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Environment

SEKISUI CHEMICAL Group is working to address environmental issues with a long-term outlook in a bid to realize an earth with maintained biodiversity.

Basic Concept

The planet's air, water, land, and other elements interact with each other to form a healthy foundation for the survival of living things and a rich biodiversity. Moreover, human lifestyle and economic activities develop sustainably through the use of the Earth's valuable natural capital and the social capital generated in the course of wide-ranging activities. SEKISUI CHEMICAL Group is working to help create this kind of planet and society and has positioned the environment as a materiality (key focus area) of its ESG management.

We have also identified long-term targets and initiatives in our Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050. Recognizing climate change, resource recycling, and water-related risks as important issues, we are promoting efforts to reduce GHG emissions and promote the recycling of resources. Not to mention the need to prevent further deterioration of natural capital, including steps to reduce the impact on ecosystems, we are endeavoring to provide returns to natural and social capital through such measures as sales expansion of products to enhance sustainability and are engaging in business activities on a daily basis with the aim of realizing an earth with maintained biodiversity.

As far as our approach toward climate change is concerned, which we recognize as our most important challenge, we reanalyzed the risks and opportunities related to this issue. In response to efforts aimed at accelerating targets as a result of initiatives taken to date, we also revised our strategy based on the roadmap laid to maintain the increase in temperature to less than 1.5°C in fiscal 2022, the final year of our current Medium-term Management Plan. In addition, we acknowledge the critical need to reduce greenhouse gas emissions not only in our corporate activities, but also across the supply chain as a whole in order to contribute to the realization of a truly decarbonized society. With this in mind, we have adopted a strategy that prioritizes resource recycling and are strengthening efforts in collaboration with the supply chain.

Under the Medium-term Management Plan starting from fiscal 2023, we will focus on accelerating the shift to renewable energy for purchased power and reducing fuel-derived GHG emissions in a bid to address the risks associated with climate change. As far as resource recycling is concerned, we will focus on the resource conversion of raw material resins, increasing the material recycling rate for waste plastics. From a water-related risks perspective, we will place particular emphasis on reducing Water intake volume and COD emission volumes while minimizing the impact of our business. Furthermore, we will renew our understanding toward the interrelated nature of such environmental issues as climate change, resource recycling, water-related risks, and biodiversity, and bolster efforts to consider solutions that do not involve trade-offs throughout the product lifecycle as we carry out these endeavors.

Note: Natural capital: A term that refers to physical resources from nature, such as soil, air, water, minerals, flora and fauna, as well as biological capital, human capital, and social capital.

Social capital: A term that refers to the social infrastructure and facilities that form the basis of production activities and living environments, such as roadwork, housing, ports, airports, railroads, water supply and sewerage systems, public parks, educational facilities, social welfare facilities, electricity, gas, and hospitals.

Targets

The long-term goal of SEKISUI CHEMICAL Group's environmental activities is to realize an earth with maintained biodiversity as stated in its Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050. To this end, we believe it is important to simultaneously achieve the long-term goals for environmental issues such as climate change, resource recycling, and water-related risks. In the current Environmental Medium-term Plan, Sekisui Environment Sustainability Plan: Accelerate II (fiscal 2020-2022), we have implemented initiatives to solve environmental issues while recognizing the correlation between each issue. Looking ahead, we will further improve the quality of our efforts to avoid trade-offs with other environmental issues as we work to resolve them. Progress on each environmental issue is managed by setting milestones that are backcast from long-term targets and are based on individual management targets. Regarding overall progress for environmental issues, we will continue to use the integrated Sekisui Environment Sustainability Index to monitor the progress of the Group's overall environmental management.

● Approach to Environmental Issues and Our Long-term Vision: Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050

Through its corporate activities, products, and businesses, SEKISUI CHEMICAL Group contributes to solving various natural and social environmental issues in order to realize an earth with maintained biodiversity. We remain conscious that the business activities we carry out incorporate the earth's natural capital as well as meaningful social capital from society. We are therefore committed to accelerating efforts aimed at returning such capital back to the environment and society while collaborating with stakeholders.

Working toward the realization of an earth with maintained biodiversity entails the same stance required to achieve the SDGs set for 2030. This is because this earth cannot be realized without a society in which many of the issues in natural and social environments have been solved.

The following three activities are emphasized as activities that contribute to solving issues.

- (1) Expand and create markets for products to enhance sustainability*¹
- (2) Reduce environmental impact
- (3) Conserve the natural and social environments*²

*1 For details, see products to enhance sustainability on p. 24.

*2 For details, see Social and SDGs Contribution Activities on p. 273.



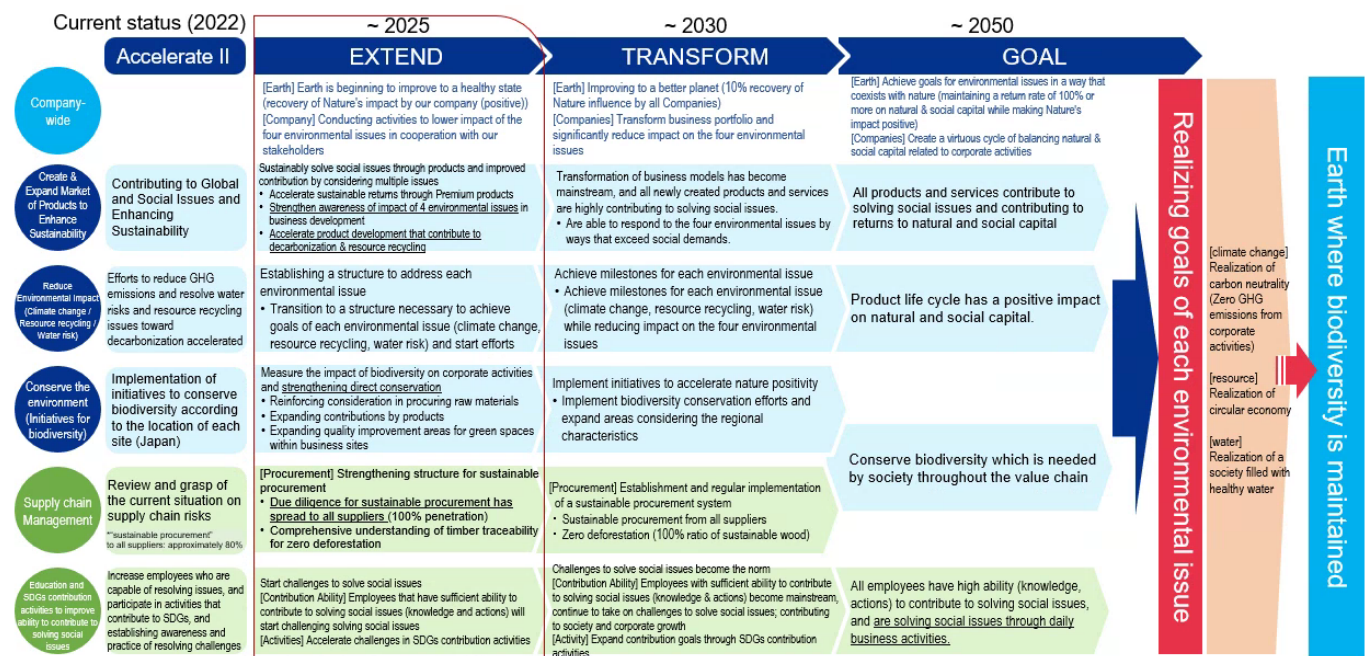
*Stakeholders: "Customers", "Shareholders", "Employees", "Business partners", "Local Communities and the Environment"

In order to revitalize these activities and solve issues more quickly, we believe it is necessary not only for each employee to be aware of various environmental issues and become an organization with a strong ability to help solve problems, but also to work in partnership with all stakeholders to promote these activities.

Backcasting from the Group’s vision for 2050, we have set milestones for medium-term units and formulated an environmental roadmap. In fiscal 2022, we updated our environmental roadmap from the following perspectives, undertaking a review of the status of social demands and environmental issues, as well as corporate risks and opportunities.

- The state to be achieved over the medium term by addressing environmental issues
- Important environmental issues that should be addressed and medium-term milestones

Environmental Roadmap



Setting Long-term Goals for Each Environmental Issue

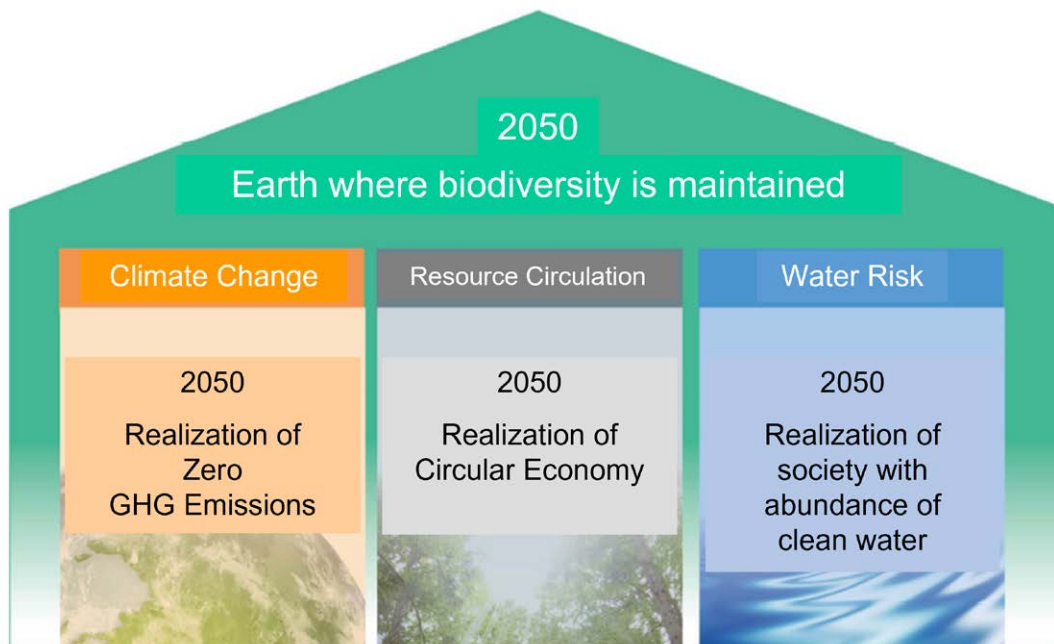
In order to realize an earth with maintained biodiversity targeted under our Long-term Environmental Management Vision, we have identified the following environmental issues of particular importance and the goals we aim to achieve by 2050

- Climate change: Realize zero greenhouse gas emissions that arise from business activities (achieve carbon neutrality)
- Resource recycling: Realize a circular economy
- Water-related risks: Realize societies with abundant access to clean water

By achieving all of these long-term goals for environmental issues, we aim to achieve

- Biodiversity: An Earth with Maintained Biodiversity (= Realize Nature Positive)

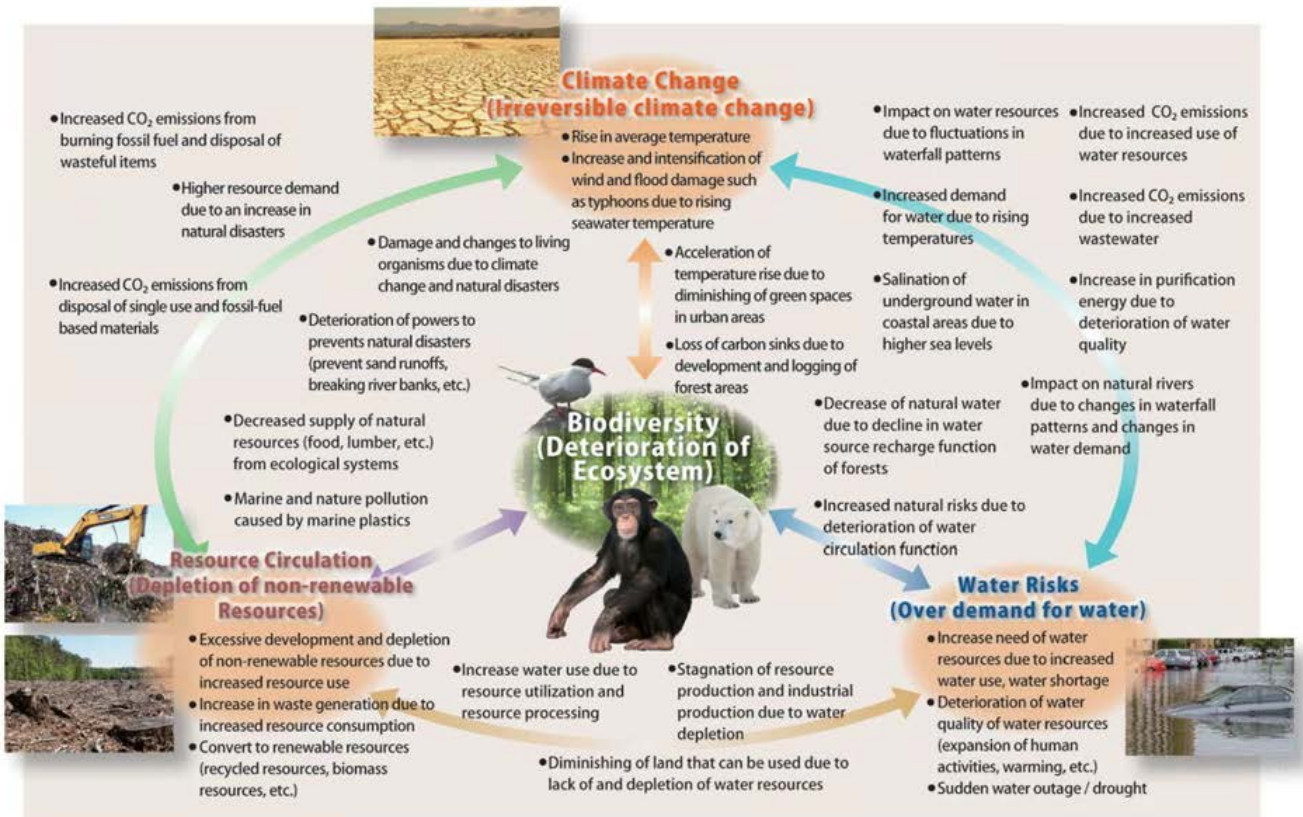
Long-term Goals by Environmental Issue



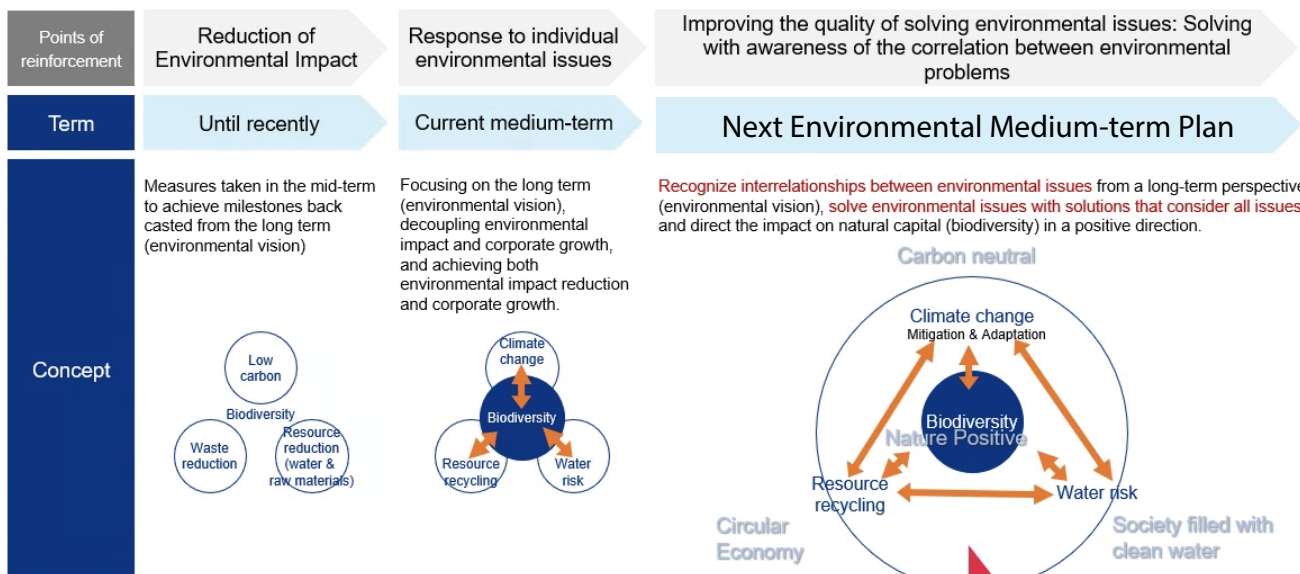
For each environmental issue, we have drawn a roadmap backcasted from the 2050 goal and set individual medium-term milestones.

Environmental issues are interrelated, and selecting and promoting solutions that do not involve trade-offs for any of them will enable the simultaneous realization of long-term goals. To that end, we will focus on increasing the quality of initiatives to solve environmental issues in the next Medium-term Management Plan.

Correlation between Environmental Issues



Trends in Environmental Issue Initiatives Enhancement Points



Convert Risks to Opportunities with GX
(Accelerate innovation, create new businesses, increase corporate values)

● Medium-term Milestones and Action Plan: Environmental Medium-term Plan, Sekisui Environment Sustainability Plan: Accelerate II (fiscal 2020-2022)

We implemented our three-year Environmental Medium-term Plan, SEKISUI Environment Sustainability Plan: Accelerate II, from fiscal 2020. As discussed above, using backcasting to achieve the goals we have set for 2050 in our Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050, we are aiming for milestones established for the Medium-term Plan and implemented initiatives for each important working item.

SEKISUI CHEMICAL Group has identified climate change, water-related risks, and resource recycling as important environmental issues that the Group should address. To accelerate the solution of these issues in an effort to reach our long-term goals, we are setting categories that form the core of ongoing important initiatives from the previous medium-term plan and focusing in particular on three categories: creating and expanding the market for products to enhance sustainability; reducing environmental impact; and environmental conservation.

We have identified the following initiatives to be further specialized in the next Medium-term Management Plan:

- Supply chain management
- Improve employees' ability to contribute to solving social issues

We have set the following targets and have launched initiatives for the key items listed as follows within our Environmental Medium-term Plan, SEKISUI Environment Sustainability Plan: Accelerate II.

Improving the Rate of Return of Natural and Social Capital

Monitoring progress with the integrated index, Sekisui Environment Sustainability Index: Maintaining a rate of return to natural capital of 100% or more

Improve the Sustainability of the Earth and Society with Our Products

Sales of products to enhance sustainability: 800 billion yen

Initiatives Aimed at Addressing Climate Change

[Decarbonization]

Renewable energy ratio of purchased electricity: 20%

Reductions in greenhouse gas emissions: 9% or more (compared with fiscal 2013)

Initiatives Aimed at Addressing Resource Depletion

[Promoting resource recycling]

Recycling rate for waste materials: Grasp current conditions and set a baseline (achieve double or more of the baseline by fiscal 2025)

Initiatives Aimed at Addressing Water-Related Risks

[Preservation of water resources]

Water intake volume at production sites which use large quantities of water: 10% reduction (compared with fiscal 2016)

Total COD volume of river discharge water at production sites with large COD emission volumes: 10% reduction (compared with fiscal 2016)

[Minimizing water-related risks]

Understanding water-related risks specific to watersheds and implementing related initiatives

Improving the Ability of Employees to Contribute to Solving Issues

Promoting SDGs contribution activities

In the medium-term plan, “Sekisui Environment Sustainability Plan: EXTEND,” starting from fiscal 2023, we will pursue the following goals.

Improving the Rate of Return of Natural and Social Capital

Monitoring progress with the integrated index, Sekisui Environment Sustainability Index: Maintaining a rate of return to natural capital of 100% or more

Improve the Sustainability of the Earth and Society with Our Products

Sales of products to enhance sustainability in excess of 1 trillion yen

Initiatives Aimed at Addressing Climate Change

[Decarbonization]

Renewable energy ratio of purchased electricity: 70%

Reductions in greenhouse gas emissions: 33% or more (compared with fiscal 2019)

Initiatives Aimed at Addressing Resource Depletion

[Promoting resource recycling]

Recycling rate for waste plastic materials: 65%

Initiatives Aimed at Addressing Water-Related Risks

[Preservation of water resources]

Water intake volume at production sites which use large quantities of water: 10% reduction (compared with fiscal 2016)

Total COD volume of river discharge water at production sites with large COD emission volumes: 10% reduction (over the three-year period of the Medium-term Plan) (compared with fiscal 2016)

[Minimizing water-related risks]

Implementing measures aimed at minimizing the impact of water-related risks at sites where the impact on business is significant

Improving the Ability of Employees to Contribute to Problem Solving

Promoting Training

Promoting SDGs contribution activities

Summary of Crucial Action Items in the Current Environmental Medium-term Plan

Products to enhance sustainability

Since its launch in 2006, the predecessor of the products to enhance sustainability, the Environment-Contributing Products program, has on the basis of internal standards registered products that have a high degree of contribution to solving environmental issues. We had committed to society to increase the ratio of such products in all of the Company's products and had been promoting the creation of products that solve social issues and the expansion of those product markets. Since the system's inception, we have continued to accelerate our efforts to solve environmental issues through our products, aiming to balance ecology and economy.

In fiscal 2017, we expanded the scope of Environment-Contributing Products to encompass not only the natural environment but also human capital and social capital. SEKISUI CHEMICAL Group aims to improve the lives of the people and the earth's environment. In terms of improving people's lives, we believe it is essential to solve the issues noted in the Sustainable Development Goals (SDGs) adopted by the UN in 2015, including promoting welfare and health, improving the global environment, and securing robust infrastructure by mitigating and adapting to climate change. We reaffirm our commitment toward addressing and resolving issues in these areas. First, we are promoting our efforts by maintaining a focus on solving these issues.

From fiscal 2020, we have renamed our product system to products to enhance sustainability and launched two new operations to grow as a company by continuously solving social issues (including environmental issues) and to improve our Companywide sustainable management and profit generation capabilities.

- Sustainability assessment: To improve the sustainability of both the Company and its products, we have implemented verifications and assessments in regard to governance (internal control), the supply chain, customer satisfaction, and social responsibilities and risks, including environmental considerations within development processes. We identify areas that need to be improved or strengthened and apply this to effectively manage each item. In particular, environmental issues include reducing greenhouse gas emissions from raw material suppliers, sourcing from sustainable forests, and ensuring that environmental issues are considered from raw materials to disposal.
- Premium framework: We have set a strategic framework that strategically position products for growth that contribute further to solving social issues, including environmental issues, and drive profits.

Climate change issues

In terms of issues related to climate change, we have established a long-term goal of zero greenhouse gas emissions by 2050, and to achieve that goal we reached the milestone in the roadmap for reducing greenhouse gas emissions toward the 2°C target ahead of schedule halfway into the Medium-term Management Plan (fiscal 2021). As a result, we have revised the roadmap to a 1.5°C target aimed at accelerating these initiatives.

We have left as is the milestone in which all purchased power in Scope 2 comes from renewable energy by 2030 but we will also focus on reducing greenhouse gas emissions with an eye to fuel conversion, targeting a 50% reduction compared to fiscal 2019.

Under the current Medium-term Management Plan, we set and promoted conversion support measures from fiscal 2020 for our energy procurement innovation phase to actively promote the conversion of electricity used at production plants to renewable energy. We are targeting a 20% conversion of energy procured to renewable energy and are starting to implement conversion support measures. With regard to fuel sources under Scope 1, we are continuously promoting efficiency improvements by renewing aging equipment, converting power source to electricity, and continuous energy saving activities at production sites.

Water-related risk issues

In fiscal 2020, we set the goal to realize societies with abundant access to clean water as our 2050 goal, backcasted milestones in priority areas, and formulated a roadmap for water-related risks reduction. Based on this for issues related to water-related risks, we are focused not only on continuing to reduce the amount of water used on a Group-wide basis and promoting the recycling of water, but also on working to improve quality of water, based on COD indicators discharged into watersheds. In addition, SEKISUI CHEMICAL Group aims to better understand water-related risks specific to a given area and is committed to formulating and implementing measures for high-risk businesses to reduce water-related risks in each of their respective operating regions.

Through these efforts, we will work to improve aquatic environments in watersheds centered on production sites and reduce water-related risks in the supply chain, thereby lowering water-related risks to companies and society.

Resource recycling issues

As far as the recycling of resources is concerned, while focused on reducing the amount of waste generated even as we aim to double our businesses by 2030, we will also promote initiatives emphasizing recycling with the aim of realizing a circular economy and a recycling-based society in 2050. Recognizing that resource recycling efforts in the supply chain are essential to achieving a decarbonized society, in fiscal 2021 we formulated a resource recycling policy, strategy, and roadmap to achieve a circular economy in 2050.

Positioning innovation as central to creating products that contribute to sustainability for resource recycling, we have begun to strengthen our efforts to convert raw materials for existing products and recycle waste generated in the production process into valuable materials.

As technologies that accelerate resource recycling that extends beyond the Company to society at large, we are currently conducting pilot projects relating to Bio-Refinery (BR) technologies that can use microorganisms to produce ethanol from waste and are proceeding toward their business implementation.

We believe that the solution of environmental issues will be accelerated if the entire supply chain works as one. More than ever, we will develop measures and carry out activities with an emphasis on supply chain management throughout the product life cycle.

● Environmental Medium- to Long-term Plan and Fiscal 2022 Results

✓: FY2022 target achieved x: FY2022 target not achieved

Initiatives	Goals	Indicators	Base Year	Medium-to Long-term Targets			Targets and Results for FY2022				Targets				
				Medium-term Management Plan Targets (FY2020~FY2022)	FY2030 Targets	FY2050 Targets	FY2022 Targets	FY2022 Results <input checked="" type="checkbox"/>	Self-evaluation	Reference Page	Domestic (Japan) Production Sites	Research Facilities	Domestic (Japan) Offices	Overseas Production Sites	Overseas Offices
Rate of return to natural and social capital	Achieving an "Earth with Maintained Biodiversity" through corporate activities	Sekisui Environment Sustainability Index Rate of return to natural capital	—	Maintain 100% or more			Maintain 100% or more	127.3%	✓	P.119	✓	✓	✓	✓	✓
Products to enhance sustainability	Improve economic value Maximize value (social and economic)	Sales of products to enhance sustainability (growth rate (compared with 2019))	—	800.0 billion yen	Expand sales of products that solve issues	Drive sustainable corporate growth through products and service which improve environmental and social sustainability.	800.0 billion yen	908.9 billion yen	✓	P.27, 36					
		Number of new registered products	—	6 per year	—		6 per year	18 per year	✓	P.27, 37					
GHG	Decarbonization: Zero GHG emissions	Renewable energy ratio of purchased electricity (including solar power generation for in-house use)	—	20%	100%	Maintain 100%	20%	36.4%	✓	P.135	✓	✓	✓	✓	✓
		GHG emissions	FY2013	-9%	-26%	-100%	-9%	-26.8%	✓	P.135	✓	✓	✓	✓	✓
Reduce energy usage volume	Improve energy efficiency and reduce energy expenses during production	Energy consumption per unit of production	FY2019	-3%	-10%	—	-3%	-1.1%	x	P.135	✓		✓		
Resource circulation	Promotion of resource reuse	Waste generated per unit of production	FY2019	Decrease of waste generated per unit of production: 1% over a 3-year period	—	Achieve a circular economy	Decrease of waste generated per unit of production: 1% over a 3-year period	-1.7%	✓	P.159	✓			✓	
		Copier paper use per unit of production	FY2019	-3%	—		-3%	-39.0%	✓	P.159		✓		✓	
		Amount of waste generated per building at new housing construction sites	FY2019	-6%	—		-6%	-8.9%	✓	P.159					✓
Water-related risks	Maintain water resources	Water intake volume at production sites which use large quantities of water	FY2016	-10%	—	—	-10% (three-year Medium-term Management Plan)	-7.8%	x	P.171	✓				
		Total COD volume of river discharge water at production sites with large COD emission volumes	FY2016	-10%	—	—	-10% (Three-year Medium-term Management Plan)	-14.3%	✓	P.171	✓				
Reduce the impact of chemical substances	Reduce chemical emission and transport volumes	VOC emissions (Japan)	FY2019	-3%	—	—	-3%	-17.1%	✓	P.201	✓				
Ecosystem	Ecosystem impact: Minimize risks of ecosystem deterioration	JBIB Land Use Score Card* points	FY2019	+3 points over a 3-year period	Promote ecosystem consideration* at all business sites *Ecosystem consideration: Increased quantitative evaluation of biodiversity	Maintain ecosystem consideration at all business sites	+3 points over a 3-year period	+4.9 points	✓	P.184	✓	✓			
Education and development	Enhancing the ability to contribute to the resolution of social issues through education Improve employees' ability to contribute to solving social problems (employee education)	Problem-solving capability indicators for personnel	FY2020	Implement education and human resource index checking to develop the skills needed by human resources with excellent problem-solving abilities (ESG human resources). Achieve FY2020 benchmarks and set goal values.	Level up as human resources with excellent problem-solving ability	Take a leading role in society as human resources with excellent problem-solving ability	51 points (Benchmark + 10 points)	39 points	x	P.262~P.272	✓	✓	✓		

● Next Environmental Medium-term Plan "Environment Sustainability Plan EXTEND" Target (Fiscal 2023-2025)

Initiatives	Goals	Level Setting Guidelines	Indicators Red: Public Targets Black: Monitoring Items	Base Year	FY2023 Targets	FY2024 Targets	FY2025 Targets	FY2030 Targets	FY2050 Targets	Targets						
										Domestic (Japan) Production Sites	Research Facilities	Domestic (Japan) Offices	Overseas Production Sites	Overseas Offices	Other	
Progress management through the Integrated Index	Achieving an "Earth with Maintained Biodiversity" through corporate activities	Environmental returns that exceed environmental impact	Sekisui Environmental Sustainability Index Return to natural capital rate	—	Maintain 100% or more	Maintain 100% or more	Maintain 100% or more	Maintain 100% or more	Maintain 100% or more	✓	✓	✓	✓	✓	✓	
Products to enhance sustainability	TOTAL	Balance between economic value and social value	Double the Group's business by 2030	—	960.0 billion yen	—	Over 1 trillion yen	—	—							
	By major environmental issue	Contribution to the promotion of resource reuse (particularly carbon)	Realization of recycling-based society													
			Increased net sales of products that contribute to resource recycling	FY2020 55.3 billion yen	1.6 times (88.5 billion yen)	1.65 times (91.2 billion yen)	1.7 times (94.0 billion yen)	Double or more (110.6 billion yen)	All products							
			Net sales of products derived from non-fossil fuel sources and use recycled materials	FY2019 3.0 billion yen	38.0 billion yen	39.0 billion yen	40.0 billion yen	100.0 billion yen	—							
Reduce environmental impact/Products to enhance sustainability	GHG	Decarbonization Zero GHG emissions	The Paris Agreement 1.5°C target Realization of decarbonized society	GHG emission reduction rate	FY2019	-26%	-30%	-33%	-50%	-100%	✓	✓	✓	✓	✓	
				Renewable energy ratio of purchased electricity	—	50%	60%	70%	100%	Total power consumption including co-generation 100%	✓	✓	✓	✓	✓	
				Fuel-source GHG emission reduction rate (including GHGs not arising from energy consumption)	FY2019	-10%	-10%	-12%	-11%	-100%	✓	✓	✓	✓	✓	
	Reduce energy usage volume	Improve efficiency of energy usage of during manufacturing and reduce energy costs	Cost reductions above cost increases from purchasing renewable energy	Reduction rate of energy consumption per unit of production	FY2022	-1%	-2%	-3%	—	—	✓			✓		
	Resource Recycling	Promotion of resource reuse (particularly carbon)	Realization of recycling-based society Issue of marine plastics	Reduction rate of amount of waste generated per unit of production	FY2022	-1%	-2%	-3%	—	Achieve a circular economy	✓			✓		
				Recycling rate for waste plastic materials	—	Japan; 61% (Overseas; base acquisition)	Japan; 63% (Overseas; base+3%)	Japan; 65% (Overseas; base+5%)	100%	100%	✓	✓		✓		
				Reduce the amount of resources used at office	Reduction rate of copier paper use per unit of production	FY2022	-1%	-2%	-3%	—	Achieve a circular economy			✓		✓
				Reduce Waste Generated by Construction Sites of New Housing	Reduction rate of amount of waste generated per building at new housing construction sites	FY2022	-4%	-8%	-12%	—	Achieve a circular economy					✓
	Water-related risks	Minimizing business impact by water-related risks Contributing to solving watershed-specific water issues*	Sustainable operation is possible Contributing return to natural capital	Implementing measures to minimize the business impact of water-related risks specific to five sites in Japan and overseas	—	Efforts to minimize business impact at individual sites with large business impact			Minimum impact to environment where water-related risks exist	Minimizing water risk in all the areas	✓			✓		
				Does not increase water stress in watersheds	Reduction rate of water intake volume at production sites which use large quantities of water	FY2016	-10% over a 3-year period			—	—	✓				
Do not increase impact on watersheds				Reduction rate of Total COD volume of river discharge water at production sites with large COD emission volumes	FY2016	-10% over a 3-year period				—	✓					
Ecosystem	Ecosystem impact: Minimize risks of ecosystem deterioration	Biodiversity Conservation	JBIB Land Use Score Card® Evaluation Points	FY2022	+3 points over a 3-year period			Promote ecosystem friendliness at all business sites	Promote ecosystem friendliness at all business sites	✓	✓					

■ Fiscal 2022 Results for Crucial Items

Creating and expanding the market for products to enhance sustainability

In fiscal 2022, we newly registered 18 products and services. Examples of products that help solve new resource recycling issues include:

- Exterior wall renovation coating that extends the life of homes
- Low-temperature degradable plastic that allows less use of rare earth minerals that leads to the promotion of EVs that contribute to solving climate change issues
- Anticorrosion tape that renews infrastructure through a dry process and longer lifespans

Solving climate change issues

- Products that reduce greenhouse gas emissions in the process from raw materials:
Sales of “industrial piping” and products that support functional improvements necessary for the evolution of 5G have also increased in response to the growing demand for low-carbon and decarbonization. These, too, contribute to the overall increase in sales of products to enhance sustainability.

<Quantification of the Contribution Effect on Solving Issues through Products>

In fiscal 2022, we identified environmental values from products equivalent to 50% of products to enhance sustainability.

Regarding returns and value of social capital, we are also looking into engaging in economic value conversion that utilizes an impact accounting method.

The Group will leverage the visualized environmental and social values (degree of contribution on solving issues) of products and lines of business, releasing information and enlightening society, and will also step up its activities that allow it to receive feedback about its business.

Reducing Environmental Impact

GHG emissions:

Accelerated reductions through the effects of converting purchased power to renewable energy sources.

Energy savings:

Reduction in energy consumption per unit of production owed to the recovery in production volume.

Amount of waste generated:

Japan:

Continued reduction in the amount of waste by allowing the re-use of scrap generated as part of the production process for high-performance resin products as well as a reduction in per unit of production owing to the recovery in production volume.

Overseas:

Continued reduction in the amount of waste at UIEP Company business sites

Going forward, we will not only reduce the amount of waste generated in the production process, but also work to advance the recycling of waste and products, while simultaneously promoting the use of recycled resources in order to achieve a truly circular economy.

Environmental Conservation

SDGs Contribution Activities*

With regard to social contribution activities, such as environmental conservation and nurturing of the next generation, which have been carried out mainly by business sites or employees, recommendations advocate a change in consciousness toward awareness of SDGs during the undertaking of activities while continuing conventional endeavors.

The objectives of conventional activities becomes clear by considering which social issues to focus on and why to work on solving those social issues, centered on the SDGs, and expect that activities will be reviewed and effects will further improve.

* For details, see Social and SDGs Contribution Activities on p. 273.

● Integrated Index Sekisui Environment Sustainability Index

Rates of return to natural and social capital

Integrated Index Sekisui Environment Sustainability Index

The Sekisui Environment Sustainability Index reflects the impact on the environment of the activities of SEKISUI CHEMICAL Group companies (the use of natural and social capital) and their degree of contribution to the environment (returns to natural and social capital) as a single indicator.

We have gradually expanded our scope of coverage and awareness of the impact and returns not only on natural capital but also social capital.

The major items for implementation in the Environmental Medium-term Plan - reducing various impacts on the environment, expanding products and services that contribute to the natural and social environments, conserving the environment, and so forth - were integrated into this indicator; the Group has been running preliminary calculations (established in fiscal 2013) since fiscal 2014. From fiscal 2017, this index is being used to monitor the overall progress of Group companies' environmental management.

As far as the Environmental Medium-term Plan from 2020 is concerned, the Group is evaluating its impact on and contribution to not only the natural environment but also the social environment while declaring its intention to contribute to the return of natural and social capital for its Sekisui Environment Sustainability Index.

In 2050, even as we expand our business, we will promote ESG management while maintaining a return of 100% or higher for both natural capital as well as social capital.

Calculation Results

The results of calculating the Sekisui Environment Sustainability Index, utilizing results from fiscal 2022, are as follows. Setting the use of natural and social capital (the impact on natural and social environment) at 100, the return of natural and social capital (contributions to natural and social environment) was 127.3% (a 9.6 percentage point increase over the 117.7% achieved in fiscal 2021).

Trends in the return rate are analyzed as follows.

(1) Regarding the use (impact) of natural and social capital

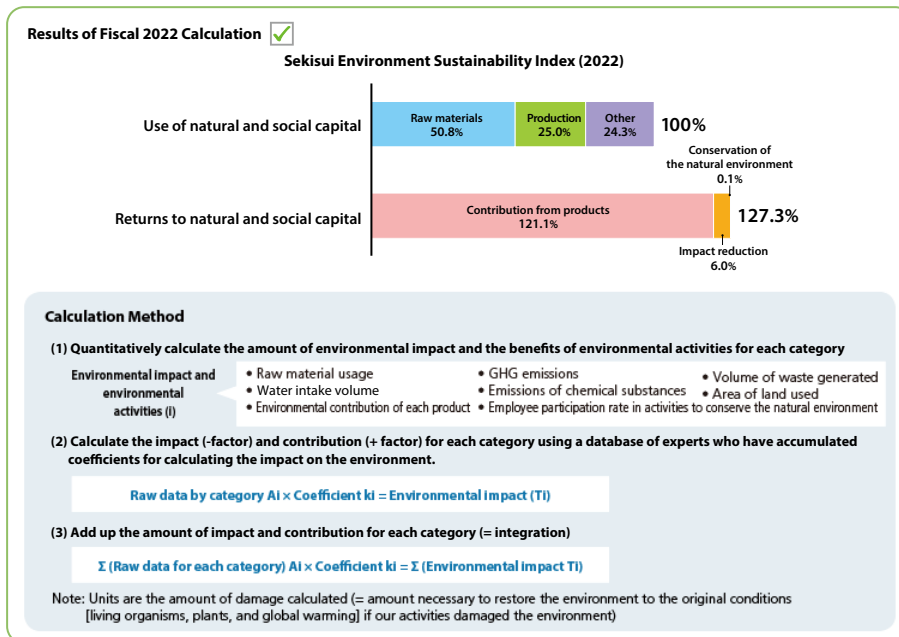
A reduction in the amount of impact is considered to have been made through progress in the conversion of purchased electricity to renewable energy.

(2) Regarding the return (contributions) of natural and social capital

The returns (contributions) due to products to enhance sustainability are steadily increasing. From an environmental conservation activity perspective, while the implementation and content of activities had been limited due to various policies, including efforts to address the further spread of COVID-19 at business sites, the Group' contributions are increasing as conditions gradually become conducive to activities.

Going forward, we will maintain the rate of return to natural and social capital at 100% or higher while growing the company and expanding our businesses. By 2050, we aim to realize the sustainable use of the earth's natural capital and the social capital generated by human society.

In this index, promoting solving issues by means of products will contribute to improving the sustainability of the earth and society. We also believe that bringing about improvements in the returns on natural and social capital will link to improvements in the sustainability of SEKISUI CHEMICAL Group and its products.



After compiling the raw data in (1) above, the damage calculation-based impact assessment method LIME2, developed for use in Japan by Professor Norihiro Itsubo of WASEDA University, was employed for the calculations in stages (2) and (3).

The LCA database IDEA has been updated from ver. 2.3 to ver. 3.1 in the calculation system MiLCA, which uses LIME 2 to calculate the rate of return. We will use the upgraded MiLCA 3.1 from the next medium-term plan.

In MiLCA 3.1, the ascertained data shows that the environmental impact per unit amount is larger, especially in terms of the impact of chemical substances on ecosystems.

Under the Medium-term Management Plan starting from fiscal 2023, we will place even more importance on the impact on biodiversity, and promote activities aimed at shifting from negative to positive aspects. We have determined that our approach is consistent with the direction MiLCA 3.1 upgrades. We will reconfirm the status of current conditions by utilizing the updated calculation system and continue to confirm the progress of activities aimed at addressing environmental issues based on the rate of return from fiscal 2023.

Note: Based on this approach, recalculation yields a rate of return on natural and social capital of 127.3% (using MiLCA ver. 2.1) for fiscal 2022 and a rate of return on natural and social capital of 97.6% (using MiLCA ver. 3.1) for fiscal 2022.

Indicator	Calculation Method
Sekisui Environment Sustainability Index	<p> $\text{Sekisui Environment Sustainability Index} = \frac{\text{Group-wide amount of natural and social capital returned}}{\text{Group-wide amount of natural and social capital used}}$ </p> <p>Calculating the amount of natural and social capital used and the amount of natural and social capital returned</p> <p>Employing LIME 2 (a damage calculation-based impact assessment method developed for use in Japan by Professor Norihiro Itsubo of WASEDA University) and covering all the four criteria for conservation defined by LIME 2, the impacts on each of human health (including the effects of global warming), societal assets (including the effects of global warming), the effects on plants (reducing interference on growth), and the effects on life (restricting the extinction of living species) were evaluated and then made into a single indicator.</p> <p>The amount of return to natural and social capital is calculated assuming that the risk of damage to natural capital has been reduced by various environmental contribution efforts of the entire group compared to the case without such efforts.</p> <ul style="list-style-type: none"> •Items included in the amount of natural and social capital used <ul style="list-style-type: none"> Direct use: Use of land, greenhouse gases, amounts of emissions into the air of PRTR substances and air pollutants, the COD discharged into bodies of water Indirect use: Purchased raw materials*¹, energy use, water intake volume, amount of waste material emitted, amount of GHGs emitted indirectly in supply chains (Scope 3) •Items included in returns to natural and social capital <ul style="list-style-type: none"> Amount of contributions to reducing use of natural capital through products to enhance sustainability, the amount of contribution from environmental conservation activities, environment-related donations, mega-solar (solar farms that produce over 1,000 kilowatts (1 megawatt) of energy each year) power generation output <p>*¹ Until fiscal 2017, the Group gained an understanding of environmental impact, including the volume of greenhouse gasses emitted, by making calculations using MiLCA, the database provided by the Japan Environmental Management Association For Industry. However, from fiscal 2018, the Group is reflecting the actual GHG emissions of its raw material suppliers with regard to four principal resins (PP, PE, PVC and PVA).</p>

Indicator	Calculation Method
Sekisui Environmental Sustainability Index	<p>Scope of Calculation / Listing by category of calculation: Estimated calculations were conducted using the following assumed conditions:</p> <ul style="list-style-type: none"> •Raw materials: Purchased raw materials covered; estimates incorporated into calculations Concerning housing, the calculation includes the constituent raw materials for one structure multiplied by the number of structures manufactured •Manufacturing / Emissions of harmful chemical substances: <Japan> emissions of 1 t per year or more of substances covered under PRTR are included in the calculation. <Overseas> Not included •Manufacturing / Land maintenance: Domestic plants and research facilities were incorporated into the calculation using the area of the premises, generally considered in terms of the land used for buildings*2. The areas of the premises of overseas plants were estimated. The effects of land use are included in the calculation based on the 30-year period after the purchase of the land <p>*2 Concerning land use, starting with fiscal 2017, improvements to land quality in the JBIB Land Use Score Card® system promoted in Japan were deemed as reductions of the impact of land use, weighted accordingly, and included in the calculation.</p> <ul style="list-style-type: none"> •Others: Capital goods in supply chains, other fuel- and energy-related activities, transport and shipping, waste, business trips, commuting by employees, leased assets (downstream), processing/use/disposal of sold products Business trips and commuting by employees: Covers consolidated numbers of employees and includes some estimation Use of sold products: Covers housing sold during the fiscal year, and included in the calculation with assumed energy use for 60 years into the future. Until fiscal 2017, the Group calculated the amount of greenhouse gas reduction achieved through solar power generation as the amount of reduced environmental impact. From fiscal 2018, however, we are also calculating the effect of reduction in energy used in residences built to net zero energy house (ZEH) specifications. Processing of sold products: Energy use by customers while processing our products anticipated to consume large amounts of energy was estimated and included in the calculation Disposal of sold products: Major raw materials for each fiscal year were covered and included in the calculation based on the assumption that they would be made into products and disposed of during that fiscal year

Indicator	Calculation Method
Sekisui Environmental Sustainability Index	<ul style="list-style-type: none"> <p>•Product contributions: (1) The differences in contribution to the environment between the relevant products and previous technologies were evaluated qualitatively for each criterion, based on the contribution to the natural and social environments for each life-cycle (the five stages of procurement of raw materials, manufacturing, distribution, use/maintenance, disposal/recycling) in terms of CO₂ reductions and energy savings, reductions in waste materials, resource savings, water-savings and the water cycle, preventing pollution, direct preservation of biodiversity, QOL improvements, and other factors. For factors for which a significant difference was estimated, data per product unit was investigated.</p> <p>(2) Based on the results*³ of these investigations, a coefficient for calculating the impact on the environment for each series of data was multiplied by the data, yielding a calculation of the degree of contribution to the environment of each product unit.</p> <p>(3) The sales amount for products in each fiscal year were multiplied by the results found in (2) to calculate the degree of contribution to the environment for each product, and the results were included in the calculation. Trial calculation was performed on the effects of products equivalent to around 52% of products to enhance sustainability.</p> <p>*3 Based on individual standards of the divisional companies</p> <p>•Direct contribution / Contribution from activities reducing environmental impacts:</p> <p>The effects on the environment relating to production for each fiscal year were compared to [the effects on the environment relating to manufacturing in fiscal 2016 × (revenue in that fiscal year / revenue in fiscal 2016)], and the difference was included in the calculation. There was a proportional relationship between revenue and the effects on the environment relating to manufacturing, based on the idea that the difference was the result of efforts undertaken in the Group's activities.</p> <p>•Direct contribution / Conservation of the natural environment:</p> <p>The Group keeps track of the number of participants and the amount of time spent on each activity. In the case of planting cedar trees, a fixed coefficient of CO₂ (1.1 t-CO₂ / person-hour) was multiplied by the number of people and the amount of time spent and incorporated into the calculation. Regarding activities in cooperation with local communities which were promoted in Japan, because improving the sustainability of activities through local cooperation and making them conduct the activities on their own (autonomous) were made targets from fiscal 2017, the Group's ability to work toward this target was weighted against the growth axis and included in the calculation</p> <p>•Direct contributions / donations:</p> <p>The amount willing to pay for conservation was deemed equal to the amount of money calculated for damage caused and included in the calculation.</p> <p>•Direct contribution / Mega-solar:</p> <p>Amount of electricity generated included in the calculation as generated energy converted to a CO₂ basis</p>

System

● Environmental Management System

SEKISUI CHEMICAL Group has thus far promoted environmental activities through an environment management system based on ISO 14001 at each of the production sites and research facilities. Although we will shift the long-term target for these activities from 2030 to 2050, the overall direction will remain the same as we deploy our initiatives for solutions to environmental issues.

In order to implement the solutions to environmental issues for which we aim as our long-term goal, we recognize the importance of steadily achieving medium-term milestones and milestones for each fiscal year. By identifying the effect of these efforts on legal compliance and the environment on a regular basis, we strive to reduce our impact on all manner of environmental issues. At the same time, we will investigate actions to take prior to and after disasters and accidents, for example, and periodically conduct training and drills based on the results so that we can mitigate the impacts of such incidents on the environment to the greatest degree possible in the event of an emergency. We also feel we must bring the entire supply chain into our sights as we undertake initiatives, and have therefore reviewed the Group's Sustainable Procurement Guidelines and systems to strengthen supply chain management. By approaching and working with suppliers, we will accelerate the pace of solutions to environmental issues.

Environmental Management Promotion System

The environmental aspects of SEKISUI CHEMICAL Group have been managed and promoted under the Sustainability Committee since fiscal 2020. The Sustainability Committee serves as a forum for discussing policies and strategies intended to improve the sustainability of society and SEKISUI CHEMICAL Group.

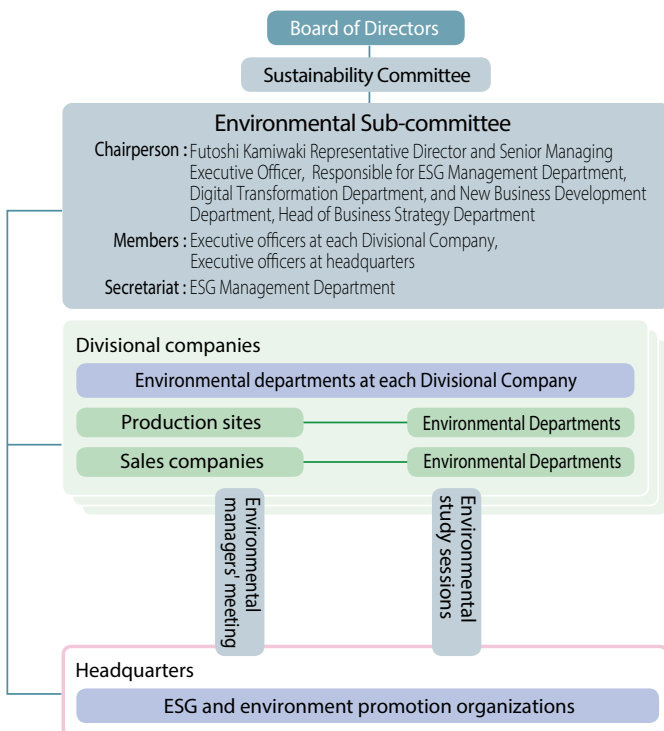
As a series of committees under the Sustainability Committee, we established subcommittees for each issue defined under materiality by the Group, and established the Environmental Subcommittee to address environmental issues.

The main sustainability-related initiatives, including the environment, as well as activity policies and related issues, that have been deliberated by the Sustainability Committee are reported to and approved by the Board of Directors, and advanced under a framework that is reflected within management. In addition, the determination and implementation of a detailed activity plan related to the environment is carried out through meetings of environmental managers for each issue from Corporate Headquarters and each divisional company.

In fiscal 2022, the Environmental Subcommittee met twice, in November and March. At these meetings, the subcommittee confirmed progress for the final fiscal year of the current Environmental Medium-term Plan, and deliberated on the direction for the three-year Environmental Medium-term Plan (fiscal 2023-2025) that will begin during the next fiscal year, and discussed initiatives and promotion measures for reducing greenhouse gas emissions, handling water-related risk problems, reducing the amount of waste products generated, and other issues. In addition, cases requiring urgent expansion of measures are deliberated as needed at management meetings (which meet monthly and are chaired by the head of the Business Strategy Department who is also the person in charge of the ESG Management Department) and reported to the Board of Directors.

Looking for example at the climate change issue, in response to the milestone achieved for fiscal 2021, namely the reduction of greenhouse gas emissions ahead of schedule, we deliberated and made a decision at the management meeting on revising the target from the original 2°C to 1.5°C in July, and on reviewing the roadmap for greenhouse gas emissions reduction. As a result, we were able to revise the target early on, and began investigating measures toward accelerating initiatives.

Environmental Management Promotion System



Environmental Management Across the Supply Chain

When starting or continuing business transactions, we ask our suppliers to establish an environmental management system in conformity with ISO 14001 and to reduce their environmental impact. With regard to the issue of climate change, in particular, we are confirming progress in setting and tackling reduction targets.

In terms of the raw materials used by SEKISUI CHEMICAL Group, we assess the volume consumed along with the environmental impact as an approach to material balance. When it comes to the issue of climate change, we recognize that raw materials account for the largest portion of Scope 3 emissions, and, in particular, are therefore strengthening our approach to raw material suppliers with regard to reducing greenhouse gas emissions.

From a raw material perspective, we are requesting the presentation of greenhouse gas emissions data during raw material manufacture from more than 10 manufacturing companies, while promoting efforts to reduce greenhouse gases under Scope 3 for the future for the four major resins that are purchased in large volumes and have high levels of greenhouse gas emissions. These emissions represent 2.2% of the emission calculated using the IDEA database of GHG emissions derived from the raw materials used.

While the amount of data obtained directly from suppliers is not large, the use of databases makes it possible to grasp the amount of GHG emissions over the entire lifecycle of products, even if only in terms of averages, and to consider countermeasures after determining the emissions to be reduced. Through these efforts, we are also promoting reduction activities across the supply chain.

In addition, we are checking with suppliers and initiating investigations into substitutes in regard to lower carbon materials made from biomass and the potential of supplying recycled materials.

Given that timber is considered to have a significant impact on the issue of biodiversity, we will formulate specific procurement guidelines* for timber, and will work to assess risk through supplier surveys, as well as implement DD in order to reduce risk, in an effort to procure 100% of timber from sustainable forests.

* For details, see Timber Procurement Policy on p. 347.

Group EMS-Aligned Environmental Activities in Offices

SEKISUI CHEMICAL Group encourages environmental activities in its offices that are in line with its Environmental Management System (EMS). At our offices located throughout Japan, we refer to the EMS for guidance on environmental activities, such as turning off lights during lunch breaks and other steps to conserve energy and reducing the use of paper.

Setting Self-management Targets That Are Stricter than Environmental Laws and Regulations

SEKISUI CHEMICAL Group has set its own environmental management targets. This includes reducing emissions into the atmosphere and water environments, which are stricter than legal regulations. Each business site closely follows these internal targets. We aim to prevent environmental accidents before they occur by conducting internal environmental audits to uncover latent environmental risks.

In addition, we are developing comprehensive activities by sharing information on new legal and regulatory trends as well as incidents of other companies within the Group.

In fiscal 2022, there were no reports of violations of environmental laws or regulations including transgressions relating to the disposal of waste, wastewater discharge, and contamination. There were also no reports on incidences of administrative guidance.

Expansion of EMS Overseas

At our overseas business sites, we are also expanding EMS implementation with similar policies to Japan. We are putting in place systems for obtaining environmental impact data and taking initiatives to reduce environmental impact based on this data.

As of March 2023, 48 business sites in Japan and 36 business sites overseas had acquired ISO 14001 or other similar certifications. The proportion of SEKISUI CHEMICAL Group production sites and research institutes that have acquired these certifications is 88%.

The Group aims to obtain ISO certification at all production sites.

Business Sites That Have Received Third-party Certification for Their Environment Management Systems

Housing Company

SEKISUI CHEMICAL Co., Ltd. Tsukuba R&D Site*
Hokkaido Sekisui Heim Industry Co., Ltd.
Tohoku Sekisui Heim Industry Co., Ltd.
Sekisui Heim Industry Co., Ltd. Kanto Site
Sekisui Heim Industry Co., Ltd. Tokyo Site
Sekisui Heim Industry Co., Ltd. Chubu Site
Sekisui Heim Industry Co., Ltd. Kinki Site
Chushikoku Sekisui Heim Industry Co., Ltd.
Kyushu Sekisui Heim Industry Co., Ltd.
Sekisui Board Co., Ltd. Minakuchi Site
Sekisui Board Co., Ltd. Gunma Site

Urban Infrastructure & Environmental Products Company

SEKISUI CHEMICAL Co., Ltd. Shiga-Ritto Plant
SEKISUI CHEMICAL Co., Ltd. Gunma Plant
SEKISUI CHEMICAL Co., Ltd. Kyoto R & D Laboratories
Chiba Sekisui Industry Co., Ltd.
Sekisui Chemical Hokkaido Co., Ltd.
Toto Sekisui Co., Ltd. Ota Plant
Nishinohon Sekisui Industry Co., Ltd. Okayama Plant
Shikoku Sekisui Co., Ltd.
Kyushu Sekisui Industry Co., Ltd.
Nara Sekisui Co., Ltd.
Yamanashi Sekisui Co., Ltd.
Sekisui SoflanWiz Co., Ltd.
[Sekisui SoflanWiz Co., Ltd. Iwaki Plant, Atsugi Plant, Akashi Plant and R&D Division]
Sekisui Home Techno Co., Ltd.
Sekisui Specialty Chemicals (Thailand) Co., Ltd.
S and L Specialty Polymers Co., Ltd.
Sekisui Eslon B.V.
Sekisui Rib Loc Australia Pty. Ltd.
Sekisui Industrial Piping Co., Ltd.
Sekisui (Wuxi) Plastics Technology Co., Ltd.
Tokuyama Sekisui Industry Co., Ltd.

High Performance Plastics Company

SEKISUI CHEMICAL Co., Ltd. Musashi Plant
SEKISUI CHEMICAL Co., Ltd. Shiga-Minakuchi Plant
[Sekisui Fuller Company, Ltd. Shiga Plant]
SEKISUI CHEMICAL Co., Ltd. Taga Plant
SEKISUI CHEMICAL Co., Ltd. Minase Site
Sekisui Techno Molding Co., Ltd. Tochigi Plant
Sekisui Techno Molding Co., Ltd. Mie Plant
Sekisui Techno Molding Co., Ltd. Aichi Plant
Sekisui Fuller Co., Ltd. Hamamatsu Plant
Sekisui Nano Coat Technology Co., Ltd.
Sekisui Polymatech Co., Ltd.
Sekisui Seikei, Ltd. Chiba Plant
Sekisui Seikei, Ltd. Kanto Plant
Sekisui Seikei, Ltd. Hyogo Plant
Sekisui Seikei, Ltd. Hyogo-Takino Plant
Sekisui Seikei, Ltd. Izumo Plant
Sekisui S-Lec B.V. Film Plant
Sekisui S-Lec B.V. Resin Plant
Sekisui-Alveo B.V.
Sekisui Alveo BS G.m.b.H.
Sekisui Specialty Chemicals Europe, S.L.
Sekisui S-Lec America, LLC.
Sekisui Votek, LLC. Coldwater Plant
Sekisui Specialty Chemicals America, LLC. Pasadena Plant
Sekisui Specialty Chemicals America, LLC. Calvert City Plant
Sekisui S-Lec Mexico S.A. de C.V.
Sekisui S-Lec Thailand Co., Ltd.
Thai Sekisui Foam Co., Ltd.
Sekisui Polymatech (Thailand) Co., Ltd.
Sekisui Pilon Pty. Ltd.
Sekisui DLJM Molding Private Ltd. Great Noida Plant,
Tapukara Plant, Chennai Plant, Gujarat
Sekisui Youngbo HPP (Langfang) Co., Ltd.
Sekisui S-LEC (Suzhou) Co., Ltd.
Sekisui Polymatech (Shanghai) Co., Ltd.
Sekisui Polymatech Europe B.V.
Sekisui KYDEX, LLC. Bloomsburg Plant
Sekisui KYDEX, LLC. Holland Plant

Headquarters

SEKISUI CHEMICAL Co., Ltd. R&D Center*
Sekisui LB Tec Co., Ltd. Chubu Plant

Medical Business

Sekisui Medical Co., Ltd. Iwate Plant
Sekisui Medical Co., Ltd. Tsukuba Plant
Sekisui Medical Co., Ltd. Tsukuba Plant and Ami Site
Sekisui Diagnostics (UK) Ltd.
Sekisui Diagnostics, LLC, San Diego
Sekisui Diagnostics P.E.I. Inc.
Sekisui Medical Technology (China) Ltd.

[]: Organizations in brackets are included in the scope of certification. Some sites without brackets may include related sections that have received EMS certification.

* The SEKISUI CHEMICAL Co., Ltd. Tsukuba R&D Site and the R&D Center share a single certification

Indicator	Calculation Method
Number of EMS-certified business sites	Number of business sites that have received external EMS certification External EMS certification: ISO 14001, Eco-Action 21, etc.
The proportion of all production sites and research facilities within SEKISUI CHEMICAL Group that have received external EMS certification	The proportion of all EMS-certified business sites within SEKISUI CHEMICAL Group = The number of all production sites and research facilities that have received external EMS certification / The number of all production sites and research facilities within SEKISUI CHEMICAL Group

● Environmental audits

SEKISUI CHEMICAL Group conducts environmental audits for the purpose of legal compliance and preventing accidents before they occur. Upon performing these audits, we verify laws, ordinances, hazard maps, and other materials in advance, and prioritize environmental risk reductions and accident prevention in accordance with ongoing legal compliance and the business activities of each business site. Along with requiring all business sites to conduct self-audits and report the results of such, headquarters performs audits of production sites and research facilities once every three years. In fiscal 2022, we audited 18 business sites in Japan and 12 business sites overseas. We did not discover any violations coinciding with fines or penalties.

● Enhancing the Ability to Contribute to Solving Social Issues through Education

In order to realize our environmental problem-related goals, we are investigating their solutions and developing human resources that can promote and execute measures. For this purpose, we are placing a particular emphasis on environmental education as part of education intended to enhance the ability to contribute to solving social issues. We provide education and training in an effort to encourage employees to take the initiative in understanding and solving social issues, while putting into practice their own thoughts, depending on their responsibilities and working environment.

Note: For details, see p. 262~p. 272.

● Scope of Tabulation for Environmental Performance Data

Note: Regarding the scope of aggregation for environmental performance data, all SEKISUI CHEMICAL (consolidated) business sites (100% of production sales amounts) are subject to environmental reporting.

Japan

Housing Company

R&D institute **One company and one business site**

SEKISUI CHEMICAL Co., Ltd. Tsukuba R&D Site

Production plants **Six companies and 10 business sites**

Hokkaido Sekisui Heim Industry Co., Ltd. / Tohoku Sekisui Heim Industry Co., Ltd. / Sekisui Heim Industry Co., Ltd. / Chushikoku Sekisui Heim Industry Co., Ltd. / Kyusyu Sekisui Heim Industry Co., Ltd. / Sekisui Board Co., Ltd., etc.

Sales and construction companies **49 companies and 328 business sites**

Sekisui Heim sales companies
Construction and service companies

56 companies and 339 business sites in total

Urban Infrastructure & Environmental Products Company

R&D institutes **Two companies and two business sites**

Sekisui Chemical Co., Ltd. Kyoto Research & Development Laboratories
Sekisui SoflanWiz Co., Ltd. R&D Division

Production plants **12 companies and 16 business sites**

SEKISUI CHEMICAL Co., Ltd. Shiga-Ritto Plant and Gunma Plant / Higashinohon Sekisui Industry Co., Ltd. / Nishinohon Sekisui Industry Co., Ltd. / Chiba Sekisui Industry Co., Ltd. / Sekisui Chemical Hokkaido Co., Ltd. / Toto Sekisui Co., Ltd. / Shikoku Sekisui Co., Ltd. / Nara Sekisui Co., Ltd. / Yamanashi Sekisui Co., Ltd. / Tokuyama Sekisui Industry Co., Ltd. / Sekisui SoflanWiz Co., Ltd., etc.

Sales **14 companies and 99 business sites**

Sekisui Chemical Co., Ltd. Tohoku Sales Headquarters, Higashinohon Sales Headquarters, Chubu Sales Headquarters, Nishinohon Sales Headquarters, Kyushu Sales Headquarters, etc.

23 companies and 117 business sites in total

Medical Business

R&D institutes **One company and one business site**

Sekisui Medical Co., Ltd. Drug Development Solutions Center

Production plants and Headquarters **One company and three business sites**

Sekisui Medical Co., Ltd. Iwate Plant, Tsukuba Plant and Ami Site

Sales **One company and eight business sites**

Sekisui Medical Co., Ltd. Higashinohon sales office etc.

Five companies and 16 business sites in total

High Performance Plastics Company

R&D institutes **One company and one business sites**

SEKISUI CHEMICAL Co., Ltd. Minase Site

Production plants **Six companies and 15 business sites in total**

Sekisui Chemical Co., Ltd. Musashi Plant, Shiga-Minakuchi Plant and Taga Plant / Sekisui Techno Molding Co., Ltd. / Sekisui Nano Coat Technology Co., Ltd. / Sekisui Fuller Company, Ltd. / Sekisui Polymatch Co., Ltd. / Sekisui Seikei, Ltd. etc.

Sales **Six companies and 18 business sites**

Sekisui Material Solutions Co., Ltd. etc.

Eight companies and 34 business sites in total

Headquarters

R&D institutes **One company and one business site**

SEKISUI CHEMICAL Co., Ltd. Advanced Technology R&D Center

Production plants **Two companies and two business sites**

Sekisui LB Tec Co., Ltd. Chubu Plant
Research Laboratory of Plastics Technology Co., Ltd.

Sales **Three companies and seven business sites**

SEKISUI CHEMICAL Co., Ltd. Osaka Headquarters and Tokyo Headquarters etc.

Three companies and 10 business sites in total

Note: The total number of companies and business sites do not match, since some companies have two or more business sites, and some business sites are shared by two or more companies.

Overseas

Housing Company

Production plants

Sekisui-SCG Industry Co., Ltd.

One business site in total

Sales and construction companies

Sekisui (Dalian) Housing Technology Co., Ltd.

One business site in total

High Performance Plastics Company

Production plants

Sekisui S-Lec America, LLC.
 Sekisui S-Lec Mexico S.A. de C.V.
 Sekisui S-Lec B.V. Film Plant
 Sekisui S-Lec B.V. Resin Plant
 Sekisui S-Lec (Thailand) Co., Ltd.
 Sekisui S-LEC (Suzhou) Co., Ltd.
 Sekisui Specialty Chemicals America, LLC. Pasadena Plant
 Sekisui Specialty Chemicals America, LLC. Calvert City Plant
 Sekisui Specialty Chemicals Europe S.L.
 Sekisui Voltek, LLC, Coldwater Plant
 Sekisui-Alveo B.V.
 Sekisui Alveo BS G.m.b.H.
 Sekisui Pilon Pty. Ltd.
 Youngbo Chemical Co., Ltd.
 Youngbo HPP (Langfang) Co., Ltd.
 Sekisui Youngbo HPP (Wuxi) Co., Ltd.
 Sekisui DLJM Molding Private Ltd. Greater Noida Plant
 Sekisui DLJM Molding Private Ltd. Tapukara Plant
 Sekisui DLJM Molding Private Ltd. Chennai Plant
 Sekisui DLJM Molding Private Ltd. Chennai Factory 2
 Sekisui DLJM Molding Private Ltd. Gujarat
 Sekisui Polymatech (Thailand) Co., Ltd.
 PT. Sekisui Polymatech Indonesia
 Sekisui Polymatech (Shanghai) Co., Ltd.
 SEKISUI AEROSPACE CORPORATION, Renton
 SEKISUI AEROSPACE CORPORATION, Sumner
 SEKISUI AEROSPACE CORPORATION, ORANGE CITY
 Sekisui KYDEX, LLC. Bloomsburg-North Campus
 Sekisui KYDEX, LLC. Bloomsburg-South Campus
 Sekisui KYDEX, LLC. Holland Plant
 Thai Sekisui Foam
 Polymatech EU

32 business sites in total

Sales

Sekisui Products, LLC. etc.

45 business sites in total

Urban Infrastructure & Environmental Products Company

Production plants

Sekisui Eslon B.V.
 Sekisui Industrial Piping Co., Ltd.
 Sekisui Rib Loc Australia Pty. Ltd.
 Sekisui (Wuxi) Plastics Technology Co., Ltd.
 Sekisui (Shanghai) Environmental Technology Co., Ltd.
 Sekisui Specialty Chemicals (Thailand) Co., Ltd.
 S and L Specialty Polymers Co., Ltd.

Seven business sites in total

Sales

Sekisui SPR Americas, LLC. etc.

10 business sites in total

Headquarters

Regional headquarters

Sekisui Europe B.V.
 Sekisui America Corporation
 Sekisui Southeast Asia Co, Ltd
 Sekisui Chemical(China) Co., Ltd. etc.

Seven business sites in total

Medical Business

Production plants

Sekisui Diagnostics, LLC. San Diego
 Sekisui Diagnostics (UK) Ltd.
 Sekisui Diagnostics P.E.I. Inc.
 Sekisui Medical Technology (China) Ltd.
 Sekisui Medical Technology (Suzhou) Ltd.
 Veredus Laboratories Pty. Ltd.

Six business sites in total

Sales

Sekisui Diagnostics, LLC. etc.

26 business sites in total

Major Initiatives

SEKISUI CHEMICAL Group has identified climate change, water-related risks, and resources recycling as important issues under its Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050. The Group is working to realize an earth with maintained biodiversity by solving each of these issues.

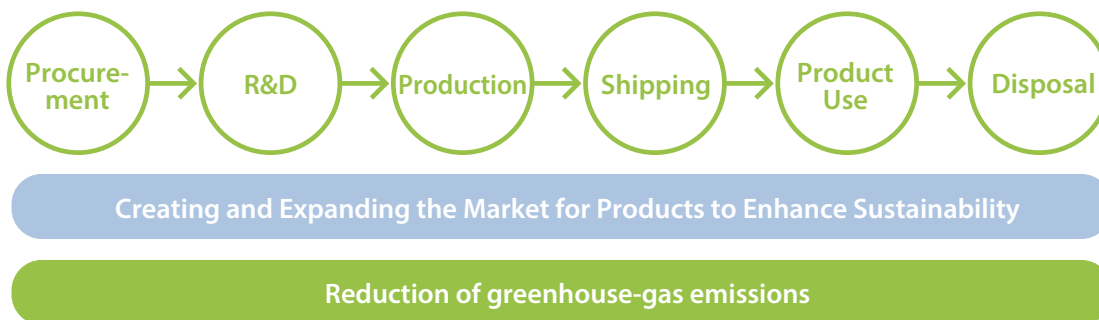
•For details of the Long-term Environmental Management Vision, our approach to various issues, and environmental targets see p. 104.

● Climate Change

Basic Concept

Reducing Emissions throughout the Supply Chain

SEKISUI CHEMICAL Group has formulated a medium-term greenhouse gas emission reduction plan in line with targets established at COP21 (the 21st Conference of the United Nations Framework Convention on Climate Change). We are identifying and disclosing the effects in terms of risks and opportunities that climate change will have on business continuity in line with science-based scenarios aimed at the achievement of the ambitious goals of the Paris Agreement, which are based on Science Based Targets (SBT). Moreover, we reflect these factors into our business plans and emission reduction targets. Concerning emissions, SEKISUI CHEMICAL is engaged in reducing greenhouse gas emissions at every stage, from the procurement of raw materials to development, manufacturing, transport, and use. We monitor these emissions throughout the entire supply chain. This does not only include our own business sites, but also raw material suppliers as well as the use of our products after being sold. Steps are then taken to publicly disclose the findings.



Addressing Climate Change

SEKISUI CHEMICAL Group believes that it is important to earnestly confront all climate change risks and make every effort to keep the temperature rise to less than 1.5°C. Under the SEKISUI Environment Sustainability Vision 2050 that was formulated in 2019, we are trying to contribute to solving environmental issues by reducing the environmental impact of our business activities. We have set a target of zero GHG emissions from our business activities by 2050. Moreover, we are advancing the introduction of solar power equipment to generate electricity for use at our own business sites in which equipment was installed, increasing our utilization ratio for renewable energy from externally purchased electricity and target a value of 100% by 2030. Consequently, we focused on initiatives to achieve a 26% reduction in GHG emissions by 2030. As a result, we expect to reach this target earlier than planned and therefore have begun considering raising the 2030 reduction target. SBT certification was updated to a target of 1.5°C, raising it to a 50% reduction from the 2019 level by 2030. To accelerate GHG reductions toward this 1.5°C target, we will start fuel conversion and production innovation to promote the reduction of fuel-derived GHG (Scope 1), which is highly difficult.

Risks and Opportunities Posed by Climate Change to Our Businesses

We also strive to understand the risks and opportunities that climate change presents to the operations of SEKISUI CHEMICAL Group, in terms of their magnitude, scope of impact, and other matters through scenario analysis conducted based on the TCFD Guide.

SEKISUI CHEMICAL Group examines measures to mitigate identified risks and considers the creation of new businesses by developing products and services for identified opportunities. Significant risks along with possible countermeasures and strategies are reported to the Board of Directors through the Sustainability Committee, and important strategies are decided at Board of Directors meetings.

Through this kind of management, we believe it is possible to remain a company that meets the demands of society through sustainable business development.

Addressing the Rising Costs Associated with Climate Change Strategies

As an initiative to reduce environmental impact, SEKISUI CHEMICAL Group is working to promote visualization of energy use while reducing the amount by transforming and improving production processes, and continuously upgrading equipment for the purpose of greatly increasing energy efficiency in production processes.

SEKISUI CHEMICAL Group has been switching globally to purchased power generated from renewable energy sources since fiscal 2020. We are working to reduce electricity costs from a long-term perspective by using generated power in-house as we invest capital to install solar power generation equipment.

Product Development and Strategies Aimed at Solving Environmental Issues and Meeting the Changing Needs of the Market

SEKISUI CHEMICAL Group manages risks that arise from changing market needs due to climate change and other global social issues by continuing to develop products that make a significant contribution to solving issues in the natural and social environment, and disclosing and distributing detailed data on outcomes. At the same time, we believe that this will help in seizing the opportunity of increased demand.

In particular, we believe it is possible to magnify the impact we create by quantifying as much as possible the size of the contribution Group products make to solving social issues, which leads to opportunities to create markets in ways that help solve global issues and heighten the awareness of consumers.

From fiscal 2020, we intend to strengthen our partnerships with stakeholders and engage in activities to increase our contribution to solving issues through co-innovation (fusion) and accelerate solutions through early dissemination. With this in mind, we established the MINASE INNOVATION CENTER (MIC) as an organization to promote open innovation with our stakeholders.

MIC has started to accelerate efforts to solve social issues by actively engaging in technological exchanges with start-up companies that possess low-carbon technologies, and materials and technologies that contribute to resource conversion.

Addressing the Deterioration in Operating and Working Conditions

If climate change becomes a grave problem and the highest and lowest temperatures become increasingly extreme, it is possible that people in manufacturing and construction will no longer be able to work. SEKISUI CHEMICAL Group believes that it is possible to minimize the effects of climate change by proposing construction and engineering plans that take into account the seasonality of each region.

Each divisional company and Group subsidiary has formulated its own BCP based on its unique situation as a means of avoiding as much as possible the risk of loss in operations and work availability due to natural disasters.

Targets

1. GHG

Aim: Decarbonization / zero GHG emissions

Indicator 1. Renewable energy ratio of purchased electricity (including solar power generation for in-house use)

Current Medium-term Management Plan (2020-2022) Target 20% Fiscal 2022 Result 36.4%
 Next Medium-term Management Plan (2023-2025) Target 70%
 FY2030 Target 100%
 FY2050 Target 100% of all electricity used, including from co-generation systems

Indicator 2. GHG emissions

Current Medium-term Management Plan (2020-2022) Target -9% Fiscal 2022 Result -26.8 % (compared with fiscal 2013)
 Next Medium-term Management Plan (2023-2025) Target -33% (compared with fiscal 2019)
 FY2030 Target -50% (compared with fiscal 2019)
 FY2050 Target -100%

2. Reduce Energy usage volume

Aim: Improve energy efficiency and reduce energy consumption during production

Indicator: Energy consumption per unit of production

Current Medium-term Management Plan (2020-2022) Targets -3% Fiscal 2022 Result -1.1% (compared with fiscal 2019)
 Next Medium-term Management Plan (2023-2025) Target -3% (compared with fiscal 2022)
 FY2030 Target —
 FY2050 Target —

System

See the Environmental Management Promotion System diagram*.

* For details, see Environmental Management Promotion System on p. 126.

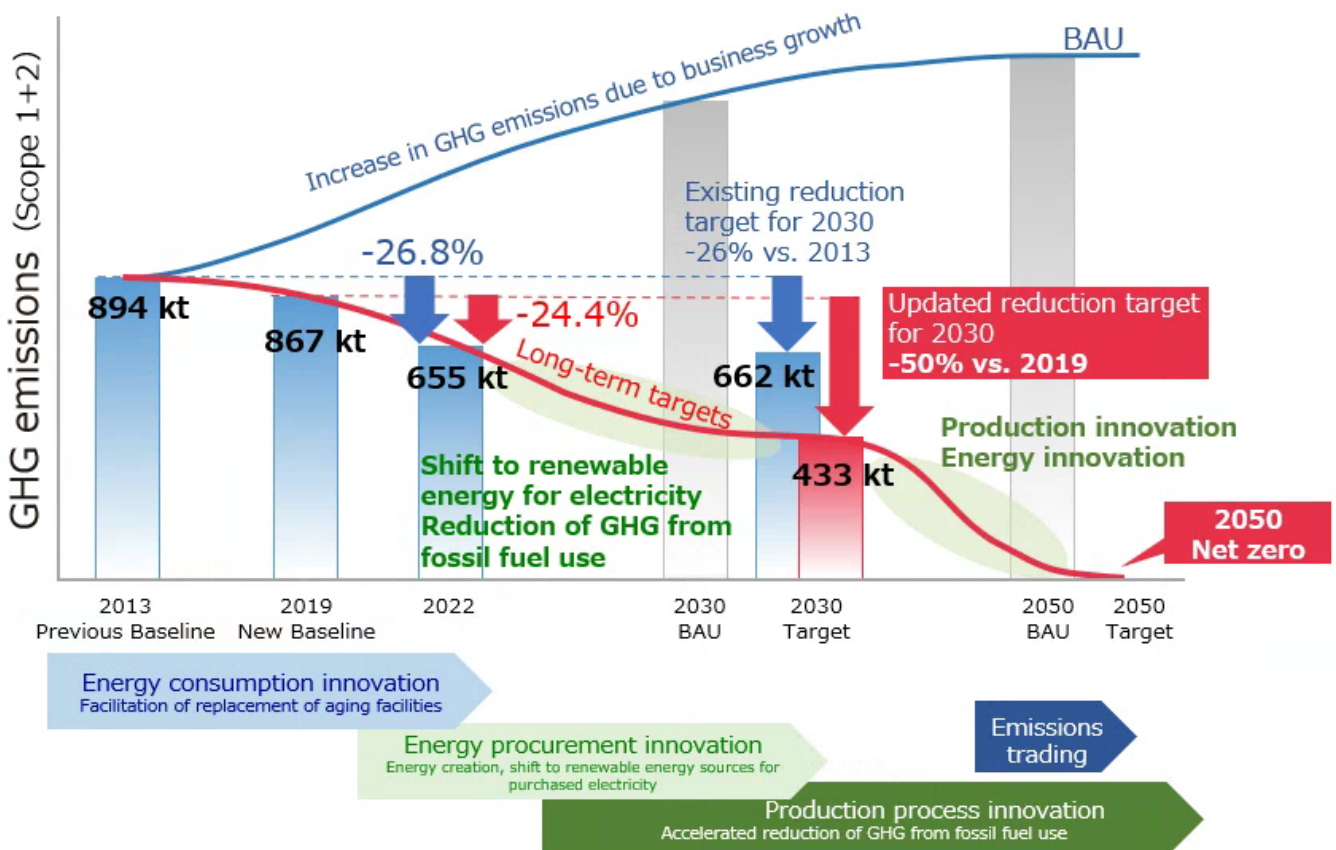
Major Initiatives

Acquisition of Certification under the SBT* Initiative for Greenhouse Gas Reduction Target for 1.5°C

SEKISUI CHEMICAL was the first company in the chemical sector to acquire SBT certification in 2018 and target a reduction in greenhouse gas emissions by 26%, relative to fiscal 2013, by 2030. Accordingly, we have promoted energy consumption innovation such as upgrading aging facilities and energy procurement innovation that includes converting to renewable energy from externally purchased electricity and installing solar power generation facilities for on-site consumption.

As a result, in fiscal 2022, the ratio of renewable energy to the Group's total purchased electricity reached 36.4%, which is 1.8 times the ratio of the original plan, and the GHG emissions reduction rate reached 26.8% compared with fiscal 2013.

Climate change countermeasures are becoming an even more pressing social issue. Against this backdrop, we decided to increase our GHG emissions reduction rate for 2030 by pursuing ahead of schedule the technologically difficult task of reducing fuel-derived GHG emissions by switching to electricity at facilities that consume fuel, converting to low-carbon fuels, and pursuing production process innovation. Consequently, we fully renewed our SBT certification to the 1.5°C target in March 2023.



	Previous Targets	Updated Targets	Means of Achieving Updated Targets
Scope1+2	Base year: 2013 Target year: 2030 Reduction rate: 26% (2.0°C target)	Base year: 2019 Target year: 2030 (unchanged) Reduction rate: 50% (1.5°C target)	Adopt renewable energy for conventional purchased electricity, and also pursue in advance the shift to low-carbon fuels, electrification, and production innovation to reduce fuel-derived GHGs
Scope3	Base year: 2016 Target year: 2030 Reduction rate: 27%	Base year: 2019 Target year: 2030 (unchanged) Reduction rate: 30%	Add resource recycling measures (conversion to non-fossil raw materials, increased use of recycled materials, and recycling of waste) to promote reductions in categories 1, 5, and 12

<Progress in Fiscal 2022>

SCOPE 1+2: Reduced greenhouse gas emissions by 24.4%, compared with fiscal 2019

SCOPE 3: Reduced greenhouse gas emissions by 4.8%, compared with fiscal 2019

The Group will continue to affirm its growing responsibility to play its role as an industry leader and will strive to engage in activities leading and imploring society as a whole to work on measures to address climate change.

* SBT: Science-Based Targets. Called for by joint initiatives, including the UN Global Compact, in response to the adoption of the Paris Agreement. Through the SBT Initiative, greenhouse gas reduction targets established by companies are certified as targets that are scientifically based (SBT) that contribute to long-term measures combating climate change.

■ Promoting the Use of Renewable Energy in Electricity by Joining RE100

We recognize that the issue of climate change is not only a major social challenge, but also a major risk factor for SEKISUI CHEMICAL Group. In August 2020, we joined the international initiative RE100, which aims to procure the energy consumed in business activities entirely from renewable energy, in order to accelerate efforts that contribute to solving this problem in society as a whole. In the future, we will promote activities in cooperation with member companies and organizations.

To achieve zero GHG emissions from our business activities by 2050, and to attain the greenhouse gas reduction target certified by the SBT Initiative by fiscal 2030, SEKISUI CHEMICAL Group will enact strategies such as entrenching energy conservation measures and promoting a shift to renewable energy.

We intend to shift to renewable energy sources for 100% of the electric power we purchase from external sources by 2030, and aim for all our electric power, including that produced by cogeneration systems, to come from renewable energy sources by 2050.

■ Reducing Greenhouse Gases at the Supply Chain Stage

In the case of SEKISUI CHEMICAL Group, we were able to determine that greenhouse gas emissions falling under SCOPE 3 are highest at the raw materials procurement and product use stages. The reason that emissions are high in the raw materials procurement stage is because of the characteristics of our business as a chemicals manufacturer.

As for reducing emission volumes from raw materials procurement, we will review our selection criteria for new materials and have worked with suppliers to reduce the use of four resins known to be raw materials that result in high levels of emissions. We pursue reductions through resource recycling efforts in order to further promote reductions in the future. Specifically, we will convert plastic raw materials that account for 50% of purchased product and services (Category 1) to non-fossil derived materials and increase the use of recycled materials. This will help reduce GHG emissions from the disposal of products sold (Category 12). In addition, we will promote the recycling of waste plastics and make new efforts to lower waste from our operations (Category 5).

Meanwhile, emissions from the product-use stage arise from the large volumes of greenhouse gases emitted as the result of the energy consumed by the houses that we sell. As for the use of products sold (Category 11), higher sales of ZEH homes with Sekisui Heim's energy-saving performance and large-capacity photovoltaic / large-capacity storage batteries have contributed significantly to reducing GHG emissions. Increased sales of ZEH homes will achieve further reductions going forward.

■ Promoting the Use of Renewable Energy

SEKISUI CHEMICAL Group has been promoting the use of renewable energy by installing solar power generators at its domestic and overseas production sites.

SEKISUI CHEMICAL Group has also begun proactively switching over to renewable energy sources for electricity purchased from fiscal 2020, and there are currently a total of 31 facilities in Japan and overseas where 100% of electric power is derived from renewable energy.

Energy consumption from renewable sources in fiscal 2022 was 267.5GWh, comprising 36.4% of total purchased power (including solar power generation for in-house use) and 32.4% of total power consumption, including self-generated power from co-generation systems.

The following three manufacturing sites have installed solar power generation equipment producing electricity for in-house use in fiscal 2022 (total 15 sites).

- SEKISUI-SCG INDUSTRY
- Shiga-Ritto Plant
- SEKISUI (WUXI) PLASTICS TECHNOLOGY CO., LTD.



SEKISUI-SCG INDUSTRY CO., LTD.



SEKISUI CHEMICAL CO., LTD. Shiga-Ritto Plant



SEKISUI (WUXI) PLASTICS TECHNOLOGY CO., LTD.

Solar Power Generation Facilities Producing Electricity for On-site Use

Japan	Tohoku Sekisui Heim Industry Co., Ltd.	USA	SEKISUI S-LEC AMERICA, LLC.
	Chushikoku Sekisui Heim Industry Co., Ltd.	Netherlands	SEKISUI S-LEC B.V. Film Plant
	Kyushu Sekisui Heim Industry Co., Ltd.	Thailand	SEKISUI S-LEC (THAILAND) CO., LTD.
	Sekisui Heim Industry Co., Ltd. Kanto Site		SEKISUI-SCG INDUSTRY CO., LTD.
	Yamanashi Sekisui Co., Ltd.	China	Sekisui Medical Technology (China) Ltd.
	SEKISUI SEIKEI, LTD. Kanto Plant		Sekisui (Wuxi) Plastics Technology Co., Ltd.
	Sekisui Medical Co., Ltd. Tsukuba Plant		
	SEKISUI CHEMICAL Co., Ltd. Taga Plant		
	SEKISUI CHEMICAL Co., Ltd. Shiga-Ritto Plant		

Facilities for which 100% of electricity is derived from renewable energy sources

Japan	SEKISUI CHEMICAL Co., Ltd. Gunma Plant	Netherlands	SEKISUI S-LEC B.V. Film Plant
	SEKISUI CHEMICAL Co., Ltd. Taga Plant		SEKISUI S-LEC B.V. Resin Plant
	SEKISUI CHEMICAL Co., Ltd. Research and Development Institute		SEKISUI ALVEO B.V.
	SEKISUI CHEMICAL Co., Ltd. Tsukuba Site		SEKISUI POLYMATECH EUROPE B.V.
	SEKISUI CHEMICAL Co., Ltd. Tokyo Headquarters	Germany	SEKISUI ALVEO BS GmbH
	SEKISUI CHEMICAL Co., Ltd. Osaka Headquarters	Spain	SEKISUI SPECIALTY CHEMICALS EUROPE S.L.
	Hokkaido Sekisui Heim Industry Co., Ltd.	UK	SEKISUI DIAGNOSTICS (UK) LIMITED
	Tohoku Sekisui Heim Industry Co., Ltd.	USA	SEKISUI S-LEC AMERICA, LLC.
	Sekisui Heim Industry Co., Ltd. Kanto Site	China	Sekisui S-Lec (Suzhou) Co., Ltd.
	Sekisui Heim Industry Co., Ltd. Tokyo Site	Thailand	SEKISUI S-LEC (THAILAND) CO., LTD.
	Sekisui Heim Industry Co., Ltd. Chubu Site	Singapore	VEREDUS LABORATORIES PTE. LTD.
	Sekisui Heim Industry Co., Ltd. Kinki Site		
	Chushikoku Sekisui Heim Industry Co., Ltd.		
	Kyushu Sekisui Heim Industry Co., Ltd.		
	Sekisui Board Co., Ltd. Minakuchi Plant		
	Sekisui Board Co., Ltd. Gunma Plant		
	Yamanashi Sekisui Co., Ltd.		
	Sekisui Medical Co., Ltd. Tsukuba Plant		
	Sekisui Medical Co., Ltd. Ami Site		
	Sekisui Medical Co., Ltd. Drug Development Solutions Center		

Energy Savings in Newly Constructed Buildings:

ZEB Ready* Certified Research Facility, MINASE INNOVATION CENTER

The MINASE INNOVATION CENTER (MIC), a new research facility, was opened in Shimamoto-cho, Osaka Prefecture in August 2020. The facility was designed with a skip-floor configuration and a central atrium so as to make the entire building a space for people to interact. While this gives the building a complex shape, it has also been certified as ZEB Ready thanks to the use of materials that contribute to energy conservation such as thermal barrier interlayers in south-facing windows as well as a design that makes the best use of solar energy by providing a perimeter walkway around the building and incorporating an eave structure.

We have been able to engage in continuous operations at a total volume that meets design values for the past three years. Particularly in fiscal 2022, the final year of the project, in addition to measures taken to date, we were able to significantly reduce air conditioning energy consumption by more strictly complying with room temperature settings and implementing chiller timer operations. Going forward, we intend to entrench energy conservation activities by strictly adhering to the rules and operations developed to date.

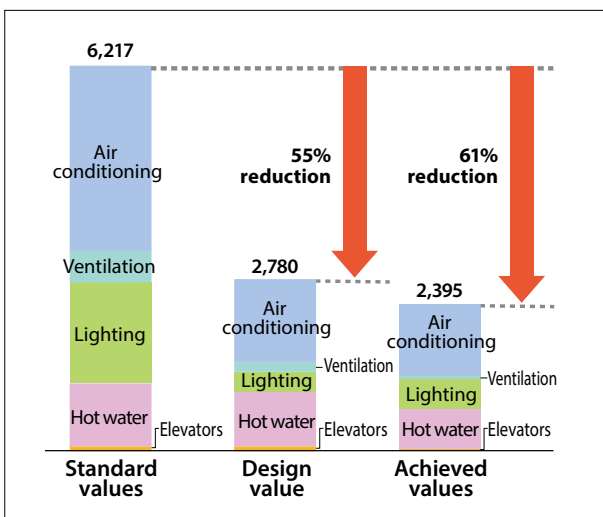
* ZEB (Net Zero Energy Building): Buildings that reduce annual primary energy consumption balance to zero.
 ZEB Ready: Advanced buildings in anticipation of ZEB certification, buildings with high thermal insulation and highly efficient energy-saving equipment.
 (From the Ministry of the Environment web page [Japanese language only]:
http://www.env.go.jp/earth/zeb/terms/index.html?id=term_01)



MINASE INNOVATION CENTER (exterior view)



MINASE INNOVATION CENTER (interior view)



Primary energy consumption (fiscal 2022) (GJ per year)

Decarbonization through Our Businesses and Contributing to Carbon Reduction

SEKISUI CHEMICAL Group is promoting the creation and expansion of markets through its in-house products to enhance sustainability system. This initiative is designed to help accelerate the Group's contribution through its businesses and the realization of a decarbonized society in 2050.

Products that not only help mitigate the effects of climate change, but also adapt to changes in the environment are considered important from a roadmap perspective. As such, we are looking to expand our lineup of these products. Specific examples are listed as follows.

[Examples of Products That Contribute to Climate Change Mitigation]

- <Housing> Products and services that support energy-efficient lifestyles through the use of renewable electricity
Examples) ZEH-specification housing (net-zero energy house)
SEKISUI's SMARTHEIM DENKI power trading service selling surplus generated renewable energy purchased from customers of sold housing to factories and other customers
- <Mobility> Lightweight and highly functional products that reduce energy consumption during transportation and shipping
Examples) S-LEC[®] interlayer film for automotive laminated glass that boasts thermal and acoustic insulation functions
Sheet materials used in aircrafts, trains, etc. (SEKISUI KYDEX product)
- <Electronics> Materials indispensable for energy-efficient products, products that contribute to improving the durability and performance of related parts, which are becoming increasingly important with the development of 5G connectivity, etc.
Examples) Heat release materials that help mitigate issues caused by overheating circuit boards (Sekisui Polymatech Co., Ltd. product)
Materials used in energy-efficient equipment (Micropearl), functional tape
- <Infrastructure> Products that can reduce greenhouse gas emissions over their life cycles by extending their service lives or by converting conventional raw materials, production, or molding methods
Examples) Plastic piping in factories through which chemicals and other materials flow. Compared to mainstream metal piping, plastic piping reduces greenhouse gas emissions over its lifecycle.

[Examples of Products That Adapt to Changes in the Climate]

- <Building & Civil Engineering> Products that help manage natural disasters that are increasing or becoming more severe due to the progression of climate change
Examples) Products that enable the temporary storage of rainwater during periods of torrential rain

[Initiatives Undertaken in Collaboration with Other Companies] Carbon recycling technology project partnership with ArcelorMittal, S.A. SEKISUI CHEMICAL and ArcelorMittal concluded a partnership to pursue a project to capture and re-use the CO₂ emitted during the steelmaking process in a bid to reduce the dependence on fossil resources and contribute to the decarbonization of steelmaking. Through this project, energies will be directed toward developing technologies that separate, recover, and reuse the CO₂, which would otherwise have been emitted into the atmosphere during the steelmaking process. Key to this work is SEKISUI CHEMICAL's innovative technology that converts CO₂ to carbon monoxide at high yields.

[Progress against Commitments] Expanding the market penetration rate of ZEH- specification housing

In order to reduce the consumption of energy derived from fossil resources by customers living in Sekisui Heim homes sold by the company, we are committed to and are considering various measures aimed at expanding the penetration rate of ZEH-specification housing. In fiscal 2022, the ratio of new detached net-zero energy houses (ZEH) (actual results compiled in accordance with ZEH builders' reporting methods) was 94%. Of this percentage, the ratio of ZEH houses with the highest energy reduction rate among the three nationally defined categories came to 88%. The number of storage cell-equipped homes (energy self-sufficient houses) proposed in conjunction with ZEH houses has also increased on a cumulative basis, and the storage cell installation rate for new detached homes has grown to 83%*.

* Contract-based storage cell installation rate from April 2022 to March 2023 (Company data)

| Activities in related initiatives

Aimed at mitigating climate change

As far as the issue of climate change is concerned, we are collaborating with various entities, including other companies and organizations in a bid to achieve our long-term goals. Through collaboration, we hope to expand our contributions and better help find solutions, raising the potential to achieve milestones ahead of schedule. The Group is committed to achieving the target identified under the Paris Agreement, namely the 1.5°C target, and to achieving carbon neutrality. SEKISUI CHEMICAL Group participates and registers with various initiatives, forums, and other organizations after confirming that such key parameters as their founding principles, direction of efforts, and goals are consistent with the Group. Our continued participation is determined on an annual basis to ensure that there are no discrepancies in the direction in which we are heading. In the event that the direction differs, steps will be taken to withdraw from the initiative, forum, or other organization.

The Japan Climate Initiative (JCI)

Significance/objectives ... The Group is joining the front line of the global push for decarbonization from Japan in order to mitigate climate change.

Activities In order to drive social change and help realize decarbonization, the JCI promotes information dissemination from and opinion exchanges with companies, local governments, and NGOs that are actively engaged in addressing climate change. Central to efforts aimed at accelerating activities through corporate collaboration, we are promoting the declaration of goals and activities to achieve objectives.

Our Company's role We share the latest information on our initiatives and using them to consider measures.

RE100

Significance/objectives ... Aim for companies to cover 100% of the electricity used in their operations from renewable energy sources

Activities Motivated companies that have made declarations cooperate with each other and are promoting communication and activities that have an impact on society.

Our Company's role We are contributing to greater use and diffusion of renewable energy in society by declaring our commitment to shifting toward renewable energy.

JAPAN CLIMATE LEADERS' PARTNERSHIP (JCLP)

Significance/objectives ... Aim to realize a rapid transition to a decarbonized society and achieve the 1.5°C target to avert a climate crisis.

Activities Leading Japan in five pillars to achieve policy changes
(Pursuing policy engagement, promoting decarbonization within companies, providing solutions to decarbonize society, communicating with society, global networks)

Our Company's role Decarbonize the Company and society by making a decarbonization declaration, transitioning to a decarbonized business model, and pursuing corporate collaboration to promote internal decarbonization mainly within supply chains.

GX League

Significance/objectives ... Aim to accelerate corporate collaboration in an effort to address the challenges associated with the transition to carbon neutrality in Japan.

Activities Participating companies that have endorsed the objectives of the GX League are working together and are preparing to promote initiatives to solve various issues.

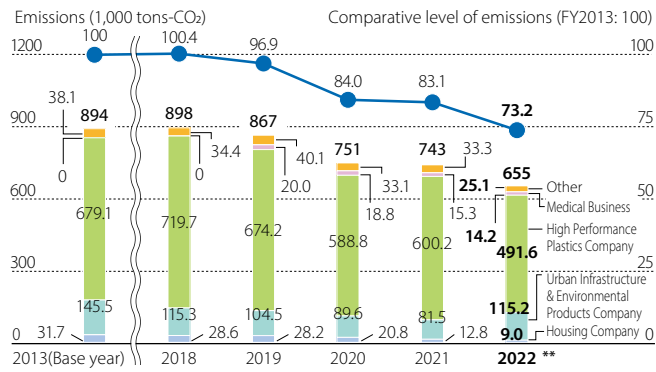
SEKISUI CHEMICAL's role We will consider participating in and promoting initiatives to resolve various issues in the future.

Performance Data

Note 1: From fiscal 2019, Medical Business results have been collated separately following its independence from the HPP Company and the presentation of Headquarters results reclassified as Other.

Note 2: In line with a change in the control of certain businesses in the UIEP and HPP companies implemented from October 2022, the data of both companies for fiscal 2022 is collated as if the change in control had been initiated from the beginning of fiscal 2022.

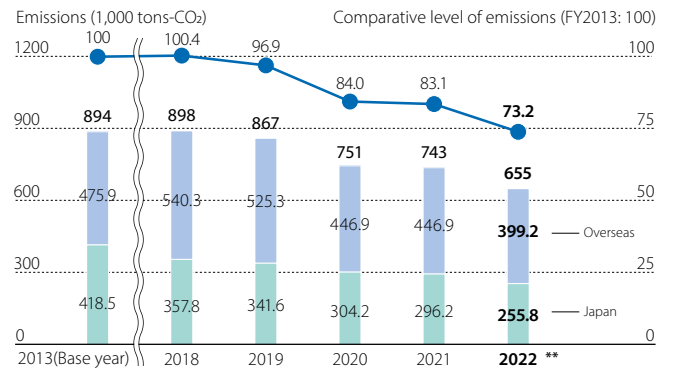
SCOPE1+2 (By Divisional Company)



Note: Some past figures have been revised due to improvements in precision.

** Data after deducting 44 thousand tons of CO₂ equivalent to non-fossil certificates.

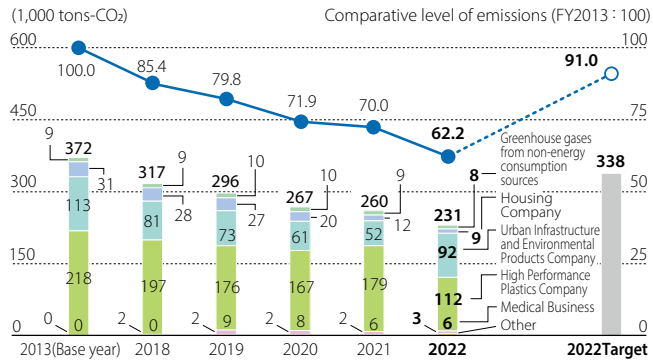
SCOPE1+2 (By Japan and overseas)



Note: Some past figures have been revised due to improvements in precision.

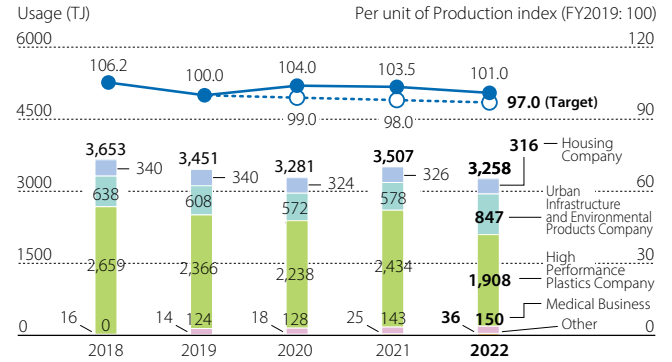
** Data after deducting 44 thousand tons of CO₂ equivalent to non-fossil certificates.

Greenhouse Gas (GHG) Emissions during Manufacturing / Japan



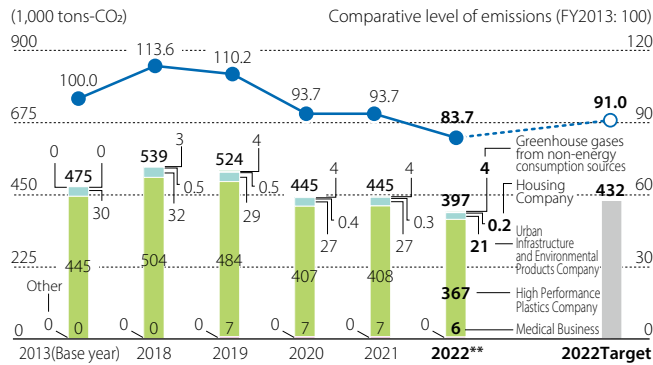
Note: Some past figures have been revised due to improvements in precision.

Energy Use and per Unit of Production* (Index) during Manufacturing / Japan



* Energy consumption per unit of production weight
Note: Some past figures have been revised due to improvements in precision.

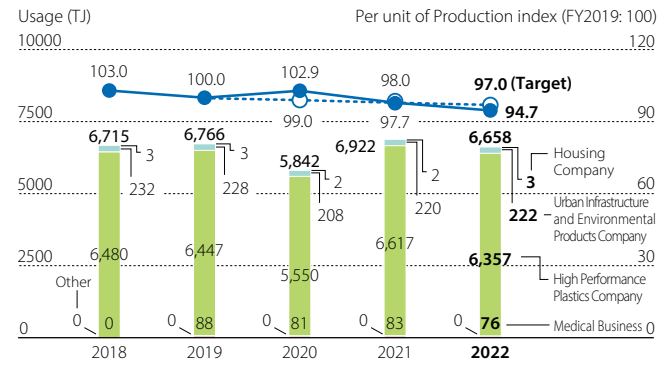
Greenhouse Gas (GHG) Emissions during Manufacturing / Overseas



Note: Some past figures have been revised due to improvements in precision.

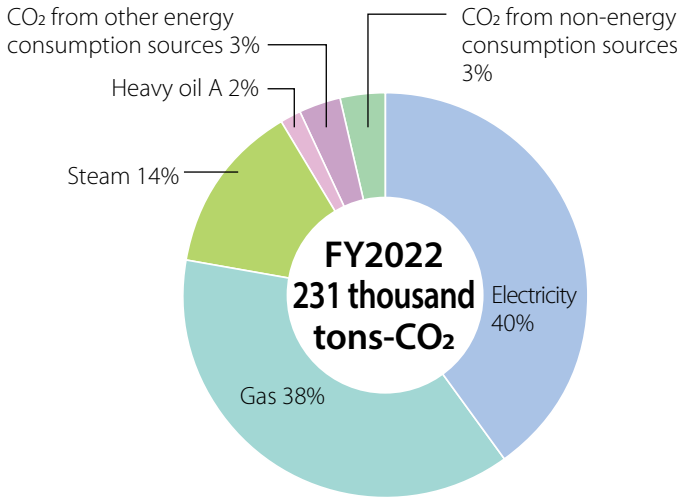
** Data after deducting the equivalent non-fossil certificate of 44 thousand tons of CO₂.

Energy Use and per Unit of Production* (Index) during Manufacturing / Overseas

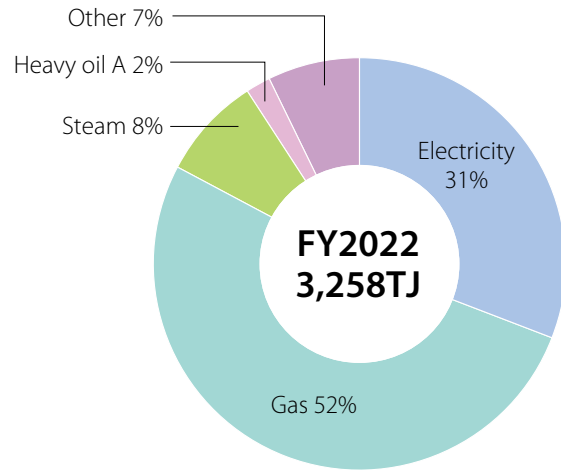


* Energy consumption per unit of production weight
Note: Some past figures have been revised due to improvements in precision.

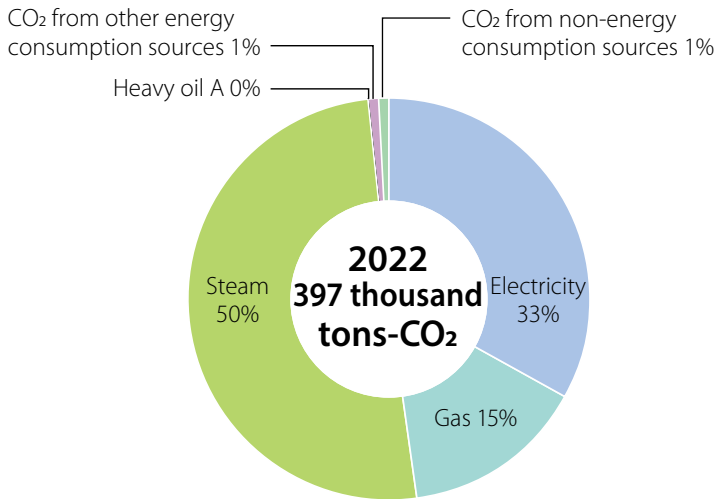
Breakdown of Greenhouse Gas (GHG) Emissions during Manufacturing / Japan



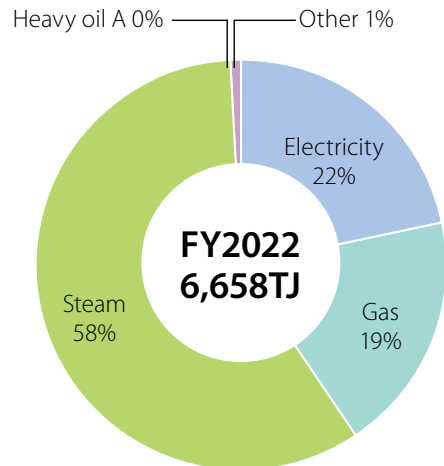
Breakdown of Energy Use during Manufacturing / Japan



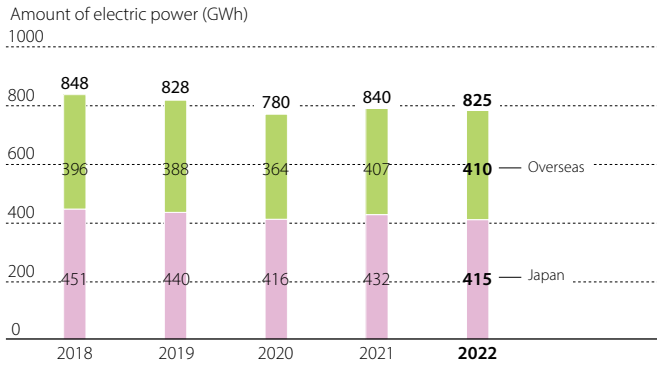
Breakdown of Greenhouse Gas (GHG) Emissions during Manufacturing / Overseas



Breakdown of Energy Use during Manufacturing / Overseas

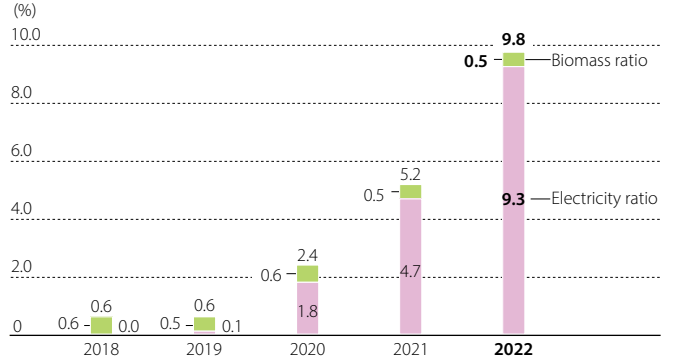


Electricity Consumption in Japan and Overseas



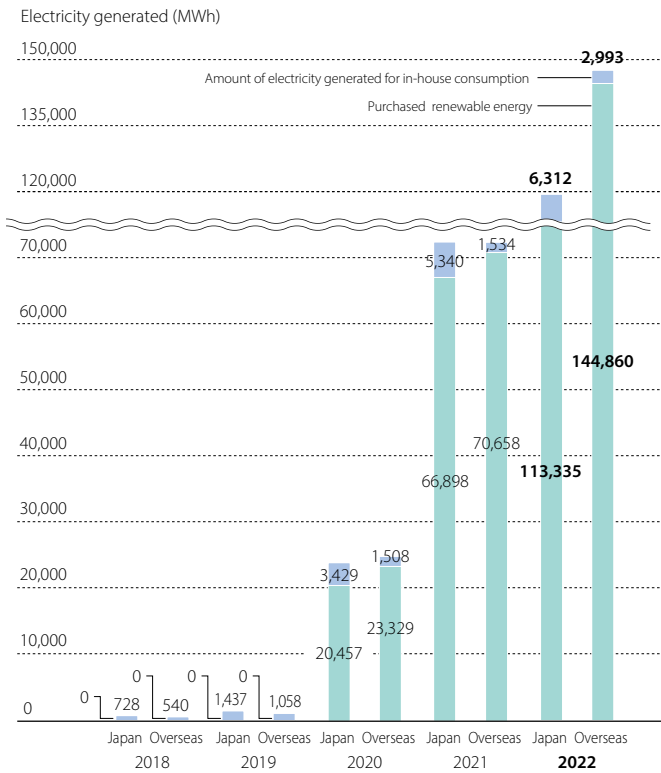
Note: Some past figures have been revised due to improvements in precision.

Ratio of Renewable Energy to Total Energy Consumption / Electricity, Biomass Boilers



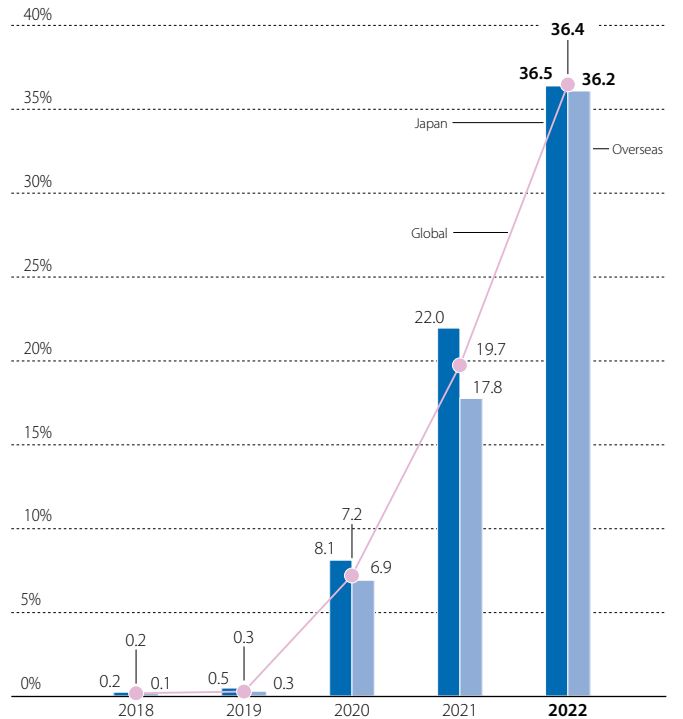
Note: Some past figures have been revised due to improvements in precision.

Energy generated for in-house consumption, amount of purchased electricity derived from renewable energy sources / Japan and overseas *excluding co-generation



Note: Some past figures have been revised due to improvements in precision.

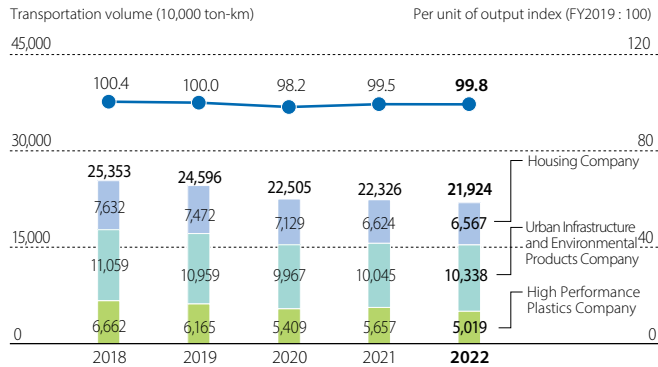
Ratio of electricity derived from renewable energy sources / Japan and overseas *excluding co-generation



Note: Some past figures have been revised due to improvements in precision.

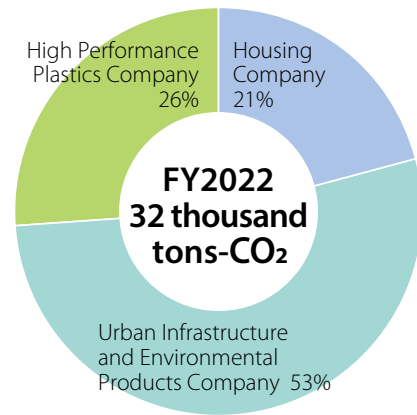
Indicator	Calculation Method
Greenhouse Gas Emissions	<p>GHG emissions = Σ[fuel use, purchased electricity, purchased steam \times CO₂ emissions coefficient] + greenhouse gas emissions from non-energy consumption sources</p> <p>Greenhouse gas emissions from non-energy consumption sources = CO₂ emissions not arising from energy consumption* + Σ[emissions of non-CO₂ greenhouse gases \times global warming potential]</p> <p>*Includes CO₂ emissions from burning of non-fuel gases based on local laws related to countermeasures on global warming, both inside Japan and overseas</p> <p>[CO₂ Emissions Coefficient]</p> <p>Purchased Electricity: In Japan, the coefficient provided in notices pursuant to the Act on Promotion of Global Warming Countermeasures is applied to the latest data at the start of each fiscal year. In case the purchased electricity for which the emission factors are set for each menu, the adjusted emission coefficient applies.</p> <p>For overseas data, the latest coefficient data obtained from local power suppliers as of the beginning of each fiscal year is applied. When unavailable, data from the GHG Protocol and EPA eGRID 2019 were used.</p> <p>City Gas / Natural Gas and Purchased Steam: Coefficients obtained from suppliers are applied to the latest data at the start of each fiscal year.</p> <p>If a coefficient cannot be obtained in this manner, it is based on local laws related to countermeasures on global warming.</p> <p>Fuel Other than the Above: Based on local laws related to countermeasures on global warming.</p> <p>Global warming potential: Emissions coefficients determined based on greenhouse gas emission calculations, reports, and official disclosures.</p> <p>Fuels that corresponds to energy sources is calculated based on local laws related to countermeasures on global warming both in Japan and overseas.</p>
Energy Use	<p>Energy use = Σ[amount of fuel used, amount of electricity purchased, amount of solar power generation for in-house use, and amount of steam purchased \times unit calorific value]</p> <p>[Unit Calorific Value]</p> <p>Purchased Electricity: 3.60 MJ/kWh</p> <p>(Amount of solar power generation for in-house use and amount of purchased electric power from renewable energy sources are included in the energy use)</p> <p>Fuel, Purchased Steam: Based on the Act on the Rational Use of Energy</p>

Transportation Volumes and Energy per Unit of Transportation (Index)* / Japan



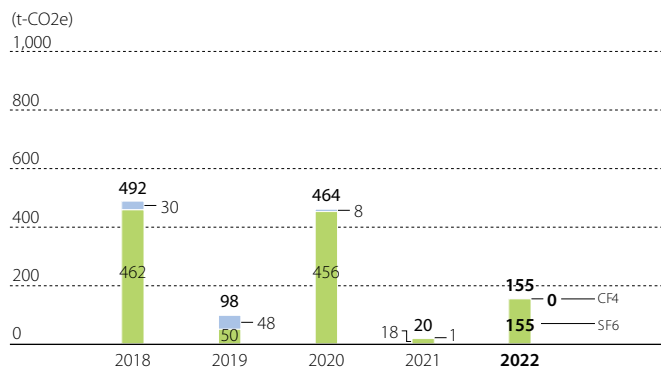
* Energy consumption per unit of transportation volume

CO₂ Emissions during the Transportation Stage / Japan



Indicator	Calculation Method
CO ₂ Emissions during the Transportation Stage	<p>The calculation is made by combining the fuel consumption method (transport of housing units, etc.) and the improved ton-kilometer method (other than transport of housing units, etc.)</p> $\text{CO}_2 \text{ emissions} = \sum[\text{fuel use} \times \text{CO}_2 \text{ emissions coefficient}] + \sum[\text{amount transported (metric tons)} \times \text{distance transported (km)} \times \text{fuel use per unit of transportation} \times \text{CO}_2 \text{ emissions coefficient}]$ <p>Fuel use per unit of transportation is the value used in the reporting system for specified freight carriers under the Act on the Rational Use of Energy</p> <p>Major domestic distribution (shipment of products) is covered</p>

Emissions of Non-CO₂ Greenhouse Gases (Global Production, Laboratories)



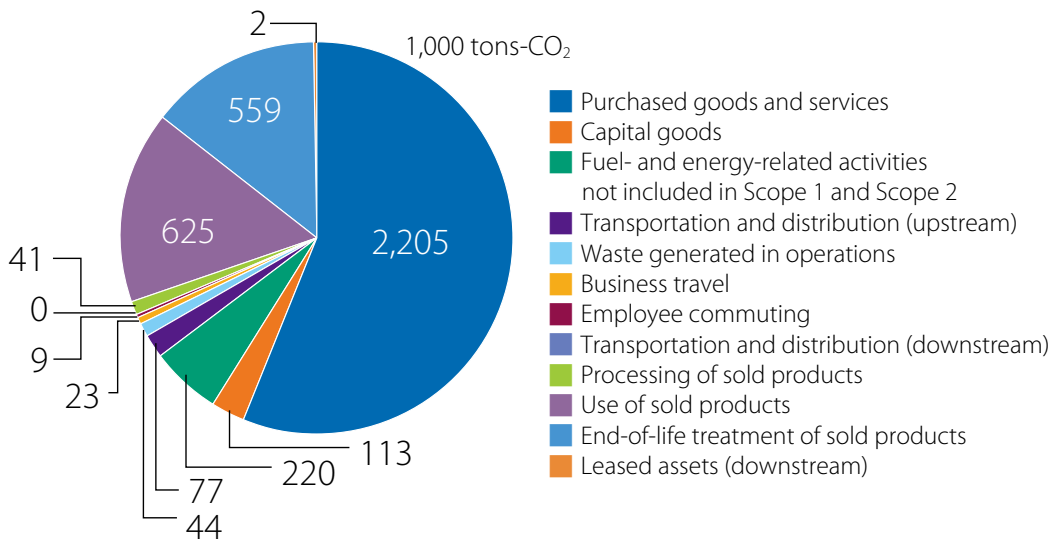
Greenhouse Gas Emissions throughout Our Supply Chain (SCOPE 3)

Estimated emissions (1,000 tons-CO₂)

Category		FY2018	FY2019	FY2020	FY2021	FY2022
Upstream	Purchased goods and services	2,457	2,352	2,282	2,445	2,205
	Capital goods	123	96	80	74	113
	Fuel and energy related activities not included in Scope 1 and Scope 2	129	127	198	226	220
	Transportation and Distribution (Upstream) (Transportation of major raw materials)	97	95	86	93	77
	Waste generated in operations	44	44	37	41	44
	Business travel	27	24	7	6	23
	Employee commuting	6	6	5	4	9
Downstream	Transportation and Distribution (Downstream) (Transportation of products)	0	0	0	0	0
	Processing of sold products	48	45	39	41	41
	Use of sold products	940	772	708	810	625
	End-of-life treatment of sold products	560	558	481	601	559
	Leased assets (downstream)	1	2	1	1	2
Total(upstream / downstream)		4,433	4,119	3,923	4,343	3,917

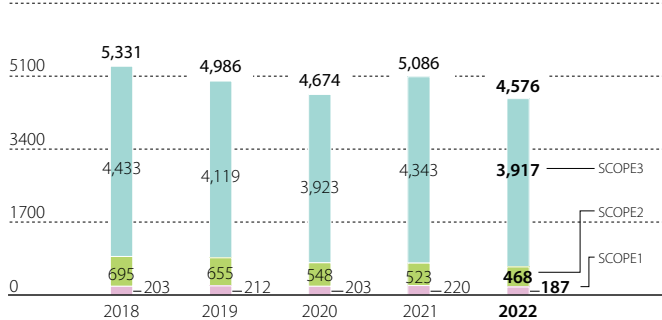
Note 1: Past figures have been retroactively revised due to the change in collation classification. (Past emissions from transportation and distribution (downstream) were added to transportation and distribution (upstream))

Note 2: From fiscal 2018, emissions related to "Use of sold products" were reduced by including the effect of reducing energy consumption in ZEH specification houses.



Greenhouse Gas Emissions throughout Our Supply Chain as a Whole (Classified by SCOPE)

(1,000 tons-CO₂)



Note 1: From fiscal 2018, emissions related to "Use of sold products" were reduced by including the effect of reducing energy consumption in ZEH specification houses.

Note 2: Some past figures have been revised due to improvements in precision.

Indicator	Calculation Method	
Greenhouse Gas Emissions throughout Our Supply Chain	Purchased Goods and Services	<p>$CO_2 \text{ emissions} = \Sigma[(\text{amount of major raw materials used (excluding substances subject to regulation by the PRTR Law) as listed in Material Balance section of this report} + \text{estimated values for other raw materials}) \times \text{emission coefficient (Inventory Database for Environmental Analysis (IDEA) Ver.3.1 (the world's largest GHG emissions database developed by the National Institute of Advanced Industrial Science and Technology (IDEA v.3.1)))]$</p> <p>Up to and including fiscal 2017, the Group gained an understanding of environmental impact, including the volume of greenhouse gases emitted, by making calculations using MiLCA, the database furnished by the Japan Environmental Management Association for Industry. However, from fiscal 2018, the Group is reflecting the actual emissions of its raw material suppliers with regard to four principal resins (PP, PE, PVC and PVA).</p>
	Capital Goods	<p>$CO_2 \text{ emissions} = \Sigma[(\text{amount of spending on capital expenditures authorized for the given fiscal year for buildings, structures, mechanical equipment, and transport vehicles}) \times \text{emissions coefficient (per unit emissions database for calculating organizational greenhouse gas emissions, etc., arising from supply chains (Ver. 3.3) (Ministry of the Environment and Ministry of the Economy, Trade and Industry)))]$</p>
	Fuel- and Energy-related Activities not Included in SCOPE 1 and SCOPE 2	<p>$CO_2 \text{ emissions} = \Sigma[(\text{fuel use, amount of purchased electricity, and amount of purchased steam}) \times \text{emissions coefficient}]$</p> <p>The emissions coefficients used are as follows. For fuel IDEA v.3.1 For purchased electricity and steam, per unit emission database for calculating greenhouse gas emissions by organizations, etc., arising from supply chains (Ver. 3.3) (Ministry of the Environment and Ministry of the Economy, Trade and Industry).</p> <p>Applicable to production sites, laboratories, and offices both inside Japan and overseas.</p>
	Transportation and Distribution (Upstream) (Transportation of major raw materials)	<p>$CO_2 \text{ emissions} = \Sigma[\text{amount of major raw materials used (excluding substances subject to regulation by the PRTR Law) as listed in the Material Balance section of this report} \times \text{transport distance} \times \text{emission coefficient (IDEA v.3.1)}]$</p> <p>(Calculated assuming that the transport distance was uniformly 200 km)</p>
	Transportation and Distribution (Downstream) (Transportation of products)	<p>The calculation is made by combining the fuel consumption method (transport of housing units, etc.) and the improved ton-kilometer method (other than transport of housing unit, etc.)</p> <p>$CO_2 \text{ emissions} = \Sigma[\text{fuel use} \times CO_2 \text{ emissions coefficient}] + \Sigma[\text{amount transported (metric tons)} \times \text{distance transported (km)} \times \text{fuel use per unit of output} \times CO_2 \text{ emissions coefficient (value used in the reporting system for specified freight carriers under the Act on the Rational Use of Energy)}]$ (Estimates used for overseas)</p> <p>Covers shipments of products by Group companies in Japan and overseas.</p>

Indicator	Calculation Method	
	Waste Generated in Operations	<p>CO₂ emissions = Σ[amount of waste materials generated (by type) × emission coefficient (IDEA v.3.1)]</p> <p>Scope: Major production sites and research facilities in Japan and overseas.</p>
	Business Travel	<p>CO₂ emissions = Σ[transportation costs by method of transport × emissions coefficient (per unit emissions database for calculating organizational greenhouse gas emissions, etc., arising from supply chains (Ver. 3.3) (Ministry of the Environment and Ministry of the Economy, Trade and Industry))]</p> <p>(Includes estimates of transportation costs for group companies)</p> <p>Group companies in Japan and overseas all covered.</p>
Greenhouse Gas Emissions throughout Our Supply Chain	Employee Commuting	<p>CO₂ emissions = Σ[amount spent on commuting allowance × emissions coefficient (per unit emissions database for calculating organizational greenhouse gas emissions, etc., arising from supply chains (Ver. 3.3) (Ministry of the Environment and Ministry of the Economy, Trade and Industry))]</p> <p>(Calculated based on the assumption that all commuting is done by passenger train)</p> <p>(Group company commuting costs include estimates)</p> <p>Group companies in Japan and overseas all covered.</p>
	Processing of Sold Products	<p>CO₂ emissions = Σ[production volume of relevant products × emission coefficient at the time of processing the relevant products (IDEA v.3.1)]</p> <p>Covers products for the automotive industry by Group companies in Japan and overseas.</p>
	Use of Sold Products	<p>CO₂ emissions = Σ[number of structures sold as housing during the relevant fiscal year × amount of electricity purchased from power companies throughout a year × 60 years × electricity-based emissions coefficient], including the effect of the solar power generation system.</p> <p>The amount of electricity purchased from power companies throughout a year is based on the Electricity Income and Expenditure Home Survey of Houses with Built-In Solar Power Generation Systems (2018). The electricity-based emissions coefficient employed is the emissions coefficient from the fiscal 2022 report produced by the Act on Promotion of Global Warming Countermeasures reporting system (alternate value), equal to 0.453 metric tons-CO₂ /MWh. The calculation is performed under the assumption that housing will be used for 60 years. Housing sold within Japan for the fiscal year relevant to the calculation is covered. Up to and including fiscal 2017, the Group calculated the amount of greenhouse gas reduction achieved through solar power generation as the amount of reduced environmental impact. From fiscal 2018, however, we are also calculating the effect of reduction in energy used in residences built to zero energy house (ZEH) specifications.</p>

Indicator	Calculation Method	
Greenhouse Gas Emissions throughout Our Supply Chain	End-of-life Treatment of Sold Products	<p>$CO_2 \text{ emissions} = \sum[\text{amount of major raw materials used in the products sold during the relevant fiscal year} \times \text{emission coefficient (IDEA v.3.1)}]$</p> <p>The calculation assumes that products sold during a given fiscal year are disposed of during the same fiscal year.</p>
	Leased Assets (Downstream)	<p>Calculated for construction work carried out using machinery leased by SEKISUI CHEMICAL.</p> <p>$CO_2 \text{ emissions} = \sum[\text{relevant installation units} \times \text{fuel usage per unit} \times CO_2 \text{ emissions coefficient (emissions coefficient determined based on a system of greenhouse gas emission calculations, reports, and official disclosures)}]$</p>

● Realizing Resource Recycling

Basic Concept

Working to realize a circular economy and establish a resource recycling system

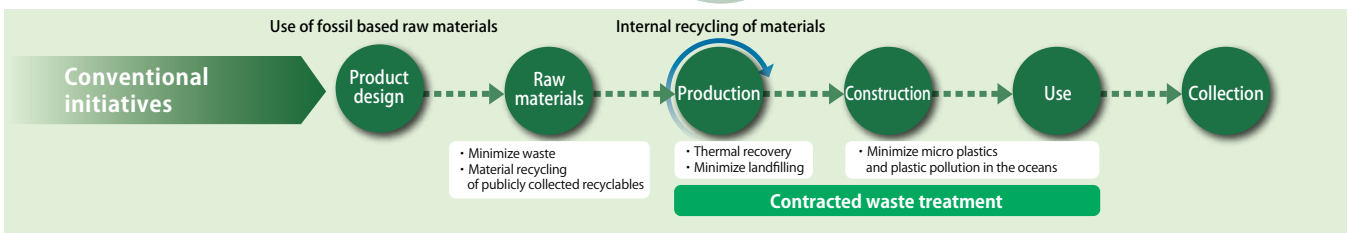
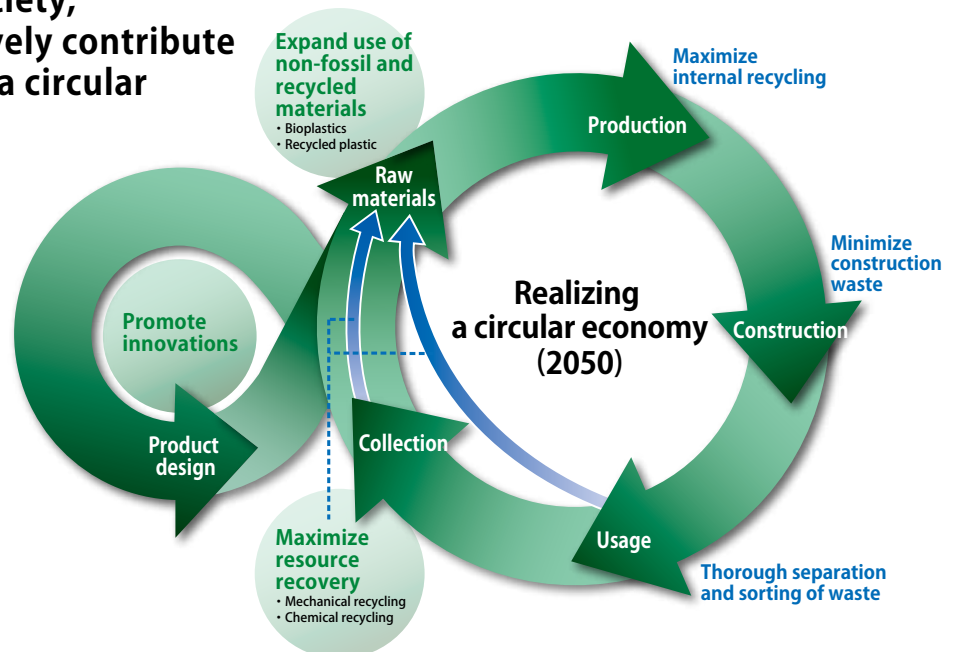
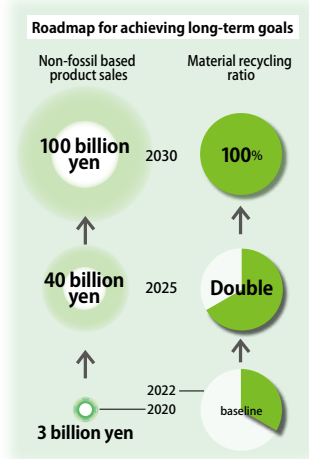
SEKISUI CHEMICAL Group aims to realize a circular economy and a sustainable society in 2050. To achieve this long-term goal, we established a resource recycling policy and strategy in fiscal 2020.

In partnership with our supply chain, we minimize the consumption of virgin raw materials derived from fossil fuels. In addition, we are promoting recycling of resources through material circulation, aiming for a circular economy throughout our businesses. In order to achieve, we are intensifying our initiatives related to the following three points as our Group policy.

Group Policy

- (1) Promote innovations that contribute to resource recycling
- (2) Expand the use of non-fossil fuel-based materials and recycled materials in our business operations
- (3) Maximize resource recovery during the entire product life cycle

For a sustainable society, SEKISUI will extensively contribute to the realization of a circular economy.



■ Promoting Efforts Based on the Resource Recycling Policy

For Vision 2030, SEKISUI CHEMICAL Group will strategically expand its businesses in four domains and double sales volume through solving social issues, aiming to achieve a sustainable society and corporate growth. In these business domains, we believe plastics will continue to be an important material. Up until now, in the production process, we have continually made efforts year after year to reduce the amount of waste generated, using waste per unit of production as an indicator for these efforts. In addition, we have carried out for example internal recycling to reuse wood scraps and other waste materials generated and implemented processing for reuse of resources including energy when disposing of materials as waste.

Under our resource recycling policy released in fiscal 2021, we will expand the ratio of plastic materials we use comprised of biomass plastics and other recycled materials which are not derived from fossil fuels. Regarding our production processes, we will promote internal recycling more than ever before, intensifying initiatives to minimize the waste products emitted from our construction projects. In addition, in both the use and recovery stages, we will work on our product design and supply chain to ensure products can be disposed of with thorough sorting and separation. In this way, we will promote initiatives to maximize reuse of material resources through mechanical recycle, chemical recycle, and other recycling methods. Based on the results achieved ahead of schedule through initiatives undertaken up to fiscal 2022, we have reviewed and reset milestones for fiscal 2025. From fiscal 2023, we will accelerate our efforts to achieve the revised milestones.

Within these life cycles, we believe that innovation at the product design stage is important for driving the promotion of resource circulation. By designing new products and revising the various processes for existing products, we are promoting initiatives for innovation that will accelerate resource circulation.

Road Map for Long-term Goal Achievement

		2020~2022	By 2025	By 2030
Business strategy	Net sales of products to enhance sustainability that contribute to resource circulation (Base year: 2020)	1.1 times	1.7 times	2 times or more
Raw material resource conversion	Net sales of products not derived from fossil fuels and using recycled materials	3 billion yen	40 billion yen	100 billion yen
Recycling waste products	Rates for recycling waste plastic into new materials	Analyze current conditions and set baselines	2 times	100%

Addressing Plastic Waste Issues

In recent years, plastic waste as typified by marine plastic waste has emerged as a significant environmental issue. The Group does not engage in the manufacture and sale of primary microplastics where use presupposes dissolution. However, we do recognize that plastic processed products and plastic materials contained in products that are used or discarded after use of the sold products may deteriorate in the natural environment and become microscopic if not properly treated.

1. Employee education

In both the products we produce and our manufacturing processes, we must correctly recognize these issues, and develop human resources with considerable ability to contribute to solving social issues. To this end, we engage in employee education while promoting environmental and social contribution activities.

2. Contributing to the transformation of society

To ensure the proper use of plastic, SEKISUI CHEMICAL Group recognizes the importance of building social systems while promoting a shift in the awareness of each individual employee and undertaking education and training. The Group is therefore engaged in various collaborations between industry, government, and academia. For example, in regard to the issue of marine plastics, SEKISUI CHEMICAL Group participates in the Clean Ocean Materials Alliance (CLOMA), a collaboration initiative between companies organized by the Ministry of Economy, Trade and Industry. For a fundamental solution, we are working on the common issues necessary for the social implementation of resource recycling schemes with the aim of realizing a circular economy.

3. Creating and expanding the use of products, technologies, and services that contribute to the realization of a recycling-based society and a circular economy

SEKISUI CHEMICAL Group has developed a technology to convert combustible waste into gas and then convert that gas to ethanol, which is the raw material for plastics, by means of a microbial catalyst. Currently, a one-tenth commercial scale (processing capacity of approximately 20 tons/day) demonstration plant has been constructed in Kuji City, Iwate Prefecture, and has been in operation since this spring, for practical application of the technology in the future.

4. Promotion of recycling back into materials

With regard to the waste generated by its production businesses, SEKISUI CHEMICAL Group has been exchanging manifests with waste contractors, and disposal has been undertaken in a proper manner. Going forward, we will continue to endeavor to improve the rate of recycling back into materials after having undertaken proper treatment.

Targets

Resource circulation

Aim: Promotion of resource reuse

Indicator 1. Waste generated per unit of production

Current Medium-term Management Plan (2020-2022) Targets

Waste generated per unit of production -1% over a 3-year period Fiscal 2022 Result -1.7% (compared with fiscal 2019)

Next Medium-term Management Plan (2023-2025) Target

Waste generated per unit of production -3% (compared with fiscal 2022)

FY2030 Target —

FY2050 Target Achieve a circular economy

Indicator 2. Recycling rate for waste plastic materials

Next Medium-term Management Plan (2023-2025) Target Japan 65% Overseas Baseline in fiscal 2023 + 5%

Fiscal 2030 Target 100%

Indicator 3. Copier paper use per unit of production

Current Medium-term Management Plan (2020-2022) Target -3% Fiscal 2022 Result -39% (compared with fiscal 2019)

Next Medium-term Management Plan (2023-2025) Target -3% (compared with fiscal 2022)

FY2030 Target —

FY2050 Target Achieve a circular economy

Indicator 4. Amount of waste generated per building at new housing construction sites

Current Medium-term Management Plan (2020-2022) Target -6% Fiscal 2022 Result -8.9% (compared with fiscal 2019)

Next Medium-term Management Plan (2023-2025) Target -12% (compared with fiscal 2022)

FY2030 Target —

FY2050 Target Achieve a circular economy

System

For a diagram of the Environmental Management Promotion System see p. 126.

Major Initiatives

Waste plastic initiatives

Promoting Material Recycling

SEKISUI CHEMICAL Group revised our definition of material recycling and has worked to identify the current situation under this new definition.

Our first step has been to maximize use of material recycling through existing technologies. Along with advancing a shift to reuse for our own raw materials, we are selecting approaches to disposal that prioritize material recycling.

In regard to waste that is difficult to manage using material recycling, we are working to establish new disposal methods.

Promoting Packaging Material Reductions

SEKISUI CHEMICAL Group has long engaged in efforts to reduce packaging materials, introduce reusable boxes*, and eliminate packaging materials wherever possible, among other initiatives.

Our proactive efforts to reduce packaging since the early 2000s have enabled us to achieve significant results. We will continue these efforts in the future, taking further steps to reduce packaging waste.

* Boxes that can be used multiple times to ship materials, parts, and products between locations.

Promoting Construction Material Recycling

The housing industry is engaged in the efficient use and recycling of construction materials throughout. As a member of this industry, SEKISUI CHEMICAL Group is reducing the amount of construction waste produced when building houses and promoting recycling.

Converting External Wall Panel Scrap into Raw Materials for Products

Sekisui Board Co., Ltd. Gunma and Mizukuchi business sites, which produce Sekisui Heim external wall panels, generate scrap during their production processes. Along with making efforts to reduce the scraps produced whenever possible, these sites are moving forward with in-house material recycling for any scraps that are ultimately generated. Specifically, the scraps generated during the production of products from the completed external walls are crushed and sorted, after which the extracted wood chips and cement are used as recycled raw materials.

Contribution to Resource Recycling through Business

Without realizing a circular economy in 2050, there can be no decarbonized society. Based on its resource recycling strategy and roadmap, SEKISUI CHEMICAL Group is shifting to the use of non-fossil fuel sourced, recyclable, and related materials with respect to its plastic materials while reviewing its product design to facilitate recycling parts in a manner that contributes to the resource recycling of existing products. In doing so, we are promoting the creation and market expansion of Products to Enhance Sustainability in a bid to accelerate our contribution through our businesses.

[Examples of Products That Contribute to Resource Recycling]

- <Housing> Remodeling menus to extend the life of products and services when reusing homes
Examples) Be-Heim, a service that allows a customer to pass on a home to another customer and continue to live in it with peace of mind.
- <Building & Civil Engineering> Products that use recycled plastic as a raw material
Examples) Products that enable the temporary storage of rainwater during periods of torrential rain (rainwater storage material Cross-Wave)
Pipes with foamed cores made from recycled materials (3-layer pipe)
- <Mobility> Buy-back system to take back edge trim from customers for reuse as raw materials (SEKISUI KYDEX product)

[Initiatives Undertaken in Collaboration with Other Companies] Initiatives for the social implementation of BR technologies
We recognize the need to collaborate with companies and organizations that are active across each of the life cycle processes in order to realize product resource recycling.

SEKISUI CHEMICAL Group has rolled out a technology that converts combustible waste into ethanol using a microbial catalyst and gas fermentation process jointly developed with U.S.-based venture company LanzaTech, Inc. In order to validate the viability and commercial application of this chemical recycling technology, which is essential to resource recycling, SEKISUI CHEMICAL Co., Ltd, INCJ, Ltd., and SEKISUI BIO REFINERY Co., Ltd. completed construction of a demonstration plant approximately 1/10th the size of a commercial plant in Kuji City, Iwate Prefecture in April 2022. Plans are in place for the ethanol produced at the plant to be recycled as a raw material for plastics in collaboration with Sumitomo Chemical Co., Ltd. which is already underway.

Initiative Collaboration

As far as the issue of climate change is concerned, we are collaborating with various entities, including other companies and organizations in a bid to achieve our long-term goals. Through collaboration, we will be able to expand our contributions and better help find solutions, raising the potential to achieve milestones ahead of schedule. SEKISUI CHEMICAL Group participates and registers with initiatives, forums, and other organizations after confirming that such key parameters as their founding principles, direction of efforts, and goals are consistent with the Group. Our continued participation is determined on an annual basis to ensure that there are no discrepancies in the direction in which we are heading. In the event that the direction differs, steps will be taken to withdraw from the initiative, forum, or other organization.

CLOMA (Japan Clean Ocean Material Alliance)

- Organizer Ministry of Economy, Trade and Industry, Ministry of the Environment, and Ministry of Agriculture, Forestry and Fisheries
- Significance/objectives ... To solve the issue of marine plastic waste, which is a global environmental issue
- Activities Aiming for the more sustainable use of plastic products, and the development, introduction and popularization of innovative substitutes that will lead to a reduction of plastic waste
- Our Company's role The Company holds the chairmanship of Working Group 3 (WG3), one of five key action working groups that promote activities aimed at plastic recycling through corporate collaboration. As such, the working group has as its themes the technological establishment and social implementation of chemical recycling as well as the promotion of activities to select and clear issues in the promotion of related companies

Japan Partnership for Circular Economy (J4CE)

- Organizer Ministry of the Environment, Ministry of Economy, Trade and Industry and Keidanren (Japan Business Federation)
- Significance/objectives ... Aiming to further foster understanding and promote efforts by a wide range of parties responsible, including domestic companies, as the trend toward a circular economy accelerates on a worldwide basis.
- Activities Introduction of case studies through case study brochures, dissemination of information for the general public, and support for inter-company collaboration
- Our Company's role To accelerate the creation of new circulation businesses and social implementation by disseminating case studies and providing feedback on in-house technologies and measures by assessing the latest information

J-CEP (Japan Circular Economy Partnership)

- Significance/objectives ... Regarding everything as a resource, creating a society around things, information and feelings by relationship design.
- Activities Engage in 1) The optimal circulation of resources in Japan, and 2) The creation of businesses that contribute to the realization of the sustainable society
- Our Company's role To contribute to the realization of a circular economy by disseminating case studies and providing technical cooperation as a member of a consortium of companies

Performance Data

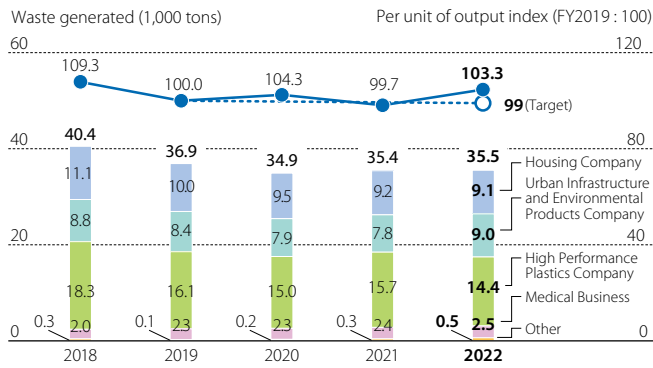
Waste Generated by Production Sites

Note 1: Some past figures have been revised due to improvements in calculation precision.

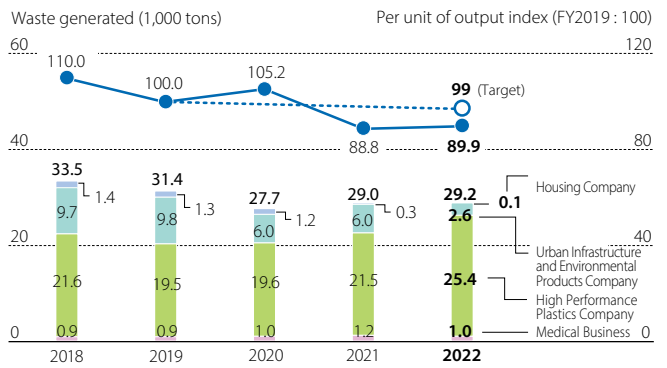
Note 2: From fiscal 2019, Medical Business results have been collated separately following its independence from the HPP Company and the presentation of Headquarters results reclassified as Other.

Note 3: In line with a change in the control of certain businesses in the UIEP and HPP companies implemented from October 2022, the data of both companies for fiscal 2022 is collated as if the change in control had been initiated from the beginning of fiscal 2022.

Waste Generated by Production Sites, per Unit of Production (Index) / Japan



Waste Generated by Production Sites, per Unit of Production (Index) / Overseas



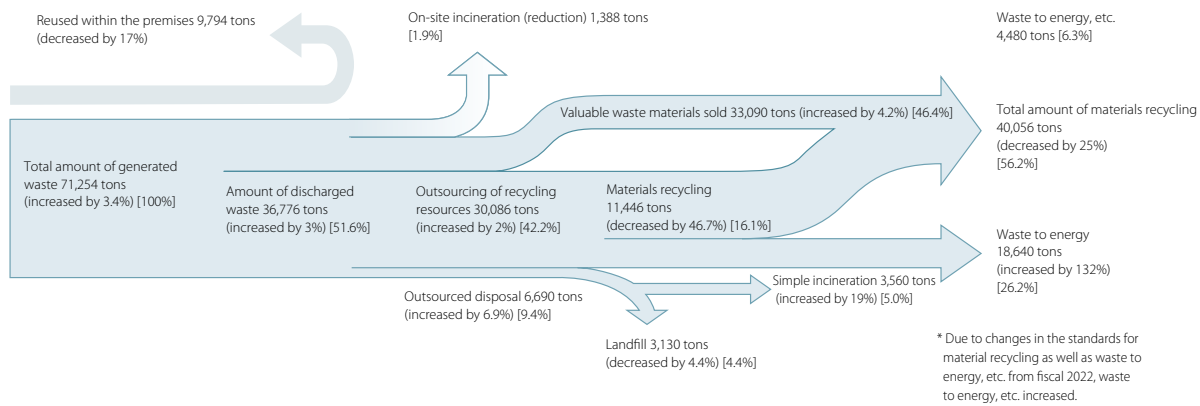
Note: Amount of waste generated: Only focusing on waste responsible by the production site is considered. Prototypes and inventory disposal due to the responsibility of the Divisional Companies are not included.

Production Site Waste Generation and Disposal / Japan and Overseas

(tons)

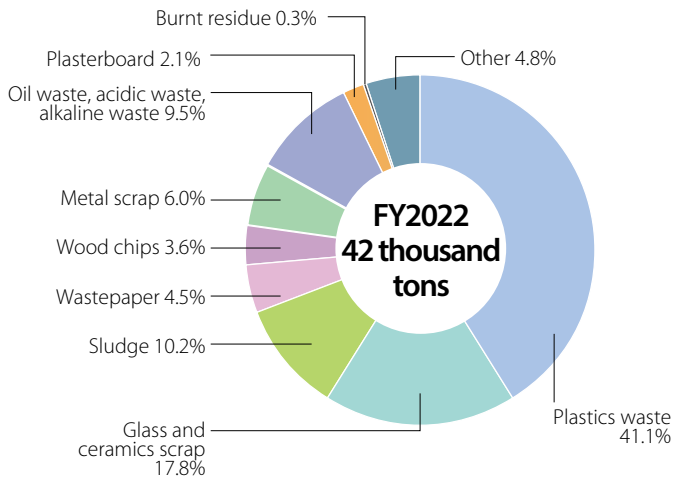
	Total Waste	Recycled Waste	Unrecycled Waste
FY2018	76,249	65,525	10,724
FY2019	70,947	61,928	9,020
FY2020	67,555	58,435	9,120
FY2021	68,939	63,243	5,696
FY2022	71,254	63,176	8,078

Fiscal 2022 Annual Production Site Waste Generation and Disposal / Japan and Overseas

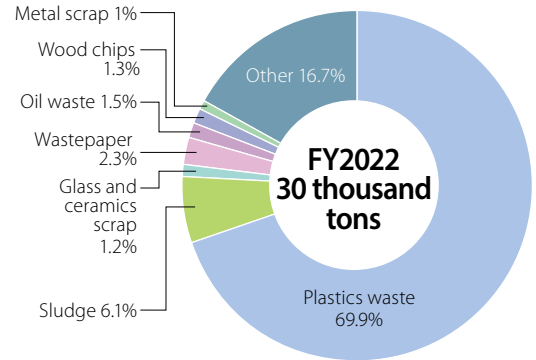


Note: Change over previous year is in () and proportion of total waste generation is in [].

Breakdown of Waste Generated at Production Sites / Japan

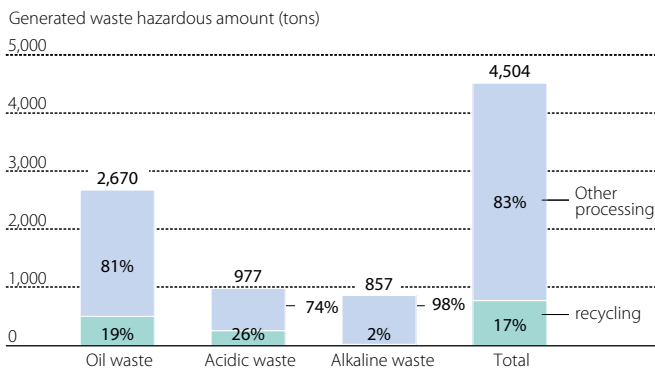


Breakdown of Waste Generated at Production Sites / Overseas



Index	Calculation Method
Generated Waste Amount	<p>Amount of waste generated = Amount of waste collection outsourced + Amount recycled (incinerated waste to energy + recycled back to materials + recyclable waste sold) + Amount incinerated in-house; the items below are excluded:</p> <p>Waste generated by demolition of customers' old houses, remains of construction work at our sites, disposal of machinery, office equipment, etc., medical waste from medical treatment in in-house clinics</p>

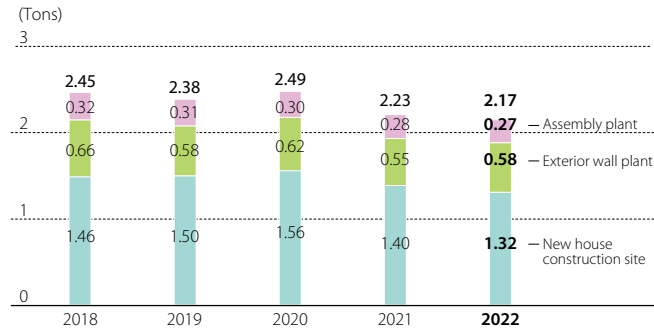
Amount of Hazardous Waste Generated / Recycling rate (Japan and Overseas) Fiscal 2022



Index	Calculation Method
Amount of Hazardous Waste Generated and Recycling Rate	<p>Recycling rate = Amount of recycled waste / Amount of hazardous waste generated</p> <p>Hazardous substance: Oil waste, acidic waste, alkaline waste</p> <p>Recycling: Material recycling</p>

Waste Generated on Construction Sites of New Housing

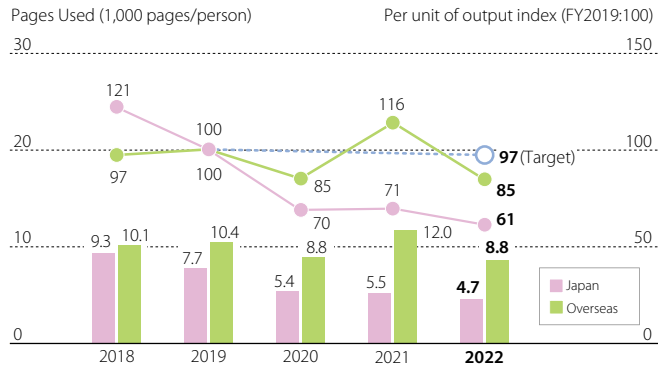
Amount of Waste Generated on Construction Sites of New Housing (per Building) / Japan



Index	Calculation Method
Amount of Waste Generated on Construction Sites of New Housing	<p>Amount of waste generated on construction sites of new housing = Amount of waste generated during construction of outer walls (at factory) + Amount of waste generated during assembly (at factory) + Amount of waste generated at construction site of new housing</p> <p>Amount of waste generated per building during construction of new housing = Total amount of waste generated on construction sites of new housing / Number of new houses sold</p> <p>Scope: Housing business in Japan</p>

Waste Generated in Offices

Amount of Copy Paper Used at Offices per Person (Index)



Note: Some past figures have been revised due to improvements in precision.

Indicator	Calculation Method
Amount of Copy Paper Used at Offices per Unit of Output	Amount of Copy Paper Used at Offices per Unit of Output = Amount of Copy Paper Used at Offices / Office Personnel

Disclosure of the Recycling Status of Waste Plastics in accordance with the Law Concerning the Promotion of Resource Recycling of Plastics.

(Status of Fiscal 2022 Emissions and Recycling)

	Disclosure according to the Act on Promotion of Resource Circulation for Plastics				Recycling as the Management Indicator for SEKISUI CHEMICAL Group (including waste sold as raw materials)			
	Waste emissions (ton)	Rate of recycling	Rate of thermal recycling	Rate of recycling (broad)	Waste emissions (ton)	Rate of recycling	Rate of thermal recycling	Rate of recycling (broad)
Sekisui Chemical Co., Ltd.	4,487	9.5%	83.4%	92.9%	9,995	58.4%	37.5%	95.8%
Hokkaido Sekisui Heim Industry Co., Ltd.	48	0.0%	100.0%	100.0%	48	0.0%	100.0%	100.0%
Tohoku Sekisui Heim Industry Co., Ltd.	21	0.0%	100.0%	100.0%	28	24.4%	75.6%	100.0%
Sekisui Heim Industry Co., Ltd.	358	2.5%	97.5%	100.0%	486	17.0%	83.0%	100.0%
Chushikoku Sekisui Heim Industry Co., Ltd.	80	0.0%	100.0%	100.0%	84	5.4%	94.6%	100.0%
Kyushu Sekisui Heim Industry Co., Ltd.	75	0.0%	100.0%	100.0%	75	0.0%	100.0%	100.0%
Sekisui Board Co., Ltd.	67	0.0%	100.0%	100.0%	67	0.0%	100.0%	100.0%
Higashinohon Sekisui Industry Co., Ltd.	2	0.0%	100.0%	100.0%	10	84.5%	15.5%	100.0%
Nishinohon Sekisui Industry Co., Ltd.	153	0.0%	100.0%	100.0%	157	2.2%	97.8%	100.0%
Sekisui Chemical Hokkaido Co., Ltd.	277	68.1%	31.9%	100.0%	370	76.0%	24.0%	100.0%
Chiba Sekisui Industry Co., Ltd.	128	16.7%	68.9%	85.6%	166	36.0%	52.9%	88.9%
Toto Sekisui Co., Ltd.	284	0.0%	100.0%	100.0%	758	62.5%	37.5%	100.0%
Yamanashi Sekisui Co., Ltd.	115	78.7%	21.3%	100.0%	389	93.7%	6.3%	100.0%
Nara Sekisui Co., Ltd.	247	1.0%	6.8%	7.8%	266	8.0%	6.3%	14.3%
Shikoku Sekisui Co., Ltd.	300	0.0%	95.0%	95.0%	685	56.3%	41.6%	97.8%
Kyushu Sekisui Industry Co., Ltd.	96	65.0%	35.0%	100.0%	840	96.0%	4.0%	100.0%
Sekisui Techno Molding Co., Ltd.	73	3.0%	53.3%	56.3%	469	78.8%	14.5%	93.2%
Sekisui Fuller Company, Ltd.	94	0.0%	75.9%	75.9%	136	30.8%	52.6%	83.3%
SEKISUI MEDICAL CO., LTD.	66	0.0%	98.6%	98.6%	66	0.0%	98.6%	98.6%
Sekisui Nano Coat Technology Co., Ltd.	79	0.0%	96.2%	96.2%	79	0.0%	96.2%	96.2%
Tokuyama Sekisui Industry Co., Ltd.	252	0.0%	55.6%	55.6%	427	41.0%	32.8%	73.8%
Sekisui Polymatech Co., Ltd.	230	0.0%	98.8%	98.8%	230	0.0%	98.8%	98.8%
Sekisui SoflanWiz Co., Ltd.	70	0.0%	83.4%	83.4%	70	0.0%	83.4%	83.4%
Sekisui Seikei, Ltd.	188	15.3%	84.7%	100.0%	1,201	86.7%	13.3%	100.0%
Sekisui LB Tec Co., Ltd.	100	8.9%	0.0%	8.9%	100	8.9%	0.0%	8.9%
Research Laboratory of Plastics Technology Co., Ltd.	7	0.0%	100.0%	100.0%	7	0.0%	100.0%	100.0%
Group Total	7,897	10.7%	78.5%	89.2%	17,208	57.9%	36.5%	94.4%

Note: Rate of recycling: Material recycling and Chemical recycling

Rate of recycling (broad): Material recycling, chemical recycling, and thermal recycling

● Reducing Water-related Risks

Basic Concept

Minimizing water-related risks and solving local community and supply chain water issues

We formulated SEKISUI Environment Sustainability Vision 2050 in 2019 in line with the belief that sustainable operations and development of our businesses requires us to maintain a sound environment in the areas in which we conduct our corporate activities. To realize societies with abundant access to clean water in all the areas in which SEKISUI CHEMICAL Group and its supply chains operate, we have established the following two goals in line with our vision.

<Goals>

1. Minimizing water-related risks at SEKISUI CHEMICAL Group
With the goal of maintaining sustainable operations, SEKISUI CHEMICAL Group will seek to minimize water-related risks. We will also focus on minimizing risks related to water discharged from Group operations in order to better preserve biodiversity.
2. Contributing to the solution of water-related issues in local communities
We will contribute to solving local water issues through products to enhance sustainability and collaboration with watershed stakeholders, aiming not only to minimize water-related risks but also to return positively to natural capital.

Impact of Water-related Risks on the Supply Chain

Manufacturers of steel materials used in the housing business and manufacturers of synthetic resins used in the plastics business are suppliers of raw materials to SEKISUI CHEMICAL Group that consume large quantities of freshwater during their manufacturing processes. Although we do not directly call on such suppliers to conform to environmental standards, with our Sekisui Environment Sustainability Index we calculate as use of natural capital the environmental impact of the pollutants contained in drainage generated during the manufacturing process of primary materials and monitor it on a continual basis.

We also evaluate the degree of contribution to the environment through the reduction of impact on the water environment in the Group's business activities and the expansion of products and services that contribute to the improvement and maintenance of the water environment as return to natural capital*.

From fiscal 2020, we have continued to gain a better understanding of, for example, the water-related risks in our supply chains involving products and the impact of reducing water-related risks by products on returns to natural capital and social capital.

* For details of the Integrated Sekisui Environment Sustainability Index see p. 119.

Contribution to the Reduction of Water-related Risks Through Business Operations

SEKISUI CHEMICAL Group develops a range of businesses related to water infrastructure, such as supply, storage, and drainage of water, contributing to society, not only through technologies and products that help to improve the quality of drainage, such as water treatment systems and drain pipes, but also by creating strong water infrastructure made to withstand natural disasters.

For example, the Cross Wave* rainwater collection system, one of our products being marketed in Japan, India, China, Taiwan, and other ASEAN areas, reduces water-related risks. Cross Wave is used to contribute to measures against chronic water shortages, recycling rainwater for both the greening of urban areas and disaster prevention, and also contribute to minimizing the damage caused by floods.

With the goal of not only reducing damage from the ever-increasing number of disasters brought on by climate change, but also promoting disaster mitigation in support of recovery efforts after a disaster, we are expanding the peace of mind we can offer to our housing customers by recommending, for example, the installation of a drinking water storage system that uses water infrastructure piping.

* Cross Wave: Rainwater storage system. This molded product made from recycled plastic creates an underground space which is used to store rainwater. It regulates the rain volume flowing into sewer systems and rivers during torrential rains and makes reuse of rainwater possible.

Reduction of Water-related Risks at Business Sites with High Water Intake Volume and Discharge Volumes

SEKISUI CHEMICAL Group draws the water it needs to use in its business activities from public water systems, industrial water systems, underground reservoirs, and surrounding rivers.

With the understanding that water is a precious natural resource shared in the community, we do our best to reduce the amount of water used, such as by reusing cooling water.

We have to date established targets and enacted measures for reducing Water intake volume and chemical oxygen demand (COD) of discharged water at each of our production and research facilities. However, based on local water-related risk conditions and the state of water consumption, we will focus on promoting reduction of water use at business locations where the impact on business is particularly large.

Targets

| Water-related Risks

Aim: Maintain water resources

Indicator 1. Water intake volume at production sites which use large quantities of water

Current Medium-term Management Plan (2020-2022) Target -10%
 Fiscal 2022 Result -7.8% (compared with fiscal 2016)
 Next Medium-term Management Plan (2023-2025) Target -10% (compared with fiscal 2016)
 Fiscal 2030 Target —
 Fiscal 2050 Target —

Indicator 2. Total COD volume of river discharge water at production sites with large COD emission volumes

Current Medium-term Management Plan (2020-2022) Target -10%
 Fiscal 2022 Result -14.3% (compared with fiscal 2016)
 Next Medium-term Management Plan (2023-2025) Target -10% (compared with fiscal 2016)
 Fiscal 2030 Target —
 Fiscal 2050 Target —

Roadmap to Realize Societies with Abundant Access to Clean Water

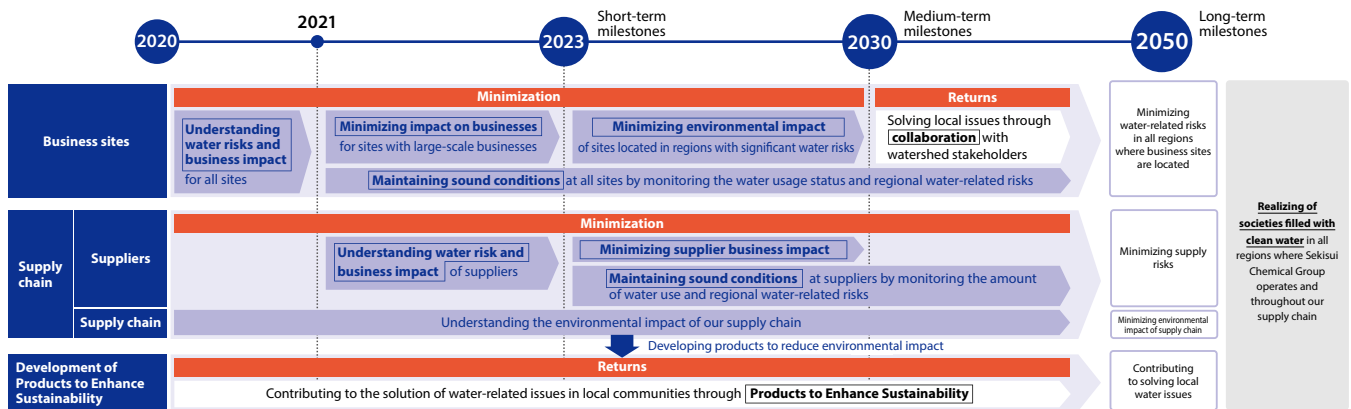
SEKISUI CHEMICAL Group has set the goal of realizing societies with abundant access to clean water by 2050, which is the target year of its SEKISUI Environment Sustainability Vision 2050. By backcasting from this goal, we are establishing specific measures and milestones while promoting initiatives.

- We will evaluate local water-related risks and their business impacts and select business sites and suppliers where the business impact is large, and sites where water-related risks are substantial.
- For business sites where the business impact is substantial, we will initiate steps to minimize this impact by 2023 in line with the risks of each site.
- For suppliers where the business impact is substantial, we will minimize risk by 2030, through such factors as a review of suppliers.
- For business sites where water-related risks in the region are substantial, we will minimize environmental impact by 2030.
- We will create monitoring guidelines and oversee all sites for both business and environmental impacts.

In order to accelerate returns to natural capital, including the conservation of water resources, we will work to help solve regional water issues and minimize the environmental impact across the supply chain by continuously promoting the development of products to enhance sustainability.

Moreover, as an initiative being undertaken at business sites around the world, we will work to help solve regional water issues by building a collaborative system with watershed stakeholders from 2030 to 2050.

Roadmap



Assessment of the Impact on Businesses from Water-related Risks

In fiscal 2020, the first year of the roadmap for 2050, we conducted assessments of the likely impact on business from water-related risks at all SEKISUI CHEMICAL Group production sites and research institutes.

The Group had conducted a water risk survey in 2013, however seven years have passed. Since then, some business sites have been newly established or closed, and therefore we conducted the survey again.

The purpose of this survey was to identify water-related issues in the areas in which each business site is located (assessment of external factors) and to identify those sites that exhibit major water-related risks and those that have a significant impact on the environment.

We undertook quantitative assessments of the business impact of water-related risks as well as the impact on the environment of our business activities in a bid to identify the water-related issues of the local area. In doing so, we used assessment results drawn from Aqueduct Water Risk Atlas 3.0, a tool for assessing water-related risks in each region of the world created by the World Resources Institute (WRI), an international environmental NGO, and information on water use obtained from individual business sites through questionnaires.

In undertaking assessments, we followed the criteria recommended in the Guidelines for Setting Water Targets for Companies* issued by the CEO Water Mandate.

In fiscal 2022, we identified initiatives to minimize the impact on business according to the specified water-related risks and set specific quantitative targets at the five domestic and overseas sites that were evaluated as having a large business impact. Moving forward, we will begin implementing these initiatives in fiscal 2023.

* Setting Site Water Targets Informed by Catchment Context: A Guide for Companies

System

For a diagram of the Environmental Management Promotion System see p. 126.

Major Initiatives

Reduction of Water Intake Volume, and Chemical Oxygen Demand (COD) of Discharged Water

In fiscal 2022, Water intake volume at production sites increased by 0.7% compared with results of the base fiscal year 2016 while decreasing by 3.5% compared with the previous year. This reflects the installation of equipment that control the volume of direct water intake from rivers at production sites in Japan that consume large volumes of water and the effects of reduction endeavors.

The COD of water discharged decreased by 16% compared with results of the base fiscal year of 2016, and decreased by 15% compared with the previous year. This is due to improvements in wastewater treatment water quality at domestic production sites, which have a high drainage volume.

Examples of capex using the environmental contribution investment incentive program

Base year: Fiscal 2016

	Site	Reduction strategy	Result (Expected)
Reduction in Water intake volume	Shiga-Minakuchi Plant	Introduction of filtration equipment allowing the reuse of recycled wastewater as a coolant. Strengthen management and promoted visualization of water use at the facility.	Reduction of 9%
	Sekisui Medical Co., Ltd. Iwate Plant	10% reduction through automation of industrial water intake adjustment	Reduction of 10%
Reduction in wastewater COD	Sekisui Nano Coat Technology Co., Ltd.	Improve treatment capacity by upgrading wastewater treatment facility	Reduction of 25%

■ Increase of Water Treatment Capacity at Sekisui Nano Coat Technology Co., Ltd.

At Sekisui Nano Coat Technology Co., Ltd., wastewater with high-concentration COD is discharged from the degluing and refining processes of textile products and, after passing through their in-house wastewater treatment equipment, is discharged into the sea.

In recent years, the amount of wastewater has been decreasing due to changes in business domains. Also, the COD of wastewater has become difficult to eliminate due to changes in the composition of the glue used in raw materials. Accordingly, we have made improvements to optimize the capacity of the wastewater treatment equipment.

Treatment capacity has improved by making the treatment process more compact according to the amount of decrease in wastewater and installing a process in which microorganisms suitable for the treatment of persistently decomposed COD particles are optimized.

In fiscal 2022, COD volume of water discharged decreased by 64% compared with 2016 results.



Sekisui Nano Coat Technology wastewater treatment facility

■ Water Recycling

SEKISUI CHEMICAL Group promotes the reuse of water in its production processes in order to reduce the amount of water it draws from water sources. At the production plants of the UIEP and HPP companies, large volumes of cooling water are recycled and reused in the manufacturing process. In fiscal 2022, at production sites in Japan and overseas, we used 106 million cubic meters of recycled water. This is equivalent to 5.1 times the total Water intake volume.

In Hasuda City, where the Musashi Plant is located, the wastewater purified at the Musashi Plant in accordance with environmental standards is used as the main water source for Lake Kurohama*, which is designated as a nature conservation area in Saitama Prefecture.

* See the following website for details regarding Kurohama Lake.

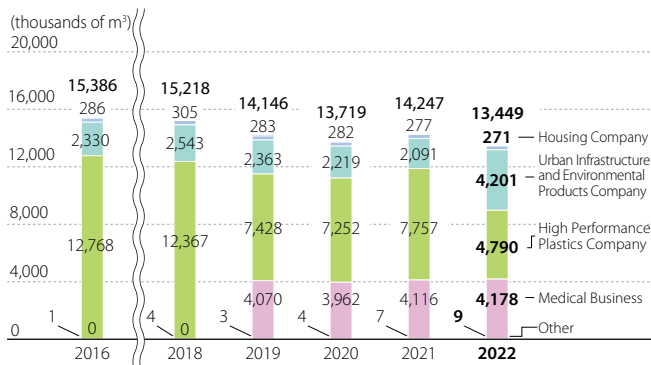
<https://www.sekisuichemical-foam.com/en/aboutus/ecology/>

Performance Data

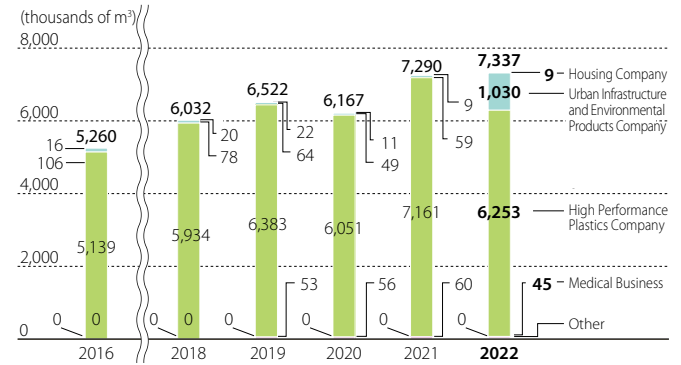
Note 1: From fiscal 2019, Medical Business results have been collated separately following its independence from the HPP Company and the presentation of Headquarters results reclassified as Other.

Note 2: In line with a change in the control of certain businesses in the UIEP and HPP companies implemented from October 2022, the data of both companies for fiscal 2022 is collated as if the change in control had been initiated from the beginning of fiscal 2022.

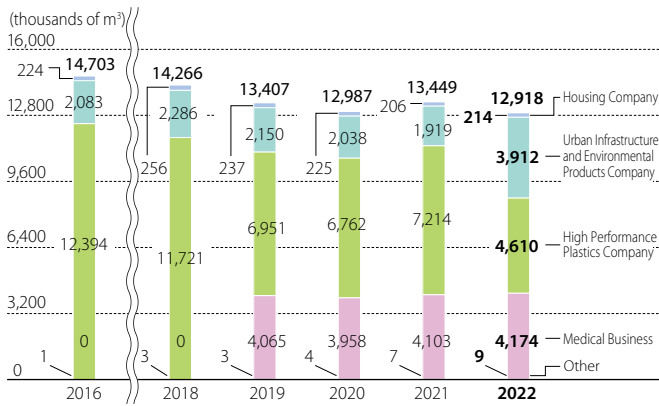
Water Intake Volume at Production Sites / Japan



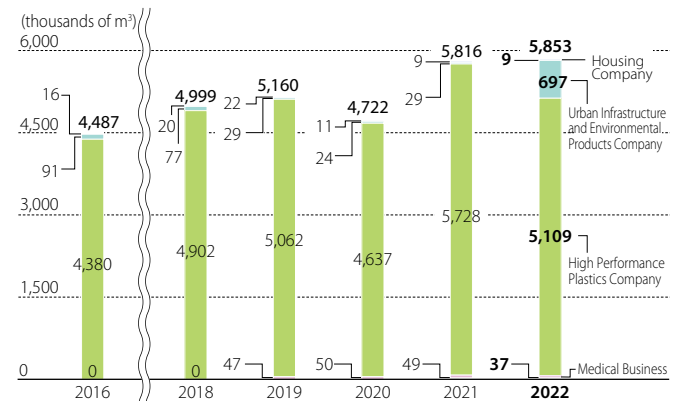
Water Intake Volume at Production Sites / Overseas



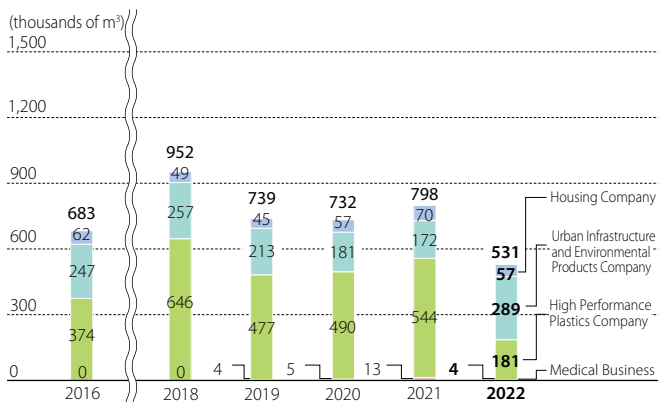
Wastewater Discharge at Production Sites / Japan



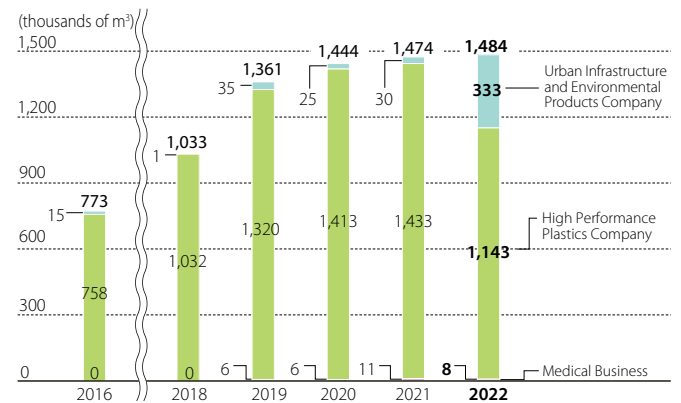
Wastewater Discharge at Production Sites / Overseas



Water Consumption at Production Sites / Japan



Water Consumption at Production Sites / Overseas



Water Intake Volume at Production Sites by Water Source (Base year = 2016)

(thousands of m³)

Water source	Regions	All regions						Areas in regions with water stress					
		2016	2018	2019	2020	2021	2022	2016	2018	2019	2020	2021	2022
Surface water	Japan	696	197	726	129	185	18	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	0	0	1	3	0	0	0	0	1	3	0	0
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	0	0	0	0	0	0	0	0	0	0	0	0
	Total	696	197	727	131	185	18	0	0	1	3	0	0
Ground water	Japan	2,604	2,632	2,517	2,340	2,238**	2,232	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	103	144	111	121	132	125	25	35	16	22	24	29
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	4	0	0	0	5	21	0	0	0	0	0	0
	Total	2,710	2,776	2,628	2,461	2,375**	2,378	25	35	16	22	24	29
Seawater	Japan	0	0	0	0	0	0	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	0	0	0	0	0	0	0	0	0	0	0	0
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0
Third-party water*	Japan	12,086	12,389	10,903	11,250	11,824**	11,199	0	0	0	0	0	0
	China	273	324	265	247	243	226	236	311	256	241	235	222
	Southeast Asia and Oceania	896	966	1,093	957	1,087	1,168	18	72	80	55	42	79
	Europe	1,943	1,866	1,960	1,674	2,527	2,603	1,857	1,805	1,887	1,606	2,444	2,527
	North and Central America	2,042	2,732	3,092	3,165	3,297	3,194	10	156	141	94	121	132
	Total	17,241	18,278	17,313	17,293	18,977**	18,390	2,121	2,344	2,365	1,996	2,842	2,959
Total volume of water withdrawn	Japan	15,386	15,218	14,146	13,719	14,247	13,449	0	0	0	0	0	0
	China	273	324	265	247	243	226	236	311	256	241	235	222
	Southeast Asia and Oceania	999	1,110	1,204	1,081	1,219	1,292	44	107	97	80	65	107
	Europe	1,943	1,866	1,960	1,674	2,527	2,603	1,857	1,805	1,887	1,606	2,444	2,527
	North and Central America	2,046	2,732	3,092	3,165	3,301	3,216	10	156	141	94	121	132
	Total	20,646	21,250	20,668	19,885	21,537	20,785	2,146	2,379	2,382	2,021	2,866	2,988

* Third-party water: Water withdrawn from local government water suppliers (public water systems, water systems for industrial use)

** Some past figures have been revised due to improvements in precision.

Wastewater Discharge at Production Sites by Discharge Destination (Base year = 2016) (thousands of m³)

Discharge destination	Regions	All regions						Areas in regions with water stress					
		2016	2018	2019	2020	2021	2022	2016	2018	2019	2020	2021	2022
Surface water	Japan	11,219	11,353	10,680	10,179	10,623	10,183	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	22	20	43	18	13	22	2	0	22	4	1	8
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	0	0	0	0	0	0	0	0	0	0	0	0
	Total	11,241	11,372	10,722	10,197	10,636	10,205	2	0	22	4	1	8
Ground water	Japan	0	0	0	0	0	0	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	0	0	0	0	0	0	0	0	0	0	0	0
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	0	0	0	0	0	0	0	0	0	0	0	0
	Total	0	0	0	0	0	0	0	0	0	0	0	0
Seawater	Japan	2,892	2,277	2,160	2,293	2,205	2,149	0	0	0	0	0	0
	China	0	0	0	0	0	0	0	0	0	0	0	0
	Southeast Asia and Oceania	0	0	0	0	0	0	0	0	0	0	0	0
	Europe	0	0	0	0	0	0	0	0	0	0	0	0
	North and Central America	0	0	0	0	0	0	0	0	0	0	0	0
	Total	2,892	2,277	2,160	2,293	2,205	2,149	0	0	0	0	0	0
Third-party water*	Japan	591	636	567	515	622	586	0	0	0	0	0	0
	China	272	308	255	237	233	218	235	296	246	232	226	214
	Southeast Asia and Oceania	679	830	860	790	881	883	26	103	60	54	37	59
	Europe	1,930	1,860	1,944	1,664	2,511	2,592	1,857	1,805	1,875	1,601	2,439	2,521
	North and Central America	1,585	1,981	2,060	2,012	2,177	2,138	9	79	81	62	62	73
	Total	5,057	5,615	5,685	5,219	6,424	6,417	2,127	2,283	2,262	1,949	2,764	2,867
Total Volume of Wastewater	Japan	14,703	14,266	13,407	12,987	13,449	12,918	0	0	0	0	0	0
	China	272	308	255	237	233	218	235	296	246	232	226	214
	Southeast Asia and Oceania	701	850	902	809	895	904	29	103	83	58	38	66
	Europe	1,930	1,860	1,944	1,664	2,511	2,592	1,857	1,805	1,875	1,601	2,439	2,521
	North and Central America	1,585	1,981	2,060	2,012	2,177	2,138	9	79	81	62	62	73
	Total	19,190	19,265	18,567	17,709	19,265	18,770	2,129	2,283	2,285	1,952	2,765	2,874

* Third-party water: Wastewater (sewer systems) discharged to wastewater treatment facilities of local governments, etc.

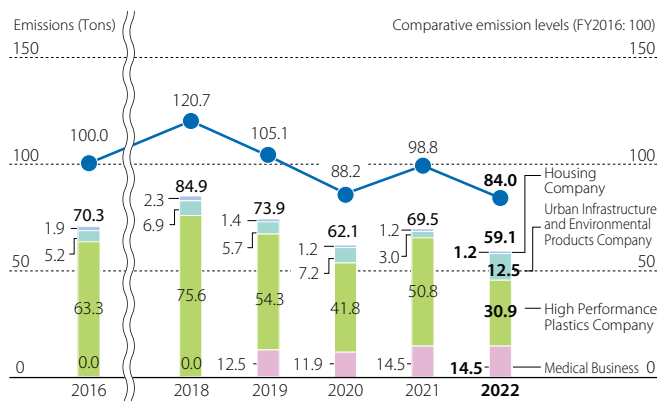
Water Consumption at Production Sites (Base year = 2016)

(thousands of m³)

Regions	All regions						Areas in regions with water stress					
	2016	2018	2019	2020	2021	2022	2016	2018	2019	2020	2021	2022
Japan	683	952	739	732	798	531	0	0	0	0	0	0
China	1	16	10	10	9	8	1	16	10	10	9	8
Southeast Asia and Oceania	298	260	302	272	324	388	15	4	15	22	27	41
Europe	13	6	17	9	16	11	0	0	13	5	6	6
North and Central America	461	751	1,032	1,153	1,125	1,078	1	77	60	33	59	59
Total	1,456	1,985	2,101	2,176	2,272	2,015	17	97	98	69	101	114

Indicator	Calculation Method
Water intake volume	Water intake volume = Total Water intake volume = (The sum of water intake from surface water, ground water, seawater, and third-party water)
Wastewater discharge	Wastewater discharge = Total wastewater discharge = (The sum of wastewater discharged to surface water, ground water, seawater, and third-party wastewater)
Water consumption	Water consumption = Water intake volume - wastewater discharge
Areas in regions with water stress	Areas where Baseline Water Stress is ranked as High or Extremely High under the WRI Aqueduct™ Water Risk Atlas (Aqueduct 3.0) Evaluation System

COD Discharge / Japan



Indicator	Calculation Method
COD Discharge	Discharge = Σ[COD concentration (annual average of measured values) × Water discharge volume]

● Addressing Biodiversity

Basic Concept

Reducing the Impact of Corporate Activities on Biodiversity

Corporate activities of SEKISUI CHEMICAL Group are blessed by the fruits of nature derived from biodiversity, while negatively impacting the ecosystem. Recognizing this, we consider nature as a form of capital that has value, and will therefore realize returns on the impact of use through products and initiatives.

SEKISUI CHEMICAL Group promotes the efficient use of limited resources and energy, and strives to reduce the environmental impact caused by greenhouse gases and harmful chemical substances and prevent pollution. At the same time, we endeavor to enhance functions and services that enable customers who use our products to contribute to conserving biodiversity.

As a guide for behavior based on this stance, we established a set of guidelines* on biodiversity in 2011. In cooperation with various stakeholders, the Group realizes a return to natural capital through both environmentally conscious business activities and actions to preserve the environment undertaken around the world, while at the same time striving to conserve biodiversity in an effort to achieve nature positivity.

* Biodiversity Guidelines

1. Analysis/assessment and reduction of impact

While analyzing/assessing the impact on our business activities, we will work to reduce any negative impact on ecosystems.

2. Contribution from technologies and products

While working diligently to develop and supply technologies and products that contribute to the conservation or recovery of biodiversity, we will learn from lean natural circulation and promote manufacturing that utilizes that wisdom.

3. Raising employees' awareness and habitat conservation

Through the promotion of social contribution activities, such as nature conservation activities, we will raise employees' awareness and make efforts to conserve the habitat of living things.

4. Dialogue with stakeholders

We will work diligently to promote biodiversity conservation by interacting and collaborating with various stakeholders, such as local communities, NGOs, and education/research institutes.

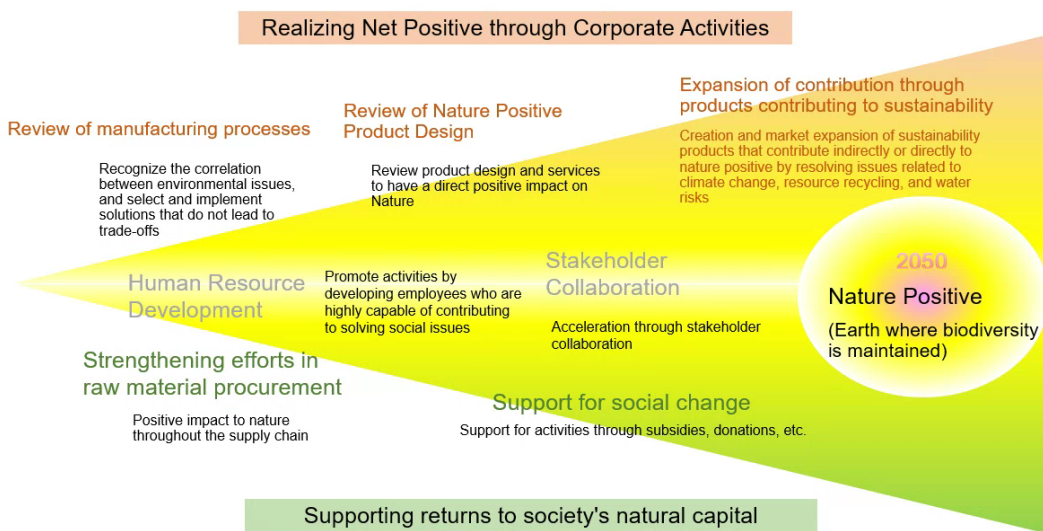
5. Information transmittance and learning/diffusion

To remain a company that is trusted by and meets the expectations of society, we will disclose our voluntary efforts in biodiversity conservation and their outcomes. At the same time, we will thereby contribute to the enlightenment and the dissemination of a sustainable society.

Toward the Realization of an Earth with Maintained Biodiversity

To contribute to the realization of an earth with maintained biodiversity, SEKISUI CHEMICAL Group engages in activities based on its Long-term Environmental Management Vision, SEKISUI Environment Sustainability Vision 2050*1. As stated in the SDGs, natural environment and social environment issues are interconnected, and in order to solve a single issue, we must remain conscious of multiple issues while working to find solutions. Looking ahead, we intend to strengthen our partnerships with stakeholders and evolve activities conscious of the need to solve not only issues relating to the natural environment and social environments, but also contribute to realizing a return to social capital as well as natural capital*2, through which we hope to achieve a nature positive earth. To this end, we have drawn the following grand design of initiatives to be focused on by 2050

Biodiversity Grand Design



Toward achieving nature positivity and an earth with maintained biodiversity
Initiatives for realizing a return to natural capital through corporate activities

- Revise manufacturing processes
- Revise product designs to be nature positive
- Expand our degree of contribution through products to enhance sustainability

Initiatives to help realize a return to natural capital through society

- Enhance initiatives involving raw materials procurement
- Support social transformation

Initiatives to accelerate returns to natural capital as part of corporate activities and society

- Human resources development
- Stakeholder collaboration

We will focus our energies on the above.

*1 For details of the Long-term Environmental Management Vision: SEKISUI Environment Sustainability Vision 2050 see p. 104.

*2 For details of the Integrated Index, Sekisui Environment Sustainability Index see p. 119.

Biodiversity Initiatives to Date and the Future

We envisioned and have promoted the following initiatives to address biodiversity

1. Assessment and reduction of the impact of business activities on biodiversity
 - Developing assessment methods and conducting assessments, reducing impact
 - Greening of business sites (promoting landscaping and biotope development)
 - Promoting biodiversity-conscious purchasing
2. Development and promotion of related technologies and products
 - Incorporating biodiversity assessments at the product development stage
3. Raising employees' awareness
 - Conducting nature conservation activities at all business sites
 - Expanding Sekisui Nature Study Course and nature conservation activities
4. Dialogue and cooperation with external stakeholders
 - Supporting innovations inspired by nature, and holding public forums
 - Supporting nonprofit and other organizations through Keidanren (Japan Business Federation)
5. Transmittance of information
 - Participating in exhibitions
 - Educating the next generation (Children's Nature Study Course, school visits)
 - Providing information through Sustainability reports, site reports, and the Company's website

Starting with the next Medium-term Management Plan, we will take action by applying an awareness of biodiversity (natural capital) to initiatives intended to solve environmental issues that are already underway. In addition, we will enhance efforts to ascertain current conditions, and if any negative impacts on biodiversity are identified, we will work to mitigate negative items while searching for measures that connect to nature positive outcomes with the aim of increasing the effectiveness of initiatives. For this purpose, as well, we will include additional indicators for efforts to ascertain current conditions.

Biodiversity Initiatives in the Next Medium-term Management Plan

		Recognize impact and dependence	Reduce negative impacts	Increase the positive impact
Achieve net positive through natural capital throughout the product life cycle	Products to Enhance Sustainability	<ul style="list-style-type: none"> Understanding current situation and identifying important aspects by analyzing the impact of products on natural capital (LCA method, etc.) Reduction contribution Raising awareness raising for product registration Rate of return 	Consideration of product design and services to reduce negative impact on product life cycle (confirmation at registration and holding study sessions) Management indicators for each issue	Creation and market expansion of products to enhance sustainability that contribute indirectly or directly to nature positive by resolving issues related to climate change, resource recycling, and water risks. Number of registrations Net sales
	Manufacturing Process	<ul style="list-style-type: none"> Understand the impact on ecosystems of water use Grasping the impact of land of production sites by utilizing the "Land Use Score Card" (expanding target areas) Area and number of business sites 	<ul style="list-style-type: none"> Considering solutions that do not involve trade-offs in order to solve each environmental issue Reduction of water risk in river basins at production sites Promoting the use of chemical substances with only small impact on the ecosystem and suppressing the release of chemical substances Promotion of resource recycling for plastic products 	<ul style="list-style-type: none"> Expanding the positive impact of green space on the premises by utilizing the results of the Land Use Score Card Points
Human Resource Development		Improve ability to contribute to solving social issues through educational and SDGs contribution activities Risk score		Awareness to SDGs No.14 and No.15 Level of ability to contribute to solving social issues, number of human resources
Supporting Net Positive in Social	Procurement of Raw Materials	<ul style="list-style-type: none"> Understanding raw material risks through CSR/timber procurement questionnaires in procurement Risk score 	Strengthen sustainable procurement (focus on certification + due diligence). Especially for timber, traceability needs to be understood and sustainable procurement is pursued.	Cumulative number of grants
	Social Transformation	-	-	<ul style="list-style-type: none"> Continuing research grants (manufacturing that learns from nature) Area, CO2 fixation, job creation value, etc. Mangrove planting in Thailand Corporate collaboration activities supported by 30by30

Yellow box : Examples of indices to measure

Targets

Ecosystem

JBIB Land Use Score Card® Evaluation Points

Current Medium-term Management Plan (2020-2022) Targets +3 points over a 3-year period (compared with fiscal 2019)

Fiscal 2022 Results +4.9 points (compared with fiscal 2019)

Next Medium-term Management Plan (2023-2025) Target +3 points over a 3-year period (compared with fiscal 2022)

FY2030 Target Promote ecosystem consideration* at all business sites

FY2050 Target Maintain ecosystem consideration at all business sites

* Ecosystem consideration: Increased quantitative evaluation of biodiversity

System

Please refer to Environmental Management Promotion System (p. 126).

System for Addressing Biodiversity

At the twice-yearly meetings of SEKISUI CHEMICAL Group's Environmental Subcommittee, which has been established under the Sustainability Committee chaired by the president, SEKISUI CHEMICAL Group discusses and deliberates on the direction of initiatives and specific items for initiatives in regard to biodiversity and other environmental issues involving its corporate activities.

When new land is acquired, for example through large-scale land development, such as when constructing our own factories, or through M&As, we carry out environmental assessments of the impact that our business may have on the atmosphere, water areas, soil, etc. During these environmental impact assessments, we also conduct verification of any impact with regard to biodiversity.

Assessment of Impact on Biodiversity (Natural Capital)

Under its SEKISUI Environment Sustainability Vision 2050, the Group is working to realize an earth with maintained biodiversity. To that end, we are promoting activities that incorporate a net-positive approach toward ecosystems. As previously mentioned, the Sekisui Environment Sustainability Index is used as an integrated indicator to confirm the degree of progress toward realizing the Group's environmental vision, and is calculated as the rate of return to natural and social capital, which can be considered an assessment of the degree of impact on overall biodiversity.

Furthermore, going forward we will also take steps to identify and monitor the impact of two aspects on plants (primary growth of plants) and biodiversity (rate of extinction of living species).

For some time, SEKISUI CHEMICAL Group has recognized that the use of raw materials, emissions of chemical substances, and disposal of products sold place a serious burden on biodiversity. Due to the greater understanding of the unique effects of these chemical substances in recent years as part of LCA databases used to monitor impact, the impact per unit amount of chemical substances has been increasing. In response, we intend to update the databases we use, reconfirm the benchmarks, and expand our return starting with the next Medium-term Management Plan.

Trends in Rates of Return to Biodiversity and Plant Primary Production

(%)

	2016	2017	2018	2019	2020	2021	2022 
Biodiversity aspects	41.0	38.3	39.4	43.1	40.8	49.7	38.0
Plant Biomass aspects	34.2	35.0	35.1	34.9	38.2	41.0	67.8

In regard to the two aspects of plants (primary production of plants) and biodiversity (rate of extinction of living species), we will confirm the rate of return for each, and adopt these as verification indicators to enable the Group to have a positive direct impact. The above indicates that trend. Although the return rate for both aspects remains below 100%, by engaging with climate change, resource circulation, and other environmental issues going forward, we will promote corporate activities that move steadily toward nature positivity.

Among the raw materials used by the Group, we understand that paper derived from biomass and materials derived from petroleum have a major impact.

In a bid to reduce this impact, we recognize the importance of strengthening procurement that takes into account sustainability also with respect to non-fossil resources as identified in our resource recycling policy. With the aim of strengthening sustainable procurement, SEKISUI CHEMICAL Group is reviewing consideration items pertaining to supplier management and conducting activities aimed at reducing environmental impact and corporate risks in cooperation with suppliers based on guides.

Meanwhile, products that contribute significantly to biodiversity include, for example, products that contribute to the reduced use of mineral, fossil, and forest resources. These products are used in a wide range of areas and include products that contribute to resource recycling by reducing energy consumption during the use of vehicles and transportation, improving durability, and promoting a shift in raw materials. Examples of the former include KYDEX, LLC products for aircrafts and railroads. Examples of the latter include products related to the SPR method for sewage pipe rehabilitation. Products that contribute significantly to the primary growth of plants include, for example, products that reduce global warming and products that can reduce waste. Once again in the case of the former, an example is Sekisui Heim's housing equipped with solar power generation system panels. In the case of the later, examples include Kraft tape, which enables the use of a thinner paper core than previously possible.

To expand these contributions, we are developing products and technologies that contribute to decarbonization while working to reduce waste from products sold. We also acknowledge the importance of putting in place services and technologies that promote recycling. With this in mind, we are looking to achieve each of the aforementioned goals by expanding our lineup of products to enhance sustainability.

The rate of return to plant biomass increased in fiscal 2022. We believe this increase can be attributed to a variety of factors, including the reduced use of raw materials that have a negative impact, improvements in the quality of green spaces at production sites, and contributions from products that have a positive impact on the land used.

As far as biodiversity is concerned, we also recognize that increases in the impact of chemical emissions and the decrease in sales of products that contribute to biodiversity have led to a decline in the rate of return.

SEKISUI CHEMICAL Group will continue to promote manufacturing while considering the direction of trends from these rates of return in order to engage in nature positive corporate activities.

Major Initiatives

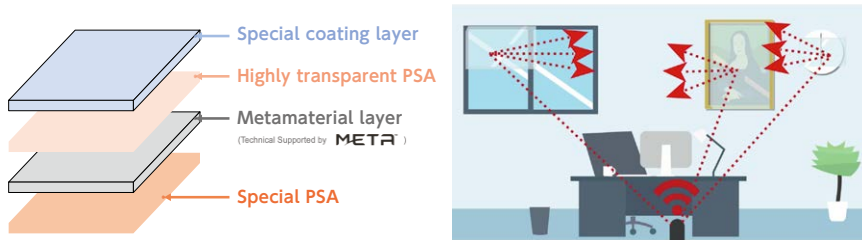
| Innovation Inspired by the Nature Research Support Program and Holding Forums

As an effective approach to manufacturing that is geared toward solving social as well as environmental issues, SEKISUI CHEMICAL Group has recognized the importance and necessity of learning from nature's wisdom since 2002. Based on this understanding, we established the nature-inspired manufacturing research support program to promote the development of biomimicry technology and have organized forums where researchers can share their results.

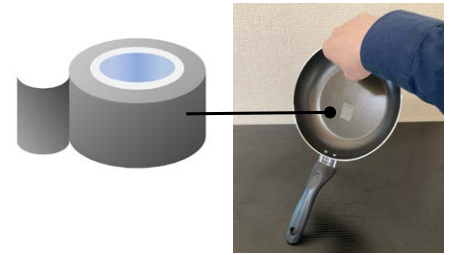
While basic science requires time for research and support, we believe that learning from nature's wisdom has the potential to create fundamental innovations that differ from conventional energy-consuming technologies.

For researchers outside the Company, this program has encouraged the development of 294 technologies (cumulative total as of the end of March 2023). Amid efforts to the promote development based on this understanding, the following types of technologies and products have emerged.

[Contribution to a next-generation telecommunications society]



Transparent flexible reflector film developed from studies of the brilliance of morpho butterfly wings



Fluoroplastic-compatible adhesive tape developed from the study of mussel secretions

[Contribution to extending healthy lifespans (and COVID-19 countermeasures)]



Viru-taker™ and Allerbuster developed from the study of plant-based resins

[Contribution to addressing climate change (heat island effect countermeasure)]



Fractal sunshade material Airyshade developed from the study of the cool shade of trees

SEKISUI CHEMICAL Group will continue to place considerable importance on learning from nature's wisdom in its manufacturing with the aim of developing nature positive products and businesses in the future.

Use of Sustainable Timber and Ensuring Traceability

To contribute to the eradication of deforestation as well as the sustainable use of timber resources, at SEKISUI CHEMICAL Group every effort is made to ensure that the timber used in products is logged in accordance with statutory and regulatory requirements, such as FSC-certified timber. In addition, the Group conducts investigations into commercial distribution with regard to the logging area, tree species and quantity of timber materials to ensure traceability. For recycled materials, we use timber- and wood-based materials that are already used in markets, as well as unused thinnings and branches.

In 2022, we newly raised the target of eliminating deforestation by 2030 and revised our Timber Procurement Policy* for the purpose of achieving this goal. Moreover, we formulated the Sustainable Timber Procurement Guidelines to realize procurement in line with this policy. In addition to continuing to procure timber in a legal manner as a matter of course, we also began initiatives towards reducing the impact of deforestation on the human rights of indigenous peoples and the environment.

* For details of the SEKISUI CHEMICAL Group Timber Procurement Policy see p. 347.

Initiatives to Improve Green Space Quality at All Domestic Production Sites and Research Institutes

Having prepared habitats for local flora and fauna at 45 business sites (total site area 3,238,000 m², total green space area 850,000 m²) in Japan, we are moving forward with efforts to improve the quality of green spaces at business sites. Our aim is to build ecosystem networks that connect local communities and business sites while invigorating local partnerships. Under the Environmental Medium-term Plan (2020-2022), we aimed to improve our score on the JBIB Land Use Score Card[®] by three points compared with fiscal 2019.

Under the guidance of the environmental consulting company Regional Environmental Planning, Inc., we are engaged in a range of activities at each business site. For example, we are formulating and executing green space design and management plans in harmony with the surrounding natural environment, conducting sustainable maintenance and management that utilize natural cycles, eradicating invasive species and conserving rare species, and maintaining communication with stakeholders. As a result, in fiscal 2022 we improved our average score 4.9 points compared with fiscal 2019. Under the New Environmental Medium-term Plan (2023-2025), we aimed to improve by three points compared with fiscal 2022.

Activities to Survey Non-native and Conservation Plant Species and to Eradicate Non-native Plant Species

Many non-native species have invaded and become firmly established all around us. Some of them are plants that damage ecosystems, including those that deprive native species of their habitats, and others are plants that are harmful to people.

Based on this situation, SEKISUI CHEMICAL Group has been conducting surveys of exotic plants and precious plants in and around its business sites with the cooperation of experts at 24 factories and offices since fiscal 2018. After selecting those species (plants) to be eradicated and those to be conserved, we prepared countermeasure manuals that describe appropriate removal methods and timings and are using these to conduct on-site confirmation. We are also continuing to carry out eradication-related activities, such as receiving lectures on eradication from experts on an as-needed basis.

To create and maintain better environments within our business sites, it is desirable to focus on non-native species and species conservation (precious species) while managing green spaces that show that we give consideration to biodiversity.



General view of a plant survey
(research and development facility)



General view of an eradication
lecture (SEKISUI Board Minakuchi)



Example of species targeted for
eradication (burr cucumber)

Ecosystem Survey Conducted by Removing the Water from a Biotope Pond for the First Time in 17 Years

Kyushu Sekisui Industry established a biotope in 2000 to conserve biodiversity and ecosystems, as well as has been regularly conducting biodiversity surveys since 2015, as well as pond bottom sediment/water quality management and ecological surveys of rare native species living there since 2017. The pond was recently drained in order to improve the bottom sediment/water quality and to conduct ecological surveys. New employees also participated on that day as part of their environmental education, and we also asked NHK (Japan Broadcasting Corporation) Saga Station for an interview to publicize our activities, which were featured on the evening news.

As for rare species, we confirmed a stable population of Parrot feather fish but were unable to catch any *Rhodeus ocellatus*, *Hemigrammocypripis rasborella*, or *Biwia zezera* fish species, suggesting that their populations are very small and thus creating a stable habitat requires better conditions. The pond's embankment has been damaged by an invasive species of carp and therefore requires periodic reconstruction work to prevent damage. Other maintenance issues include sunken ditches from age-related deterioration, and we will maintain the biotope, recognizing it as an important place for coexisting with nature. In addition, once a year we invite nearby elementary schools to the biotope to take part in nature observation events as a way to contribute to local communities.

Looking ahead, we aim to integrate the biotope with digital transformation (DX) using digital devices to observe it online.



Wetland biotope conservation



NHK interview



The ray-finned fish, abbotina rivularis, an endangered species

Certification Equivalency from the Site Coexisting with Nature Certification Demonstration Project

Sekisui Medical's Iwate Plant participated in the Site Coexisting with Nature Certification Demonstration Project administered by the Ministry of the Environment of Japan, and received a screening result "equivalent to certification as a trial result". As an outcome of biodiversity monitoring surveys conducted in fiscal 2022, 951 species of flora and fauna were found to be growing and inhabiting the area. Among these, the survey discovered 22 rare species, including Japanese serow (Special Protected Species) and Japanese Dormouse (Glirulus japonicas). By creating an environment that contributes to biodiversity through efforts to continuously plant deciduous broadleaf trees and to provide spawning grounds for Tohoku Salamanders and forest tree frogs, for example, we perform sustainable maintenance and management that leverages natural cycles. These efforts have been highly acclaimed by experts leading to the equivalent of accreditation.



Spawning ground and pre-hatchling Tohoku salamanders



Common buzzard chick



Asiatic black bear and her cub

Received the Minister of Land, Infrastructure, Transport and Tourism Award at the 30th Global Environment Prize for developing sustainable communities

The Sekisui Heim Group is working to create sustainable town schemes by maintaining and improving the asset value of the towns in its residential housing business.

ASAKA Lead Town (Asaka City, Saitama Prefecture) is the first phase of the sustainable town development project that brings together the Group's environmental contribution technologies to address not only environmental issues and strengthens resilience to natural disasters, but also social issues associated with the declining birthrate, aging population, and regional depopulation through 1) underground infrastructure, 2) energy-saving, above-ground housing, and 3) town operation and management. We aim to maintain and improve the town concept (safe, comfortable, convenient, sustainable towns) through platforms that update towns by incorporating residents' voices. In fiscal 2021, SEKISUI CHEMICAL received the Minister of Land, Infrastructure, Transport and Tourism Prize at the 30th "Global Environment Awards" in recognition of its efforts and achievements in developing sustainable communities that offer total support that extends to its own design, development, and management initiatives, with the award ceremony being held in April 2022.

Going forward, we plan to continue to expand our environmental and social contributions nationwide by developing problem-solving town development projects throughout Japan.

<Characteristics of the ASAKA Lead Town Sustainable Town Development Project>**1. Underground: Building resilient infrastructure to cope with natural disasters**

Combining the Group's resilience technologies, we have built a disaster-resistant infrastructure (electricity, water, gas, land). We have realized a disaster-resistant, sustainable town with safe and reliable lifelines by installing rain-water storage and drainage facilities to reduce flood damage during heavy rains, underground power lines to prevent damage from toppling utility poles during earthquakes, and highly earthquake-resistant and durable water and gas pipes.

2. Above ground: Energy self-sufficient*1 and efficient eco-friendly homes

All detached houses are equipped with a photovoltaic (PV) power generation system and storage batteries. Energy self-sufficient*1 living helps reduce CO₂ emissions. Condominiums feature PV systems and storage batteries installed in common areas to effectively use renewable energy, as well as supply surplus power mainly from PV systems through the trading power service SMARTHEIM DENKI*2. In addition, this project contributes to the environment and provides peace of mind during power outages and water shortages mainly by securing drinking water*3*4 when water supply is cut and by using products that help contribute to daily water conservation.

3. Operation management: Create towns where various people and nature coexist in harmony

This project maintains spaces where various people, nature, and animals can coexist in harmony by ensuring a green environment that coexists with local ecosystems, establishing nursery schools and elderly care facilities, and providing places for intergenerational exchanges. We maintain and improve the town concept (safe, comfortable, convenient, sustainable towns) by the Group engaging in town-wide integrated management and by establishing a town-updating platforms that uses digital technology to engage in dialogue with residents.

*1 Not entirely energy self-sufficient, so some electricity must be purchased from power utilities

*2 SMARTHEIM DENKI is a power trading service operated by Sekisui Chemical Co., Ltd. (retail electricity utility registration number A0308) that supplies electricity. This service includes electricity generated other than PV, including hydroelectric, thermal, and nuclear power. This service makes no guarantee about supplying renewable energy or providing environmental value.

*3 In the "drinking water storage system", water intake is only possible from pre-planned water fixtures. If water has not been used for more than four days, the quality of the stored water may have deteriorated and thus the first 70 liters must be boiled if it is to be used as drinking water.

*4 Stored water, in the "Tametoku" system, that has been cut off for more than three days may have deteriorated in quality and therefore should be boiled before using as drinking water.



Resilient underground infrastructure to cope with natural disasters



Eco-friendly, energy-efficient homes

Mangrove Reforestation Activities and Carbon Stock Volume Survey in Thailand

SEKISUI CHEMICAL Group conducts mangrove reforestation activities for the purpose of restoring and maintaining mangrove ecosystems in Thailand, and for contributing to the region. In fiscal 2022 we planted nearly 30,000 trees on 10 ha of tideland in the province of Nakhon Si Thammarat along with local fishermen. These activities also helped educate local children. As part of the most recent planting activity, we conducted species surveys of the large-scale mangrove planting conducted five years ago. As a result, we confirmed a steady increase in biomass, and were able to estimate the activity's contribution to the gradual conversion of carbon to rich tropical peatland.



Tree planting in 2m x 2m intervals



Five-year old mangrove trees




Biomass survey

Cooperation with External Organizations

Business Associations Aiming for and Taking Action in Biodiversity Conservation

30by30 Alliance

Organizer	Ministry of the Environment	
Significance/objectives	Achievement in Japan of internationally agreed 30by30 targets	
Activities	Summarize and promote deployment of efforts necessary, such as OECM certification, to stop and recover biodiversity loss (become Nature Positive) by 2030	
Our Company's role	Expressing support and aiming to accelerate efforts through in-house and corporate collaboration	

JBIB (Japan Business Initiative for Biodiversity)

Significance/objectives	Contribute to the conservation of biodiversity in Japan and overseas
Activities	Promoting diverse activities, such as conducting research regarding biodiversity together with various companies.
Our Company's role	Exchanging opinions with companies that promote biodiversity conservation and sharing case studies while accelerating in-house efforts and raising awareness of social efforts

Activities to Conserve Green Spaces

We work together with an environmental consulting firm on environmental conservation activities and development of local environment, such as research on ecosystems at production sites and laboratories, conservation of biodiversity, and eradication of invasive species.

Social Contribution Activities

To develop personnel who are able to contribute to the environment, we engage in natural environment conservation activities in various regions around the world, through cooperating with local governments, academic institutions, schools, NPOs and NGOs.

Performance Data 

Results from the JBIB Land Use Score Card®

	FY2022
JBIB Land Use Score Card®	Increased by 4.9 points (compared with fiscal 2019)

Index	Calculation Method
Points of JBIB Land Use Score Card®	<p>JBIB Land Use Score Card® is a tool promoted by JBIB, which evaluates the level of effort to preserve biodiversity with respect to the land owned by the Company. It is a calculation sheet to evaluate every business site regarding the size and quality of its greenspace, management system, etc. on a scale from 0 to 100.</p> <p>We implement assessments of every business site for the fiscal year using the JBIB Land Use Score Card® and calculate the increase from the number of points it had in fiscal 2019. The index is the average increase of the points across all business sites.</p>

Other Initiatives to Reduce Environmental Impact

● Environmental Accounting

SEKISUI CHEMICAL Group Refers to Public Guidelines and Adds Its Own Concepts

From an ESG management perspective, and in order to fulfill our reporting responsibilities as a company and promote efficient environmental activities, we are working to reduce our environmental impact while employing environmental accounting in a bid to identify the effects of costs incurred and investments undertaken to contribute to the environment. Under the current Medium-term Management Plan, which began in fiscal 2020, and from a Group-wide management strategy perspective, environment-related investments and expenses are positioned as a capital cost. We will use environmental accounting to raise awareness that the restraint of capital costs and efforts to improve productivity will help boost ROIC.

Performance Data 

Summation period	April 1, 2022 to March 31, 2023
Scope of summation	Production sites, research facilities, housing sales company sites, and Corporate Headquarters departments in Japan.
Calculation Method	Based on the Ministry of the Environment's Environmental Accounting Guidelines 2005 Edition
Approach toward summation	<ul style="list-style-type: none"> • Depreciation and amortization are excluded from environmental conservation costs because they overlap with investment costs. • Investment amounts are based on budget approvals during the summation period. • Expenditures and investments that contain other than environmental conservation activities are distributed pro-rata in 10% increments. • Disclosure categories have been revised, environmental conservation costs are subcategorized, and the economic effects of environmental conservation measures are limited to effects on an actual basis, excluding deemed effects from fiscal 2020. • The environmental conservation effects of physical quantity are shown in environmental performance data disclosed in Major Initiatives.

Environmental Conservation Costs

(Millions of yen)

Category	Items	Description of main activities	FY2020		FY2021		FY2022	
			Costs	Investments	Costs	Investments	Costs	Investments
1) Costs within business areas	(1) Pollution prevention costs	a. Air	369	62	319	98	355	16
		b. Water	130	77	85	68	110	198
		c. Soil	0	7	0	4	0	7
		d. Noise	12	1	1	0	2	0
		e. Vibration	0	0	0	0	0	0
		f. Odor	255	0	242	4	235	0
		g. Ground	106	3	105	0	102	0
		h. Others	304	8	307	29	315	5
		Subtotal	1,176	157	1,058	202	1,118	226
	(2) Countermeasures against global warming	a. Global warming (including energy saving)	686	588	114	833	132	510
		b. Ozone layer	100	18	6	33	6	4
		c. Others	0	4	0	55	0	14
		Subtotal	786	611	120	921	138	528
	(3) Resource recycling costs	a. Effective utilization of resources	63	17	6	31	10	12
		b. Water conservation, utilization of rainwater, etc.	4	4	7	28	8	6
c. Waste volume lightening, reduction, recycling, etc.		176	93	177	76	180	362	
d. Waste processing, disposal, etc.		6,293	4	6,477	106	4,878	1	
e. Others		18	1	1	6	19	14	
Subtotal		6,553	119	6,668	246	5,095	394	
2) Upstream/downstream costs	Cost increases due to recycling of products such as those manufactured and sold, greener purchasing, etc.		113	0	109	28	161	0
3) Administrative costs	Environmental education, EMS certification, running costs for green action organization, information disclosure, etc.		2,385	12	2,206	1	1,624	2
4) Research & development costs	Research and development on environmental conservation		3,740	313	15,009	813	16,128	760
5) Social activities costs	Social contributions, etc.		112	98	78	0	128	0
6) Environmental damage costs	Nature restoration, etc.		30	2	57	5	63	8
Total			14,896	1,311	25,306	2,216	24,455	1,918

Substantive Economic Effects of Environmental Conservation Measures

(Millions of yen)

Description of effects		FY2020	FY2021	FY2022	Remarks
Revenue	(1) Profit on sales of valuable waste resources	176	139	116	Profit on sales of valuable waste resources from promotion of waste segregation and recycling
	(2) Revenues from sale of electricity	402	334	348	Revenues from sale of electricity generated by megasolar facilities
Cost savings	(3) Cost savings through energy-saving activities	1,311	256	420	Including savings through utilization of co-generation
	(4) Cost savings through waste-reduction activities, etc.	502	463	522	Reductions through optimization, reuse, and zero emissions activities
Total		2,392	1,191	1,407	

● Chemical Substance Management

Basic Concept

Minimizing Environmental Impact through Proper Control and Reduction of Chemical Substance Emissions

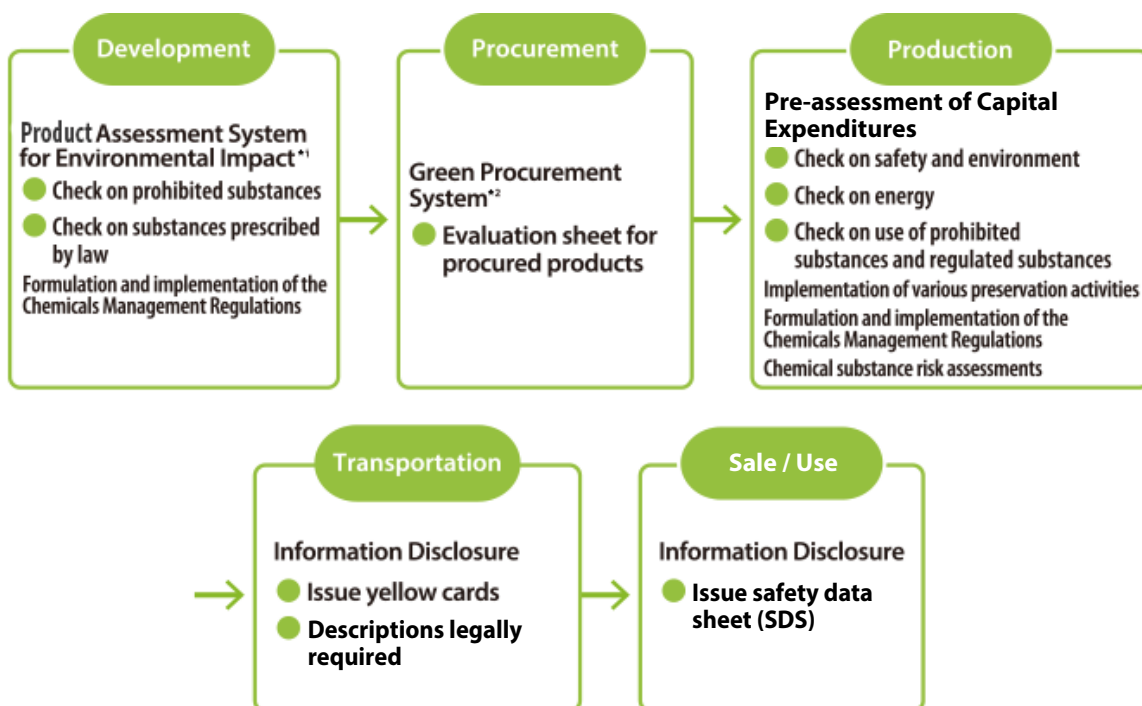
While chemical substances make people’s lives more convenient, they also could have harmful effects on the environment or on human beings. Therefore, we believe that taking into consideration product safety, occupational safety and health, and environmental impact through the proper management of chemical substances is an important responsibility.

Since fiscal 1999, SEKISUI CHEMICAL Group has set and worked toward its own targets for reducing emissions and the transfer of chemical substances in addition to implementing efforts such as the Product Assessment System for Environmental Impact*¹ and the Green Procurement System*². Periodically, we also review chemical substances, in accordance with the establishment and amendment of relevant laws and regulations.

In fiscal 2023, we will continue to engage in thoroughgoing chemical substance management activities conscious of the need to minimize their impact.

*1 Product Assessment System for Environmental Impact: A system for assessing the environmental impact of products at all stages from raw material procurement through manufacture, use, disposal, and transportation.

*2 Green Procurement System: A system which prioritizes lower levels of environmental impact when procuring raw materials, parts, etc.



Targets

Reduce the impact of chemical substances

Aim: Reduce chemical emission and transport volumes

Indicator VOC emissions (Japan)

Current Medium-term Management Plan (2020-2022) Target -3%	Fiscal 2022 Result -17.1% (compared with fiscal 2019)
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System

For details of the Environmental Management Promotion System see p. 126.

Major Initiatives

Controlling VOC Emissions

SEKISUI CHEMICAL Group maintains the medium-term target of reducing VOC emissions by 3% or more compared with the level reported in fiscal 2019. In fiscal 2022, VOC emissions in Japan decreased by 17.1% compared with fiscal 2019.

Preventing Air and Water Pollution

SEKISUI CHEMICAL Group complies with laws and ordinances for equipment related to exhaust gases and water drainage.

Soil Contamination Countermeasures

SEKISUI CHEMICAL Group conducted a voluntary assessment of soil contamination at all of its production sites. The Group has implemented cleanup measures and efforts aimed at preventing further contamination at all locations where contamination was found while completing its report to the government. In addition, the Group continuously monitors groundwater, confirming that pollution is not spreading.

Moreover, the Group takes legally mandated decontamination measures when selling land on which production facilities have been closed. In fiscal 2022, conditions did not require any new measures to be taken.

Disposal and Storage of Devices Containing PCBs and Management of Equipment That Uses Fluorocarbons

Transformers and capacitors containing PCBs are being removed sequentially as PCB treatment facilities are ready to accept taking our equipment. Control of equipment containing PCBs in storage is strictly enforced, including locking of storage facilities and periodic inspections.

Steps are being taken to enhance awareness toward mandatory requirements regarding equipment that use fluorocarbons in accordance with Japan's Act on Rational Use and Proper Management of Fluorocarbons (Freon Emission Control Act) and to ensure thoroughgoing management including periodic inspection.

Performance Data 

Note 1: From fiscal 2019, Medical Business results have been collated separately following its independence from the HPP Company and the presentation of Headquarters results reclassified as Other.

Note 2: In line with a change in the control of certain businesses in the UIEP and HPP companies implemented from October 2022, the data of both companies for fiscal 2022 is collated as if the change in control had been initiated from the beginning of fiscal 2022.

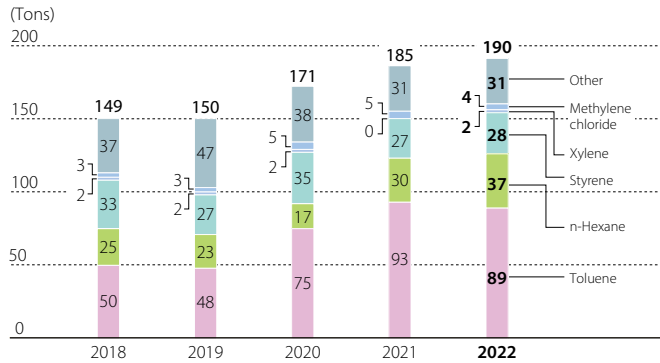
Aggregated results based on the PRTR Law (substances handled at business sites subject to assessment with a handling volume of 1 ton or more are aggregated).

(Tons)

Substance	Govt. ordinance notification no.	Handled volume	Emission volume				Transfer volume			Detoxification
			Atmospheric	Public water areas	In-house soil	In-house landfill	Sewage system	Transfer in waste disposal	Transfer in waste recycling	
Ethyl acrylate	[3]	30	-	-	-	-	-	-	3.0	27
n-Butyl acrylate	[7]	195	1.6	-	-	-	-	1.2	0.0020	193
Acrylonitrile	[9]	526	3.2	-	-	-	-	-	0.0060	523
Acetaldehyde	[12]	203	0.18	-	-	-	-	-	-	203
Acetonitrile	[13]	62	4.9	-	-	-	-	-	-	57
2,2'-Azobisisobutyronitrile	[16]	6.1	-	-	-	-	-	-	-	6.1
Antimony and its compounds	[31]	9.1	-	-	-	-	-	-	0.91	-
Isobutyraldehyde	[35]	50	1.4	-	-	-	-	-	-	49
2-Ethylhexanoic acid	[51]	5,799	-	-	-	-	-	-	5.9	5,786
Ethel Benzene	[53]	1.5	1.5	-	-	-	-	-	-	-
Ethylenediamine	[59]	1.6	0.15	-	-	-	-	-	-	1.4
ε-Caprolactam	[76]	42	-	0.014	-	-	-	-	-	42
Xylene	[80]	1.5	1.5	-	-	-	-	-	0.016	-
Chromium and trivalent chromium compound	[87]	4.3	-	-	-	-	-	0.028	0.0066	-
Vinyl chloride	[Special 94]	116,160	3.8	0.10	-	-	-	-	-	116,156
Chloroform	[127]	5.3	0.28	-	-	-	-	-	3.1	0.53
Cobalt and its compounds	[132]	3.5	-	0.12	-	-	-	-	-	3.4
Vinyl acetate	[134]	52	5.4	-	-	-	-	3.7	-	43
"Inorganic cyanide compounds (not including complex salts and cyanate)"	[144]	15	-	-	-	-	-	-	-	15
Cyclohexylamine	[154]	6.4	0.36	-	-	-	-	-	-	6.1
Methylene chloride	[186]	320	4.2	-	-	-	-	-	-	316
Divinylbenzene	[202]	1.7	-	-	-	-	-	-	-	1.7
2,6-di-t-butyl-4-cresol	[207]	49	-	-	-	-	-	-	-	49
N,N-dimethylformamide	[232]	1.7	-	-	-	-	-	-	1.7	-
Organic tin compounds	[239]	128	-	0.0000	-	-	-	0.067	0.51	2.8
Styrene	[240]	1,286	28	-	-	-	-	-	0.012	516
n-dodecyl alcohol	[273]	16	-	-	-	-	-	-	-	16
Toluene Diisocyanate	[298]	6.5	-	-	-	-	-	-	-	-
Toluene	[300]	711	34	-	-	-	-	55	228	274
Lead compounds	[Special 305]	487	-	0.0002	-	-	0.0000	0.38	16	6.1
Nickel compound	[Special 309]	1.0	-	-	-	-	-	0.32	-	-
Bis-(2-ethylhexyl) phthalate	[355]	8.4	-	-	-	-	-	-	2.2	4.0
n-Hexane	[392]	240	7.9	-	-	-	-	29	203	-
Boron and its compounds	[405]	24	-	-	-	-	-	-	-	-
"Poly (oxyethylene) = alkyl = ether (C = 12-15 and other blends)"	[407]	3.6	-	-	-	-	-	-	-	-
Manganese and its compounds	[412]	4.9	-	-	-	-	-	-	4.9	-
Methacrylate	[415]	289	1.6	-	-	-	-	-	0.0070	288
Methyl methacrylate	[420]	173	0.90	-	-	-	-	-	-	172
Methylnaphthalene	[438]	1.3	0.006	-	-	-	-	-	-	1.2
Methylenebis (4,1-phenylene) = diisocyanate	[448]	1,534	-	-	-	-	-	-	0.010	1,531
		128,458	101	0.24	-	-	0.0000	89	527	126,229

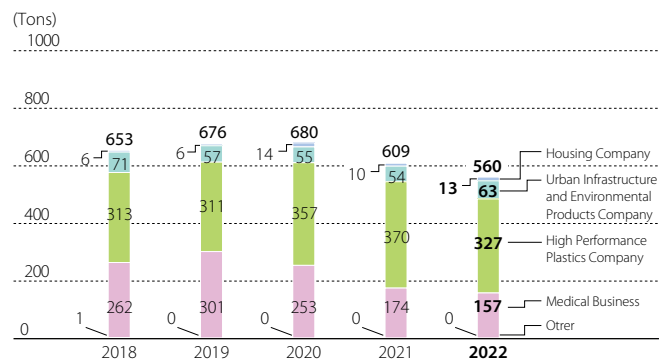
Index	Calculation Method
Amount of Chemical Substances Handled	Amount of substances subject to regulation by the PRTR Law handled [Scope: Production sites and research facilities in Japan]
Amount of Emissions / Transfer of Chemical Substances	Amount of emissions / transfer of chemical substances subject to regulation by the PRTR Law: Amount of emissions = Amount of emissions into the air + Amount of emissions into public waters + Amount of emissions into the soil on-site + Amount disposed of by landfill on-site Transfer amount = Amount transferred to sewers + Amount transferred as waste material [Scope: Production sites and research facilities in Japan]
Amount of Chemical Substances Subject to Detoxication	Amount of chemical substances subject to regulation by the PRTR Law subject to detoxication: Amount detoxified = Amount consumed in reaction + Amount consumed through combustion, etc. [Scope: Production sites and research facilities in Japan]

Amount of Chemical Substance Emission and Transfer (PRTR Law) / Japan



Note: Past figures have been retroactively revised due to changes in aggregate scope.

Discharge of Volatile Organic Compounds (VOCs) into the Atmosphere / Japan



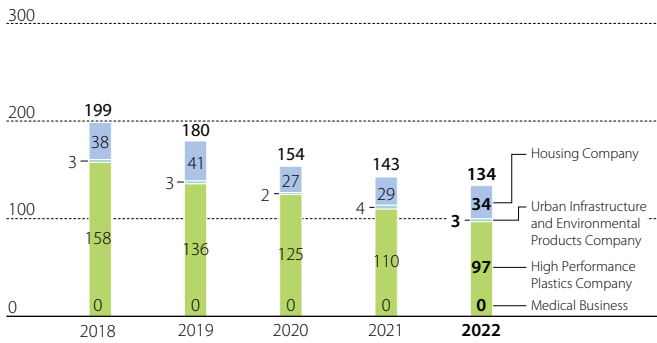
Note: Past figures have been retroactively revised due to changes in aggregate scope.

Index	Calculation Method
Amount of Emissions / Transfer of Chemical Substances	Amount of emissions / transfer of chemical substances subject to regulation by the PRTR Law: Amount of emissions = Amount of emissions into the air + Amount of emissions into public waters + Amount of emissions into the soil on-site + Amount disposed by landfill on-site Transfer volume = Amount transferred to sewers + Amount transferred as waste material Scope: Covers production sites and research facilities in Japan

Index	Calculation Method
VOC Emissions	Amount of emissions into the atmosphere of volatile organic compounds (VOC) among the substances subject to regulation by the PRTR Law and Japan Chemical Industry Association

NOx Emissions / Japan

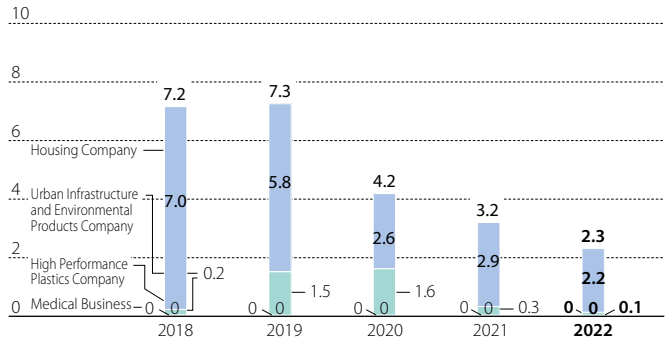
Emissions (Tons)



Index	Calculation Method
NOx Emissions	$NOx \text{ emissions} = \sum(\text{Amount of exhaust gas airflow per year} \times NOx \text{ concentration} \times 46 / 22.4)$

SOx Emissions / Japan

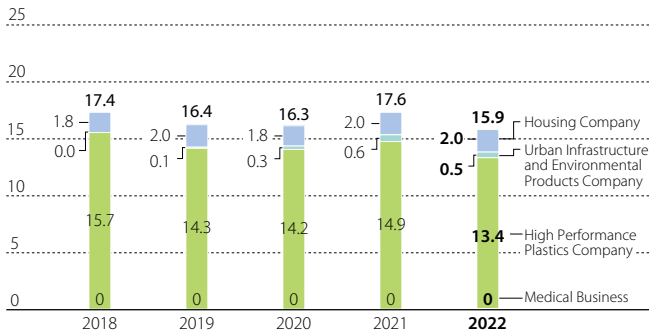
Emissions (Tons)



Index	Calculation Method
SOx Emissions	$SOx \text{ emissions} = \sum(\text{amount of SOx per year} \times 64 / 22.4)$

Soot and Dust Emissions / Japan

Emissions (Tons)



Index	Calculation Method
Soot and Dust Emissions	$Soot \text{ and Dust emissions} = \sum(\text{amount of exhaust gas airflow per year} \times soot \text{ concentration})$

● Environmental Impact Assessment

Basic Concept

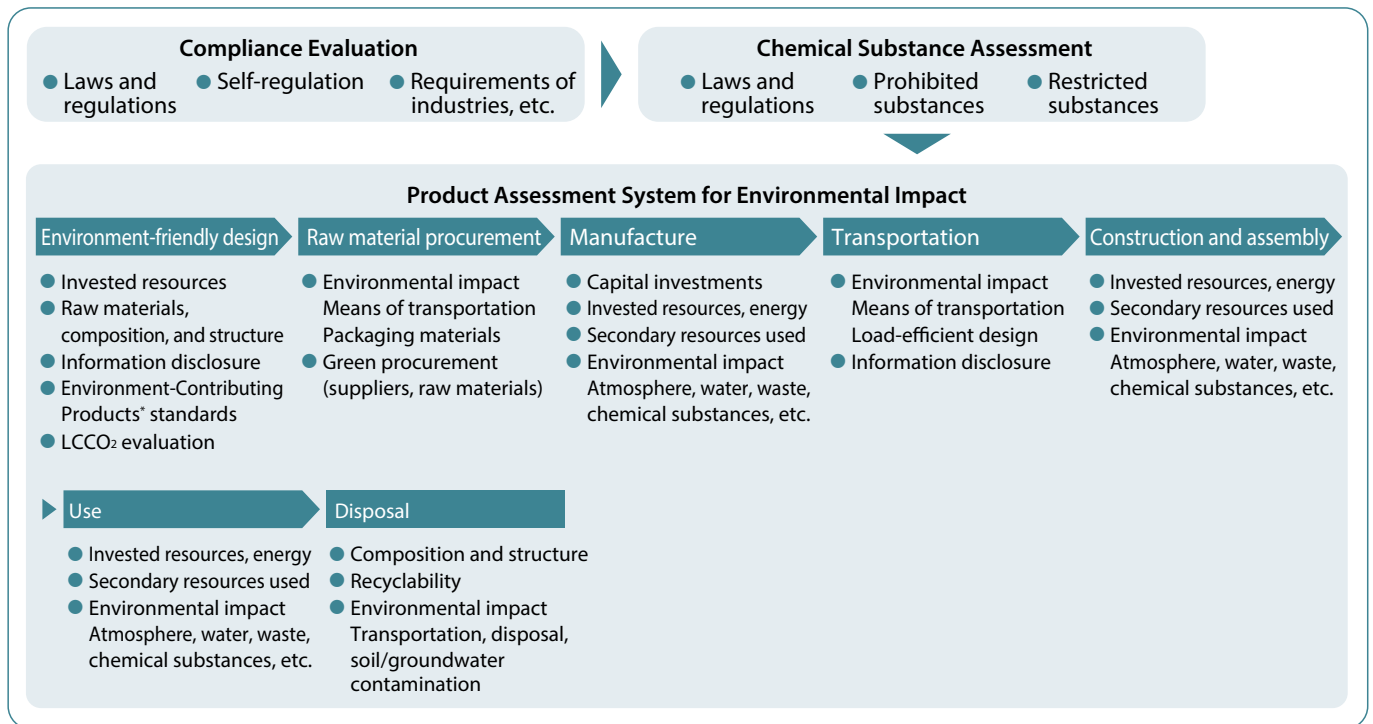
| Conducting environmental impact assessments

SEKISUI CHEMICAL Group conducts design reviews at the time of product process development and modification. At that time, the Group conducts environmental impact assessments at all stages of the product lifecycle.

Assessment of the environmental impact of products

Scope: All stages of the product lifecycle

Targets: Products and processes



* Environment-Contributing Products have evolved into products to enhance sustainability from fiscal 2020. For details, see products to enhance sustainability on p. 24.

● Material Balance

Performance Data

SEKISUI CHEMICAL Group releases information on the resources and energy used in its business activities (input) and on the substances that have an environmental impact generated by those activities (output).

Material balance (Japan and overseas total)

Fiscal 2022 Results

Main Raw Materials (Total amount used)

● Metals	127 thousand tons
● Timber, wooden building materials	49 thousand tons
● Cement for exterior walls	86 thousand tons
● Concrete for foundations	425 thousand tons
● PVC	145 thousand tons
● Polyethylene	83 thousand tons
● Polypropylene	27 thousand tons
● Kraft paper	37 thousand tons
● PRTR-designated substances	128 thousand tons
● Other resins/chemicals	395 thousand tons
● Other inorganic/composite materials	32 thousand tons

Energy	9,916TJ
● Purchased electricity	685,685MWh
● Heavy oil A	1,731kL
● City gas	68,763 thousand m ³

Industrial water 20,785 thousand tons



Into the Atmosphere

● CO ₂ from energy consumption	617 thousand tons-CO ₂
● NO _x	134 tons
● SO _x	2 tons
● Soot and Dust	16 tons
● PRTR-designated substances	101 tons

Into Water

● Water discharged	18,770 thousand tons
● COD	59 tons
● PRTR-designated substances	0.2 tons

Waste

● Total generated waste	71 thousand tons
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Production** 1,331 thousand tons

* Only business sites in Japan listed in the environmental performance data aggregation range are included in calculation.

** Not covered by third-party assurance.