.

Grinding process

Caps are separated, and RecShrink™ labels are sorted together with PET bottles.

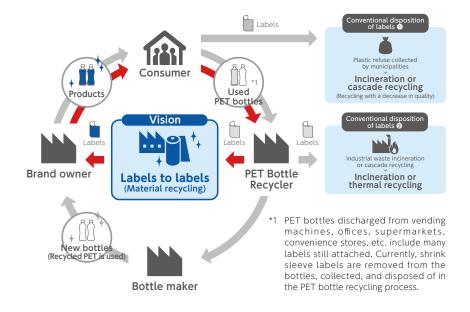
Recycled PET bottles

RecShrink™ labels and PET bottles are recycled together into PET bottles.



## ENVIRONMENTAL REPORT

In Japan, we have started a pilot project with recyclers and suppliers to realize "label to label" horizontal recycling of shrink labels, with the aim of social implementation in fiscal 2022. (Please see "IR News")



#### Label-to-label flow



The project started as a search for a form of label recycling that is possible only in Japan, where PET bottles and labels have been already mechanically separated. To pursue a better form of recycling, including economic efficiency, by experiencing the actual collection of PET bottles, we have also joined the project hosted by Japan Soft Drink Association to reduce foreign matter in PET bottle collection. In order to build an optimal recycling system for labels and caps associated with PET bottles, we will continue to work together with our stakeholders to create a recycling system for shrink labels.



ENVIRONMENTAL REPORT Vol. 15

Our packages contribute to both customers and society's initiatives in environmental sustainability.

environment, such as marine plastic, is intensively spreading. In fact, we have been making attempts in Reduce – Recycle – Reuse activities. We would

ike to introduce some of our ettorts.

Fuji Seal Group

## Evaluation of ESG Initiatives at Fuji Seal Group -EcoVadis Silver Medal Winner-

In order to realize its vision of "Delivering value that is friendly to people and the environment," Fuji Seal Group is strengthening its ESG initiatives, contributing to the realization of a sustainable society, and being a company that creates excitement.



Fuji Seal Group has been awarded a "Silver" rating in the sustainability assessment by EcoVadis (headquartered in France)\*1. The Silver medal is awarded to the top 25% of all companies evaluated, placing us in the top 21% of companies in the plastic manufacturing industry. The evaluation is comprehensive and covers four themes: "Environment," "Labor and Human Rights," "Ethics," and "Sustainable Procurement of Materials.

In addition to EcoVadis, Fuji Seal Group uses the results of various ESG-related corporate assessments as a means to objectively recognize the level of its own efforts in sustainability and to identify issues, and works together with its stakeholders to build the future of Fuji Seal.



## ENVIRONMENTAL REPORT Vol. 15

For example, in the area of ESG as a whole, in addition to <u>promoting various initiatives</u> such as setting KPIs for materiality and launching specific projects, we are making improvements by disclosing various policies, visions, goals, and examples of initiatives (<u>please see our website</u>) and launching <u>supplier surveys</u> to initiate multi-channel dialogues. In the area of the environment, ahead of <u>the TCFD endorsement</u> (<u>declared in July 2021</u>), we have disclosed business risks and opportunities related to climate change, examples of GHG reduction initiatives, and <u>details of other initiatives related to water resources</u>, <u>waste</u>, <u>water</u>, and <u>chemical substances</u>.

\*1 EcoVadis, established in Paris in 2007, is the world's largest provider of corporate sustainability ratings. "It evaluates companies based on a total of 21 criteria in four major topic areas: environment, labor and human rights, ethics, and sustainable procurement. EcoVadis has rated more than 75,000 companies to date and has established a global network of sustainability information.



ENVIRONMENTAL REPORT Vol. 16

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Recently, social awareness about the environment, such as marine plastic, is intensively spreading. In fact, we have been making attempts in Reduce – Recycle – Reuse activities. We would

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Fuji Seal Group

# Fuji Seal Group Receives "Advanced Environmental Initiatives" Rating for DBJ Environmentally Rated Loan

Fuji Seal Group plans to build a new plant in North Carolina, USA, as one of the sites to strengthen production of environmentally friendly products and as a new production site to promote introduction of production facilities friendly to people and the environment. We have decided to use environmentally rated loan program provided by Development Bank of Japan Inc. (DBJ) to finance this project. The DBJ Environmentally Rated Loan Program is the world's first financing menu to incorporate environmental ratings. Using a proprietary screening system, DBJ rates enterprises on the quality of their environmental management. Fuji Seal Group received "Advanced Environmental Initiatives" Rating after the screening process.



DBJ's environmental rating logo

Here are the three areas where the rating shows high marks:

1. The company has a specific environmental policy to solve environmental problems through environmentally friendly products, and promotes environmental management across the group, including overseas, under the supervision of the Group Sustainability Committee and in cooperation with the persons in charge of promotion in each region.

#### (Links to Fuji Seal Group's Initiatives)

- \* Group Basic Environmental Policy 🔀
- \* Group Sustainability Committee 🛂



## ENVIRONMENTAL REPORT Vol. 16

2. In order to create environmentally conscious products such as "label to bottle" and "label to label" recycling, the company is focusing on product development that flexibly reflects regional consumer culture and diverse customer needs, and is making efforts to visualize and promote the environmental advantages of its products.

#### (Links to Fuji Seal Group's Initiatives)

- \* Development of Environmentally Conscious Products in Fuji Seal Group [2]
- \* "Label to Label" and "Label to Bottle" initiatives [2]
- 3. In addition to identifying risks associated with climate change in the short-, medium-, and long-term in line with TCFD recommendations and striving to minimize risks, the company is also working with other companies to address climate change and capture opportunities, such as developing recycling technologies for composite plastic materials.

### (Links to Fuji Seal Group's Initiatives)

- \* Endorsement of TCFD Recommendations [7]
- \* Disclosure on risks and opportunities associated with climate change [2]
- \* Recycling of Pouch and Label Waste into Building Materials [2]
- \* Pouches made of mono-materials [2]

In formulating "Medium-Term Management Plan for FY2021-2023," Fuji Seal Group revised its vision for the first time in 10 years and decided to "deliver values that are friendly to people and the environment". This is something that Fuji Seal has always strived to do throughout its 125-year history, and we have clearly stated our resolve that "there has never been a time like now when we need to think about packaging that is more conscious of people and the environment". We will continue to promote environmental initiatives to realize a sustainable society.





## ENVIRONMENTAL REPORT

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Fuji Seal Group

## CDP2021 Assessment Results and Greenhouse Gas Reduction Initiatives

Fuji Seal Group is committed to addressing climate change, marine plastic issues (biodiversity), and resource depletion as important issues. We contribute to the environment through our products and services, and are working to reduce our impact during manufacturing. In order to objectively assess the status of these efforts and link them to the next level of improvement, we underwent another CDP evaluation for FY2021. The results of the CDP2021 evaluation and our efforts to reduce greenhouse gas emissions are presented below.

#### **■ CDP**

Fuji Seal International, Inc. received a Management Level "B" rating in "Climate Change" and "Water" under CDP2021, continuing from last year. The company also received a Leadership Level "A-" in CDP Supplier Engagement, in which supplier engagement related to climate change is evaluated.

B

### **CDP2021 evaluation results**







#### What is CDP?

CDP is a non-governmental organization (NGO) established in the U.K. in 2000, which operates a global information disclosure system for investors, companies, cities, nations, and regions to manage their environmental impacts. Its disclosure system has received responses from more than 8,000 companies and is known as one of the most influential data sources used by more than 650 investment institutions

influential data sources used by more than 650 investment institutions and 115 major purchasing companies. As shown in the figure on the right, one of eight CDP scores (A-D-) at

right, one of eight CDP scores (A-D-) at four different levels will be provided depending upon activities and positions disclosed in the CDP

Disclosure

Understanding your current situation

C-~C
Awareness
Understanding
what
environmental

Understanding what environmental issues mean to your organization

Management

A-~A
Leadership

Formulating best practice to advance environmental stewardship

[CDP website] https://www.cdp.net/



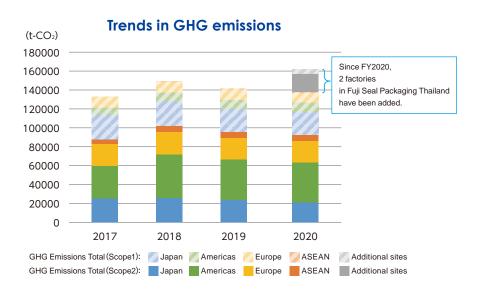
# ENVIRONMENTAL REPORT

In July 2021, Fuji Seal Group expressed its support for the TCFD recommendations. We will continue to reflect this in our management strategy toward the transition to a low-carbon society and disclose information not only in the CDP evaluation, but also on our website to enhance our corporate value.

## ■ Greenhouse Gas (GHG) Emissions Trends and Reduction Efforts

Fuji Seal Group is targeting a 6% reduction in GHG emissions per unit of sales (target year: 2023, base year: FY2017), and we are promoting GHG reduction efforts. From FY2020, the two plants of the newly consolidated subsidiary Fuji Seal Packaging Thailand have been added to the scope of the calculation to check emission trends in our entire group. As a result, in FY2020, both GHG emissions and GHG emissions per unit of sales increased from the base year. In response, the company decided the introduction of renewable energy since FY2022.

The Bardstown plant in US has started procurement of renewable energy equivalent to 10% of its monthly electrical power consumption through National Green-E® Renewable Energy Certificates (RECs) since February 2022. In addition, we have already signed a Power Purchase Agreement (PPA) for the Sinsakhon plant in Thailand where a series of photovoltaic power generation equipment will be installed and generate renewable power shortly. In addition, we plan to reduce energy consumption by improving manufacturing efficiency and we will continue to make every effort to improve the quality of our products and services.





## ENVIRONMENTAL REPORT Vol. 18

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Fuji Seal Group

Initiatives on

## Water-based Printing

Fuji Seal Group recognizes climate change, the issue of marine plastic (Conservation of biodiversity), and resource depletion as important environmental issues to be resolved. In order to deliver value that is friendly to people and the environment, we contribute positively to the environment through our products and services, and we are also working to reduce the environmental burden during our manufacturing.

Generally, shrink labels have been printed using oil-based inks with organic solvents as diluents from the viewpoint of ink functionality, such as graphical expression and resistance against contents. Fuji Seal Group is introducing printing processes with alternative water-based inks in order to reduce the impact on air pollution and climate change. This initiative is expected to significantly reduce emissions of volatile organic compounds (VOCs), one of the causes of suspended particulate matter and photochemical oxidants, as well as reduce CO2 emissions per label\*, resulting in the reduction of Scope 3 of greenhouse gas (GHG) emissions throughout the entire supply chain.

\*Compared to conventional oil-based printing process, CO2 emissions per label are reduced by approximately 30% in a typical multi-color design.

## ■ Example: a product printed by water-based printing

In July 2022, Suntory Beverage & Food Limited adopted shrink sleeves produced by water-based flexographic printing for "Suntory Oolong Tea OTPP (600ml)". Compared to conventional oil-based gravure printing, the

new printing method reduces CO2 emissions by about 55% or total annual emissions of 160.9 tons\*.

\*Estimation based on the calculation conditions by General Incorporated Association Sustainable Management Promotion Organization (SuMPO).

The water-based flexographic printing was adopted after our joint development and repeated verification with Seki Co., Ltd. where the functionality of the ink, including graphical expression, was improved to be at the same level as existing products.

[ product package ]





ENVIRONMENTAL REPORT Vol. 19

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Fuji Seal Group

## Startup of Corporate PPA at Sinsakhon Plant

Fuji Seal Group aims to reduce GHG emissions to address climate change, which is one of our key environmental issues. In order to promote the use of renewable energy, we have started operation of a solar power generation facility since September 2022 based on a Power Purchase Agreement (PPA)\* at our Sinsakhon Plant in Thailand. This is the first time for Fuji Seal Group to introduce a solar photovoltaic power station under the corporate PPA model. The industrial/commercial roof-mounted solar system, with a total area of 4,746 m2, is expected to generate 1.4 GWh of renewable energy and reduce CO2 emissions by approximately 721 tons per year. We will continue to promote the use of renewable energy throughout the Group and implement initiatives to achieve carbon neutrality by 2050. By contributing to the realization of a sustainable society, we aim to continuously enhance our corporate value.

\* PPA is a business model in which a PPA operator installs solar power generation equipment on the consumer's premises free of charge for the consumer, and the consumer purchases the electricity generated by the equipment from the PPA operator.





## ENVIRONMENTAL REPORT

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Fuji Seal Group

## Educational Activities on Resource Recycling through Visiting Classes

Fuji Seal Group celebrates its 125th anniversary. As a leading company in the packaging industry, we will continue to contribute to the realization of a sustainable society by delivering values that are friendly to people and the environment. One of our efforts to realize this goal is to provide classes\*1 in the areas where our companies are located. The main purpose of these activities is to explain the role of packaging and to educate people about the fact that packaging can be a resource if it is handled properly. Through these activities, we hope to contribute to the realization of a sustainable society by sharing with consumers the necessity of packaging and our efforts toward resource recycling, and working together with them.

Specifically, we collect our packages and distribute eco-bags created by utilizing chemical recycling, and we give lessons to our customers for their experience on resource recycling. We plan to continue this on-site classes for schools and communities in each region as company-wide activity.

\*1 Onsite class is offered where our company employees visit schools as lecturers to give classes to the students. By providing our know-how and ideas that the company has been implementing for many years through its main business as a class program, it is possible to give children a sense of "waku-waku" that they could not feel in their day-to-day activities, and to make them aware of things that they have been unconscious of in their daily lives. Through the onsite classes, we can give children a great stimulus by providing them with a sparkling time that will remain on a page of their lives.



Class scenery



Q&A



Learning about resource separation



Explanation of label manufacturing process





## ENVIRONMENTAL REPORT

We are also participating in a project to promote awareness and behavior change within the "Project to Promote Sustainable Use and Value of Plastic Resources" (implemented by Mitsubishi Chemical Corporation), adopted by Hiroshima Prefecture under the "FY2022 Leading Project Supporting Measures against Marine Plastic (Reducing Plastic Use, etc.)" campaign.

Together with organizations and companies that participate in consumer awareness activities\*2, we discussed with students the role of plastics and how to promote high-quality recycling from the viewpoint that plastics can become resources if properly sorted.

<Schools participated in the program>
Hiroshima University, Hiroshima Institute of Technology,
Eikei University, Kuba Elementary School, Otake Elementary School,
Ogata Elementary School

In addition, from November 2022 to January 2023, plastic bottles will be collected at public facilities in Otake City, and from February next year, verification of label sorting and revaluation of plastic resource will be conducted.

\*2 Participating organizations and companies = Hiroshima Prefecture, Otake City, Hiroshima University, Hiroshima Institute of Technology, Eikei University, Japan Soft Drink Association, Mitsubishi Chemical Corporation, Ricoh Company, Ltd., Boolean Corporation, Sekisai Corporation, Kirin Beverage Company, Ltd., Takayama Shokai Corporation.



Class topics



Group work scenery



Class scenery



Experience of fitting Shrink labels



# ENVIRONMENTAL REPORT

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Fuji Seal Group

## Initiatives for Resource Recycling: "Recycle of Pressure-Sensitive Label Liner (Release Paper)

Fuji Seal Germany GmbH has faced a long-term problem concerning disposal of liner, waste derived from its booklet production\*<sup>1</sup>. Over 50 tons per year was sent to a waste incineration site in Germany for disposal. Not only this practice was not environmentally friendly, but the company had to pay the disposal fees over 120 EUR per ton.

Since May 2022, Fuji Seal Germany has initiated the AD Circular program with Avery partnership. We are proud to share the AD Circular certificate that witnesses our terrific achievements below:

- Over 21.87 tons of liner waste was recycled including PET and glassine liners.
- Recycling of the liner waste has improved the carbon footprint at Fuji Seal Germany with a reduction of 39.76 tons of CO2 emissions.

Fuji Seal Group will continue its efforts to reduce CO2 emissions and to recycle limited resources in order to contribute to the realization of the circular society.

\*1 Booklet label: A label with a significantly increased display area by attaching a folded booklet, etc., to a pressure-sensitive label, which can contain information in multiple languages. Since they can be attached in a booklet form, they can be made to look like a book

https://www.fujiseal.com/jp/product/tac/promo-leaflet.html



# ENVIRONMENTAL REPORT Vol. 21



Fig.1) Circular certificate



Fig.2) Collection of liner



Fig.3) Collection of filled boxes in our warehouse



Vol. 22

Fuji Seal Group

## New Targets Established for Reduction of GHG Emissions by 2030

In December 2023, Fuji Seal Group established new GHG emission reduction rate target for FY2030 through a resolution of the Board of Directors, in response to growing momentum toward the realization of a decarbonized society. To further accelerate our efforts, in March 2023, we submitted a commitment letter to SBTi, the accreditation body for SBT, which is a greenhouse gas emission reduction target in accordance with the Paris Agreement\*<sup>1</sup>. We aim to obtain SBT accreditation within two years.

(New Target: FY2030 GHG Emission Reduction)

Scope 1&2\*2: Reduce emissions by 42% (From a FY2022 base year) Scope 3\*3: Reduce emissions by 25% (From a FY2022 base year)

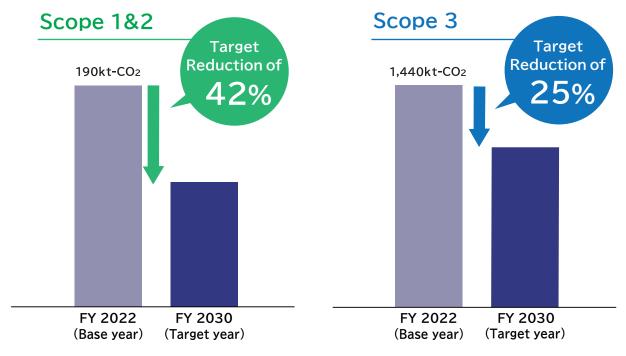


Figure 1: GHG emissions of the base year and the target year

<sup>\*1</sup> The Paris Agreement: The agreement to hold global temperature increase to well below 2°C above pre-industrial levels and pursue efforts to limit it to 1.5°C above pre-industrial levels

<sup>\*2</sup> Scope1&2: Emissions from sources that an organization owns or controls directly. Direct emissions: Emissions from fuel combustion Indirect emissions: Emissions from purchased electricity, steam and boiler

<sup>\*3</sup> Scope3: Indirect emissions other than scope1&2



Fuji Seal Group

New Targets Established for Reduction of GHG Emissions by 2030

## (Initiatives to Achieve New Targets)

The Fuji Seal Group has been promoting energy-saving initiatives and introduced renewable energy sources in order to reduce GHG emissions (see Fig. 2.). In January 2024, our German and Tsukuba factories began introducing renewable energy sources (see Fig. 2.), and the entire Fuji Seal Group will continue to work together to further reduce GHG emissions and achieve our new target. Our new target also includes the reduction of Scope 3 emissions. In addition to reducing our own GHG emissions, we will work with our employees, customers, and business partners to further reduce the GHG emissions of our products and services throughout the value chain.

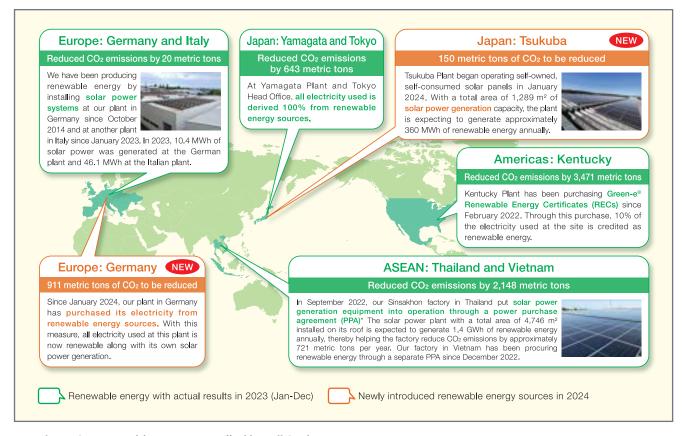


Figure 2: Renewable Energy Installed in Fuji Seal Group

<sup>\*</sup> Use of a PPA is a business model in which a PPA provider installs solar power generation equipment on the premises of a business operator (electricity consumer) free of charge, and the latter purchases the generated electricity. The PPA-based business model benefits the business operator (electricity consumer) by helping avoid bearing the financial burdens of upfront, maintenance, and management costs.



Fuji Seal Group

## Solar panels begin operation at the Tsukuba Plant

The Fuji Seal Group aims to reduce GHG emissions in response to the issue of climate change, which is one of our key challenges. To promote the use of renewable energy, we began operating self-consumption model of solar power panels at our Tsukuba Plant in Ibaraki Prefecture in January 2024. The self-consumption model is a model in which the company purchases, installs, and operates its own solar power generation equipment. While maintenance costs are incurred, the electricity generated in-house can be used freely.

By installing solar power panel with total area of 1,289 m2, is expected to generate 326 MWh of renewable energy and reduce CO<sub>2</sub> emissions by approximately 150 t-CO<sub>2</sub> per year.

The "Internal Carbon Pricing" (hereafter referred to as "ICP") was incorporated into the investment decision-making process for the investment in solar power panels at the Tsukuba Plant. The Fuji Seal Group also sets an internal carbon price for capital investment that affects CO2 emissions, thereby evaluating the effect of CO2 reduction and considering it as an investment effect.

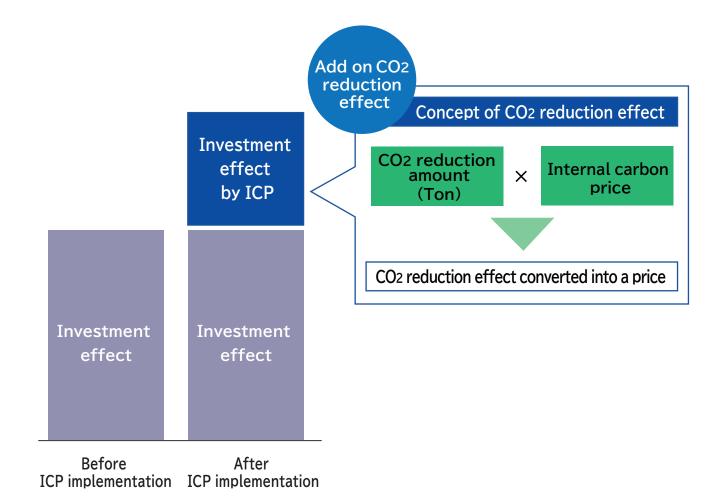






Solar panels begin operation at the Tsukuba Plant

[Philosophy of the investment effect using ICP]



The Fuji Seal Group will continue to promote the use of renewable energy throughout the group and implement initiatives to achieve carbon neutrality by 2050. By contributing to the realization of a sustainable society, we aim to continuously enhance our corporate value.



Fuji Seal Group

## CDP2023 Assessment Results and Greenhouse Gas Reduction Initiatives

Fuji Seal Group is committed to addressing climate change, marine plastic issues (biodiversity), and resource depletion as important issues. We contribute to the environment thorough our products and services and are working to reduce our impact during manufacturing. In order to objectively assess the status of these efforts and link them to the next level of improvement, we underwent another CDP evaluation for FY2023. The results of the CDP 2023 evaluation and our efforts to reduce greenhouse gas emissions are presented below.

### CDP

Fuji Seal International, Inc. received a Management Level "B" rating in "Climate Change" and "Water" under CDP 2023.

## CDP2023 evaluation results





## What is CDP?

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[CDP website]
https://www.cdp.net/

D- to D
Disclosure

Understanding your current situation C- to C Awareness

Understanding what environmental issues mean to your organization B- to B Management

Taking action to control risks and impacts caused by environmental issues Formulating best practice to advance environmental stewardship

Leadership



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Fuji Seal Group

## CDP2023 Assessment Results and Greenhouse Gas Reduction Initiatives

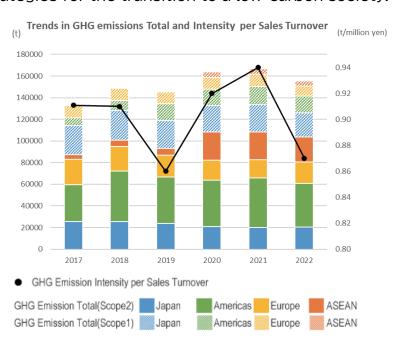
■ Greenhouse Gas (GHG) Emissions Trends and Reduction Efforts

Our materiality is focused on action to create value, which is specified in our Environmental Vision, but we are also devoting efforts to action to protect value. Fighting climate change is an important challenge common to humanity. FSG also positions it as a priority issue to be tackled.

In FY2020, FSG began to use renewable energy in the Americas and the ASEAN, following Europe and Japan. This measure has required us to procure a total of 6,461 MWh of renewable energy (3.5% of our total electricity consumption) in the four regions where we have manufacturing sites, resulting in the first step taken in each region to reduce CO2 emissions while pursuing business expansion. In Japan, The Tsukuba Plant renewed two once-through boilers and reduced CO2 emissions by 164.09 t/CO2 per year. In overseas, the renewal of an oxidizer in France contributed to a reduction of 283.10 t/CO2 per year. In January 2024, the German plant switched all of its purchased electricity to 100% renewable energy origin.

This is expected to result in an annual reduction of approximately 911tCO2. At the same time, the Tsukuba Plant in Japan began operating solar panels of a total area of 1,289 m2, which are self-owned and self-consumed, and are expected to reduce CO2 emissions by approximately 150 tCO2 per year.

Based on the evaluation by CDP, We will continue to reflect the results in our management strategies for the transition to a low-carbon society.







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Fuji Seal Group

## Fuji Seal International's Green House Gas Reduction Targets Validated by the SBT Initiatives

Fuji Seal International's near-term target has been validated by the SBTi\*<sup>1</sup>. The SBTi has classified the company's scope 1 and 2 target ambition as in line with a 1.5°C trajectory.

Scope 1*2&2*3	Reduce absolute scope 1&2 GHG emissions 42% by FY2030. (From FY2022 base year)
Scope 3*4	Reduce absolute scope3 GHG emissions 25% within the same timeframe



DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- \*1 The SBTi is incorporated as a charity, with a subsidiary which will host our target validation services.

  Our partners are CDP, the United Nations Global Compact, the We Mean Business Coalition, the World Resources Institute (WRI), and the World Wide Fund for Nature (WWF).
- \*2 Scope 1: Direct emissions that are owned or controlled by the company
- \*3 Scope 2: Indirect emissions from electricity, steam, heat, or cooling purchased and used by the company
- \*4 Scope3: Indirect emissions from the company's value chain other than Scope1&2

### Trends in GHG Emissions to Date and the Start of New Initiatives

The Fuji Seal Group has been working towards a target for the six-year period from FY 2018 to FY 2023, which is to reduce energy-derived GHG emissions per sales unit at all of its bases in Japan and its overseas production bases. In the final year of the period, FY 2023, we achieved a 14.4% reduction (0.78 t-CO<sub>2</sub>/million yen) compared to FY 2017. This result greatly exceeded the target of a 6% reduction (0.85 t-CO<sub>2</sub>/million yen) compared to FY 2017, and we were able to achieve our target. Please refer to the final page, where we have included a graph showing the trends in GHG emissions and intensity per sales turnover as reference materials.

The actual start of the goals certified by SBTi is in FY 2024. We aim to reduce the total emissions of scope 1 and 2 in FY 2022 (189,778 tCO<sub>2</sub>) to 110,071 tCO<sub>2</sub> by FY 2030. In addition, we are planning to reduce scope 3 emissions from 1,652,102 tCO<sub>2</sub> in FY2022 to 1,239,076 tCO<sub>2</sub>. We will continue to make further reductions by adding new measures to our existing initiatives.



Fuji Seal Group

Fuji Seal International's Green House Gas Reduction Targets Validated by the SBT Initiatives

## ■Fuji Seal Group's Main Initiatives

Provision of Environmentally Friendly Products (Contribution to the reduction of scope3)

### • Shrink Sleeve Label Applicators, Shrink Tunnels

In response to the growing needs for environmentally friendly packaging, we are also strengthening the development of machines that are friendly to both people and the environment. We have a lineup of products that includes a shrink sleeve label applicator (product name: TLS) that is compatible with the thinnest gauge 20-micron labels, and a shrink tunnel (product name: FS-HS) that can significantly reduce energy consumption and water usage compared to conventional models.





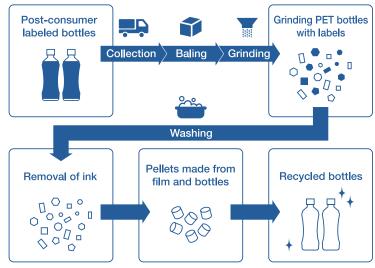
FS-HS

#### RecShrink™

We are aiming for further expansion, particularly in the Americas, by positioning labels as "valuable resources" rather than waste, promoting their reuse. Our developed product, RecShrink™, was certified by the Association of Plastic Recyclers (APR) in 2019 as a recyclable label that can be processed with PET bottles to create recycled PET bottles. As systems for the circular use of plastics gain momentum, we quickly adapted to these

changes and seized new business opportunities. Moving forward, as recycling systems for labels are established, RecShrink™'s unique features are expected to contribute to reducing Scope 3 emissions.







Fuji Seal Group

Fuji Seal International's Green House Gas Reduction Targets Validated by the SBT Initiatives

## Outilization of Renewable Energy (Contribution to the reduction of scope2)

We are promoting the introduction of renewable energy in order to reduce GHG emissions. In FY2023, we procured 9,126 MWH of renewable energy, which is 5% of our electricity usage. In addition, from January 2024, the German factory switched to 100% renewable energy for all of its purchased



Solar Panel at Tsukuba Plant

electricity. As a result, all of the electricity used is now renewable energy. In Japan, the Tsukuba factory in Ibaraki Prefecture also started operating self-consumption model of solar panels in January 2024.

## ♦A Thermal Energy Circulation System (Contribution to the reduction of scope1)

As part of our efforts to reduce emissions of chemical substances, the Tsukuba, Nabari, Yuki(Japan) and Fougerolles(France) factories are using VOC kilns and waste heat boilers in a thermal energy circulation system to prevent VOCs from being released into the atmosphere, while also reducing fuel consumption.



A Thermal Energy Circulation System

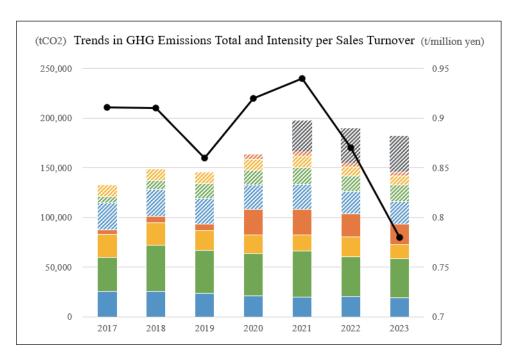
Fuji Seal Group considers climate change, ocean plastic issues, and resource depletion to be important environmental issues. In order to solve these environmental issues, we have formulated an environmental vision that focuses on "Creating Value" actions, such as the development and supply of environmentally friendly products, while building on "Protecting Value" actions that focus on reducing environmental impact in manufacturing. Fuji Seal Group will devote group-wide efforts to further reducing GHG emissions, aiming to achieve the new reduction targets.



Fuji Seal Group

Fuji Seal International's Green House Gas Reduction Targets Validated by the SBT Initiatives

## **■**Reference



GHG Emissions Intensity per Sales Turnover:

GHG Emissions Total (Scope 1):

Japan Americas Europe ASEAN

GHG Emissions Total (Scope 2):

Japan America Europe

ASEAN

Non-energy-related GHG emissions (Scope 1)

The entire company





Fuji Seal Group

## Fuji Seal Packaging (Thailand) Co., Ltd. Received the Eco-Factory Award 2024

On September 23, 2024, Fuji Seal Packaging (Thailand) Co., Ltd. (hereinafter referred to as FSPT), a member of our group in Thailand, received the "Eco-Factory Award 2024" from the Federation of Thai Industries (FTI).

### About FSPT

FSPT is a subsidiary of Fuji Seal Group located in Thailand. The company was originally founded in 1995 formerly named Fuji Ace Co.,Ltd as a joint venture. After the joint venture was dissolved, it became a wholly owned subsidiary of the Fuji Seal Group in 2020. The company's head office is located in Bangkok, with the Bangpoo factory in Samutprakhan province and the Sinsakhon factory in Samutsakhon province. Main business is the manufacture and sale of shrink sleeve labels, spouted pouches as well as the sale of machinery.







Bangpoo Factory



Sinsakhon Factory

Office/Factory	Location	Production Goods
Head Office	Bangkok	Sales of materials and machines
Bangpoo Factory	Samut Prakan Province	Pouches
Sinsakhon Factory	Samut Sakhon Province	Shrink Sleeve Labels



Fuji Seal Group

Fuji Seal Packaging (Thailand) Co., Ltd. Received the Eco-Factory Award 2024

## ■ Main Initiatives at FSPT

## **♦**Bangpoo Factory:

The installation of a chiller water cooling system under a Power Purchase Agreement (PPA) was completed in June 2023. This system is expected to reduce electricity consumption by 2,129,505 kWh annually.



## ♦Sinsakhon Factory:

Signed a corporate Power Purchase Agreement (PPA) to install a solar panel system. In FY2023, it procured 1,459 MWh of renewable energy, accounting for 17% of our total electricity consumption.



## ■ What is Eco Factory Award 2024?

Eco Factory Award is a recognition program that honors factories for their efforts in promoting sustainable and environmentally friendly practices presented by the FTI (The Federation of Thai Industries). The award is presented to a select group of industrial leaders and only 247 factories from over 73,000 facilities across Thailand have met the rigorous standards of the Eco Factory program.



## **■** Evaluation Criteria

Criteria			
1. Raw Material Management	8. Occupational Health and Safety Management		
2. Energy Management	9. Logistic Management		
3. Water and Wastewater Management	10. Green Supply Chain Management		
4. Air Emission Management	11. Green Space Management		
5. GHG Emissions Management	12. Biodiversity Management		
6. Waste Management	13. Income Distribution to the Community		
7. Chemical Substance Management	14. Coexistence with the Surrounding Community		

There are 14 evaluation criteria, and scoring is based on the content of initiatives in each category. As a result of all departments working together, Bangpoo Factory achieved 87% of the total score, while Sinsakhon Factory achieved 91%.



Fuji Seal Group
Fuji Seal Packaging (Thailand) Co., Ltd.
Received the Eco-Factory Award 2024



Mr.Anat Chaninwongsiri Production General Manager of Shrink Sleeve Business (Left) Ms.Jittanan Kaewphaluekchaiyo HSE Department Manager (Right)



Eco Factory Award 2024

The award period extends from September 2,2024, to September 1,2027, marking a three-year commitment to maintaining and advancing our sustainability practices. We are proud to uphold this esteemed recognition, which reflects our dedication to environmental stewardship and sets a benchmark for Fuji Seal's ongoing contributions to a sustainable future.



Fuji Seal Group

Fuji Seal Vietnam Co., Ltd.
Wins Top Prize in "Plastics Circularity
Innovation Challenge 2024"

Fuji Seal Vietnam(hereinafter referred to as FSVN) wins the top prize in the "Plastics Circularity Innovation Challenge 2024" through its collaboration with DIC Vietnam, Duy Tan Plastic Recycling Company and Botol Vietnam.



## ■ Plastics Circularity Innovation Challenge 2024

The "Plastics Circularity Innovation Challenge 2024" program has officially launched to promote nationwide solutions for developing plastic waste recycling technologies. It is jointly organized by the Ministry of Natural Resources and Environment, Unilever Vietnam, the British Chamber of Commerce, and the Vietnam Science and Technology Entrepreneurship Fund (SVF).

With over 1,000 participants and nearly 100 proposals submitted, this program is part of a larger national effort to improve the efficiency of plastic waste management and raise public awareness of the issue.

1



Fuji Seal Group
Fuji Seal Vietnam Co., Ltd.
Wins Top Prize in "Plastics Circularity
Innovation Challenge 2024"

■ A Comprehensive Solution for PET Bottle Recycling System in Vietnam



## ♦ Ink

The DIC Group has developed a washable ink that enables the removal of ink from labels during the recycling process without contaminating the washing solution. This advancement helps reduce both resource consumption and waste.

## **♦ Shrink Sleeve Labels**

Fuji Seal has introduced washable labels "RecShrink™" made from CPET (crystallized PET) shrink films, which can be recycled together with PET bottles, eliminating the need for the traditional label separation process.

## Sorting Technology

The Botol Group has implemented smart sorting technology at the source, ensuring that recyclable materials are properly identified and efficiently processed.

## Recycling Operation

Duytan Plastic Recycling operates one of Vietnam's most advanced recycling facilities, with the capacity to process over 100,000 tons of PET annually, contributing to the country's recycling capabilities.



Fuji Seal Group
Fuji Seal Vietnam Co., Ltd.
Wins Top Prize in "Plastics Circularity
Innovation Challenge 2024"

## ■ Message from the Project Member: Winning the Top Prize



Mr. Phuong Thanh Vu FSVN R&D Manager

This is the first time, Vietnamese government, Unilever, the British Chamber of Commerce, and the Vietnam Science and Technology Entrepreneurship Fund (SVF) organized a big competition to find the solution for recycle plastic in Vietnam. It is very honor for us as FSVN is the leader to create the ideas and co-operate with our partners to build the project, and it is the top prize of PCCI 2024. This result confirmed that the recycle plastic are considering not only by the government, but also for companies and society. We plan to develop and launch our ideas to the market around the second quarter of next year, emphasizing that FSVN is a pioneer in packaging solutions for recycling systems in Vietnam.

The Fuji Seal Group aims to leverage this new initiative in Vietnam as a foundation to enhance the recognition of RecShrink™ and expand its business across the ASEAN region.



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## CDP2024 Results and the Fuji Seal Group's Climate Change Initiatives

The Fuji Seal Group (hereinafter referred to as "The Company") identifies climate change, marine plastic pollution (biodiversity), and resource depletion as critical environmental issues. Through our products and services, we aim to contribute positively to the environment while striving to reduce environmental burdens during manufacturing processes. This report outlines the results of our CDP 2024 evaluation and presents The Company's climate change initiatives.

### ■ CDP 2024



In fiscal year 2024, The Company once again underwent evaluation by CDP. This section highlights the results of the CDP 2024 assessment and details our ongoing efforts to reduce greenhouse gas (GHG) emissions.

The Company received "B" rating for both "Climate Change" and "Water Security".

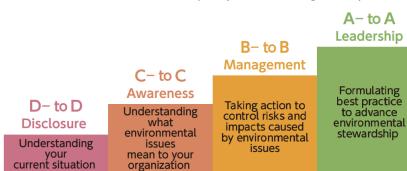






## What is CDP?

CDP is a non-governmental organization (NGO) established in the U.K. in 2000, which operates a global information disclosure system for investors, companies, cities, nations, and regions to manage their environmental impacts. Its disclosure system has received responses from more than 8,000 companies and is known as one of the most influential data sources used by more than 650 investment institutions and 115 major purchasing companies.





[CDP website] https://www.cdp.net/





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CDP2024 Results and the Fuji Seal Group's Climate Change Initiatives

## Climate Change Initiatives Based on TCFD Recommendations

The Company declared its support for the Task Force on Climate-related Financial Disclosures (TCFD) recommendations in July 2021. Since then, we have enhanced our transparency regarding climate-related initiatives, not only through CDP disclosures but also via our official website.

This report provides a summary of our climate change disclosures in a simplified format. For more comprehensive information, please refer to our website and the full CDP report.

Website ESG DATA BOOK2024 Environmental Report CDP2024 Report

## ♦ Governance of Climate-related Issues

The governance structure for climate-related issues involves multiple levels of discussion and decision-making. Matters are first reviewed by the Regional Sustainability Committees and the FSI Sustainability Subcommittee. These are then discussed by the Group Sustainability Committee (Executive Officers' Meeting), followed by deliberation by the Board of Directors, which approves targets and monitors progress.

## ♦ Strategy and Risk Management for Climate-related Issues

## Strategy

To seize business opportunities, The Company actively invests in relevant areas, while also promoting initiatives to reduce GHG emissions in order to mitigate risks.

## Risk Management

The Company has developed its own risk map, which is regularly discussed at Board meetings. Scenario analysis is also employed to understand the external environment surrounding The Company. This includes scenarios such as: 1.5°C and 2°C scenarios (a society with active climate change mitigation), and a 4°C scenario (A society facing advancing climate change).



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### Risk Identification

- ·Increase in expenses due to carbon tax (long-term)
- •Reputation decline due to insufficient non-financial disclosures (medium-term)
- •Disaster and supply disruption due to extreme weather (short-term)

## Opportunity Identification

- ·Addressing the growing demand for low-carbon products by developing and providing integrated system solutions that combine packaging materials and machinery.
- ·Improving resource efficiency by developing and supplying products with high transport efficiency that contribute to lower GHG emissions.
- •Pioneering new markets through recycling-related initiatives aimed at realizing a low-carbon society.

## Company-wide Climate Change Targets



In December 2023, The Company established new absolute reduction targets for fiscal year 2030. Our GHG emissions reduction targets (Scope 1 & 2) have been officially validated by the Science Based Targets initiative (SBTi) as being aligned with the 1.5°C pathway. As a result, these targets have been approved as short-term science-based targets.

Scope 1&2: Reduce absolute scope 1&2 GHG emissions 42% by FY2030. (From FY2022 base year)

Scope3: Reduce absolute scope3 GHG emissions 25% within the same timeframe

## **♦** Progress

<FY2022 GHG Emissions (Base Year)>

Scope1+Scope2:190,000 tCO<sub>2</sub>

Scope3:1,650,000 tCO<sub>2</sub>

<FY2023 GHG Emissions>

Scope1+Scope2:180,000 tCO<sub>2</sub>(4% reduction)

Scope3:1,450,000 tCO<sub>2</sub>(12% reduction)





Fuji Seal Group

CDP2024 Results and the Fuji Seal Group's Climate Change Initiatives

## Participation in Customer Engagement Programs

The Company has joined the "Supplier Leadership on Climate Transition (Supplier LOCT)", a collaborative program between global brands and suppliers aimed at reducing carbon emissions. Supplier LOCT is an online learning platform that provides guidance on the measurement and reporting of GHG emissions, as well as the setting of science-based targets. It serves as a valuable resource for understanding customers' sustainability goals and the methods



to achieve them. Environmental managers at The Company's headquarters and across regional offices have completed the program and are applying the knowledge gained to company-wide and regional initiatives. Upon completion, The Company received the "CDP Disclosure\*" badge as proof of its progress.

\*The "CDP Disclosure" badge indicates that The Company has completed stages 1 through 4 of the following five-stage program: 1. Create(GHG calculation) 2. Set (SBTi target validation) 3.Build(GHG reduction planning) 4.Disclosure (CDP reporting) 5.Implement (Execution)

## Other Environmental Assessments

## ♦ EcoVadis 2024

The Company was awarded a Silver Medal from EcoVadis\*, placing it within the top 15% of evaluated companies. This recognition reflects the quality of The Company's sustainability management system and its efforts to promote transparency throughout the value chain.



As many companies advance their compliance with regulations on non-financial disclosure, FSG will continue to assess the impact of its business on society and ensure appropriate and effective disclosure practices.

\*EcoVadis: Third-party organization based in France, that evaluates and monitors the sustainability of supplier companies. It operates an independent and reliable collaborative platform, conducting comprehensive assessments across four areas: "Environment", "Labor and Human Rights", "Ethics", and "Sustainable Procurement".