Shin-Etsu Chemical Co., Ltd.

Contents of Shin-Etsu Chemical Sustainability Report 2025

About This Site

Editorial Policy

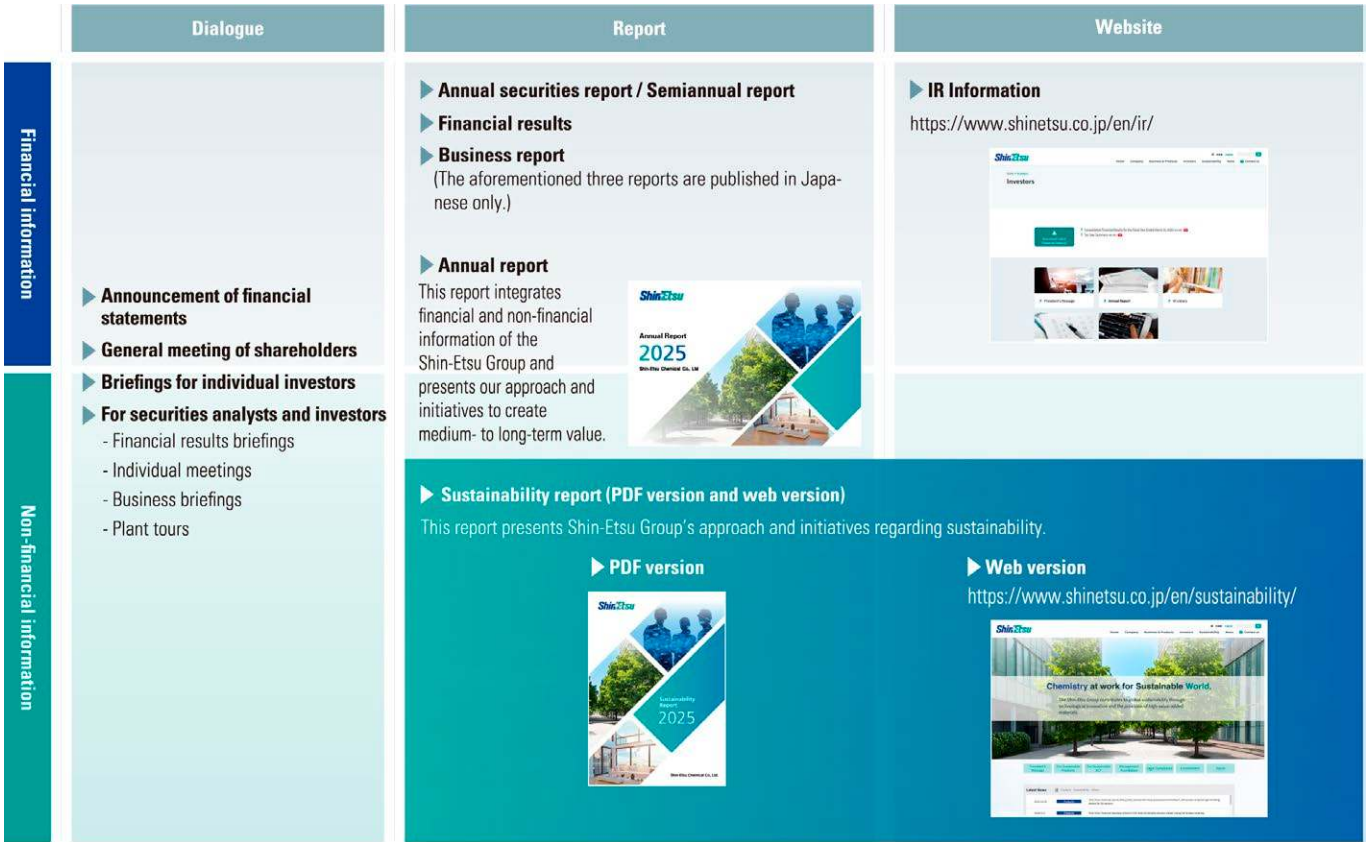
The Shin-Etsu Group started issuing the “Environmental Report” in 2000. In 2004, the report was renamed the “Environmental and Social Report” after expanding its contents to include corporate social responsibility in general, and in 2016, the report was retitled the “CSR Report” and has been issued without interruption. Furthermore, the Group has renamed “CSR Report” to “Sustainability Report” starting in 2019 since we have begun integrating SDGs into business management, expanding the scope of our business activities to realize a sustainable society. Starting from the FY2024 edition, we have expanded the contents related to human capital and sustainability in an effort to introduce our initiatives to create value over the medium and long term.

Related Information

Annual Report

The Report also serves as a report on our Responsible Care programs*1.

Overall Picture of Communication



Referenced Guidelines

- GRI Standards Content Index PDF
- Ministry of the Environment “Environmental Reporting Guidelines 2018”
- Ministry of the Environment “Environmental Accounting Guidelines 2005 Edition”
- Global Compact Ten Principles
- Universal Declaration of Human Rights
- UN Guiding Principles on Business and Human Rights

Period Covered by the Report (indicated where otherwise)

- Japan: April 1, 2024 to March 31, 2025
- Overseas: January 1, 2024 to December 31, 2024

Issue Information

Issued: June 2025 (Previous issue: July 2024)
Next issue: scheduled for June 2026

Organizations Covered by the Report

The scope of the reporting organization was changed from Shin-Etsu Chemical and its 99 consolidated companies*2. Where otherwise, this is indicated in a separate note.

Membership

- Keidanren (Japan Business Federation)
- Japan Chemical Industry Association
- Vinyl Environmental Council
- Plastic Waste Management Institute
- The International Friendship Exchange Council
- The Japan Committee for UNICEF
- Global Compact Network Japan
- SDGs Promise Japan, etc.

*1 Responsible Care programs
A campaign encouraging enterprises that handle chemical substances to voluntarily ensure protection of the environment, health and safety in all processes, from the development of chemical substances through manufacture, distribution and utilization to final consumption, disposal or recycling, to publish the results of their activity, and to engage in dialogue and communication with society.
*2 The figure of 99 consolidated companies is as a result of an increase of one company and a decrease of one company since the end of FY2023
*3 Shin-Etsu Polymer Group
For a report on the Shin-Etsu Polymer Group, see “Shin-Etsu Polymer Sustainability Report 2025” (to be published at the end of September 2025).

President's Message

We are committed to sustained growth through best-in-class quality, technology and practice

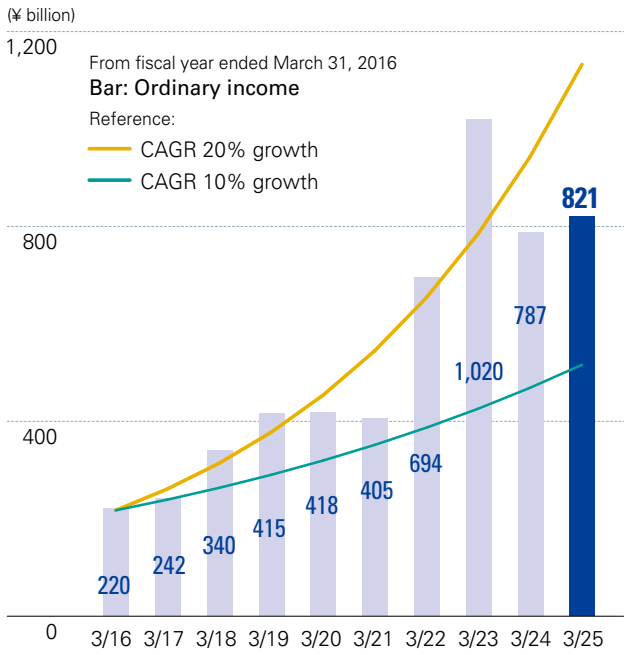
President
Yasuhiko Saitoh

In the fiscal year ending March 31, 2025 (FY2024), our company extended its growth path as shown below. The results once again reflect the underlying strength of our line of products, technology, ingenuity, operational system, and our people's professionalism.

We take pride in contributing to the well-being of our communities and the development of industries, while attaining high marks from the top line to the bottom line and in key financial ratios.

FY 2024 marked a new phase in our shareholders remuneration and capital management. We declared an increased amount of dividends (¥106 per share), which

Ordinary income



President's Message

yields an average annual growth rate of 19.1% over the recent ten year period. In addition, we raised our long-term aim of the dividend payout ratio from around 35% to around 40%. At the same time, we implemented a 194 billion yen's worth of share buyback.

In January, in response to a frequently asked question about the level of cash that the company holds, we stated that we would not let the amount of cash holding increase any more. The cash in hand is intended for large-scale growth initiatives, including merger and acquisition, reserves for economic shocks, and shareholders remuneration. I believe that we have been a good custodian of the cash, paying attention to our equity spread. We will make good use of the cash for the stated purposes.

All these actions represent our sincere appreciation to our shareholders for their understanding and support. As a matter of reference, the total payout ratio for FY 2024 was 75.4 %.

Going forward, to extend the growth trajectory that we have achieved over years, we will further differentiate ourselves in every aspect of our business and operation. To overcome headwinds, differentiation is essential. In doing so, we certainly keep our focus on providing our customers with products which make it attainable for them to do what they pursue. We tirelessly help solve what our customers need to solve. As changes take place fast and what our customers' needs constantly evolve, opportunities present themselves for us.

With a strong market-in mindset and aspiration, we work with our customers more closely than ever. We are determined to be a most reliable supplier to all our customers with best-in-class quality, technology and practice, so that our products will be used more and everywhere.

Situation of Each Segment

If I may elaborate on it by laying out our prospects and on-going endeavors in each of our business segments,

Infrastructure Materials Business

We started up a brand new production facility for PVC and caustic soda in the US last fall. With the youngest and most advanced PVC fleet, we have been running at capacity while navigating rather rough waters in the global market. Though international waters in the PVC market are expected to be rough for a while, the US market appears to be resilient. We will demonstrate our strength via our customer service system, economy of scale, and cost structure.

Electronics Materials Business

The market for semi-conductors expands at a remarkable rate quantitatively and qualitatively. The semi technologies keep evolving in an intriguing manner. We will stay tuned to capacity increases and product developments. To this end, we consummated the acquisition of the full ownership of Mimasu Semiconductor Industry, and the construction of

the new facility for cutting-edge lithographical products is progressing as planned. We are adding to our R&D capabilities, as well. There is an evolving array of new ways of device making, to which we apply our expertise and ingenuity. As an expert and all round player of semiconductor materials, we will be more instrumental to the semiconductor industries. The industries and markets which we are in and we serve have been more subject to geo-political issues. We are vigilant and mindful of them. We must wisely navigate our business for our customers and take opportunities to our advantage as they rise.

Functional Materials Business

We are bringing more of new products to various markets and are broadening our capabilities for our customers. To this end, we will push the envelope in silicon chemistry, cel-

President's Message

lulosics and other synthesis. We add touch points in industries and markets so that our total addressable markets will be greater. At the same time, we deemphasize commoditized product lines. We develop our product offerings with this focus and make contributions in such manner that the more of our products are used, the better the industries and human society become.

The Processing and Specialized Services

With this group of businesses and operations, we enhance the synergy within our group companies.

I may add that the two new business units we recently launched are developing well. The one deploys novel technologies for GaN devices. With the advent of AI revolution, the power management is essential and GaN devices will play a key role there. The other one, by the name of μ- Material Machine, offers manufacturing processes, including equipment and materials for various light emitting devices, semiconductor package substrates and so on. We have introduced Shin-Etsu processes for advanced semiconductor packaging (Shin-Etsu Dual Damascene Method). We will pursue integration of materials and equipment.

Initiatives Aimed at Carbon Neutrality

Let me bring you update on our efforts toward carbon neutrality. Our stated goal is to become carbon neutral by reducing greenhouse gas emissions (SCOPE1 and 2) to net zero by 2050. In FY 2024, we made progress in reducing GHG emissions in terms of production intensity compared to FY 2023. FY2024 results were 56.9% (down 0.1 points year on year) compared to FY1990 for the Group and 48.6% (down 4.8 points year on year) compared to FY1990 for the Company.

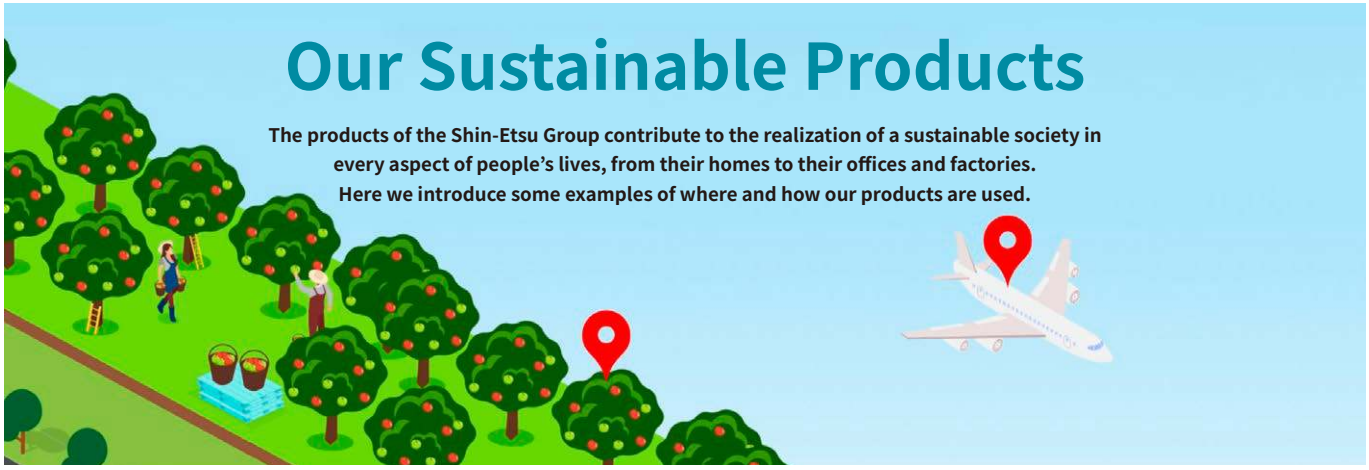
By absolute measurement, the Scope 1 and 2 GHG emissions increased 3.4%, as we expanded production capacities to meet customers' requirements. For those expansions, we certainly apply and install our advanced and state-of-the-art technologies to ensure that our facilities are the most energy-efficient operations in their respective industries. We have been improving energy efficiency at existing facilities, as well. I must admit that we have a lot to do to reach the goal. To this end, we will do our best.

I would like to point out that we offer a number of products that contribute to reducing greenhouse gas emissions. For instance, roughly 70% of the sales of our products currently go to those areas which Japanese government nominates that are integral to achieving carbon neutrality. We will continue to expand our range of products that contribute to carbon neutrality.

To extend and expand what we have been able to do for our customers, our shareholders and our communities, I reiterate that we must continue to grow. We will remain focused on our customers and their needs to be relevant to them, will remain committed to good governance to be relevant to our shareholders, and will remain responsible to be relevant to our communities.

I sincerely thank our shareholders for their confidence, our customers for their partnership and our entire Shin-Etsu team for their dedication to our operations.

Our Sustainable Products



The products of the Shin-Etsu Group contribute to the realization of a sustainable society in every aspect of people's lives, from their homes to their offices and factories. Here we introduce some examples of where and how our products are used.

Rare earth magnets, with their small size and high power, help reduce the weight of the aircraft and improve fuel efficiency. In addition, their low-vibration and low-noise characteristics improve passenger comfort and reduce the impact on residents living near the airport.

Applications	Products used
Airplane motors	**Rare earth magnets**
	

Synthetic pheromones are an agricultural material used to suppress the mating of harmful insects to prevent the growth of the next generation of such insects, allowing the cultivation of agricultural products without disturbing the ecosystem. They can also reduce the need to spray chemical pesticides, which are a source of pollution to groundwater and rivers.

Applications	Products used
Pest control agent	**Synthetic pheromones**
	

PVC is used for agricultural films such as vinyl plastic hothouses and plastic tunnel culture, and provides agricultural materials indispensable to grow vegetables and other crops.

Applications	Products used
Vinyl plastic hothouses	**Polyvinyl chloride (PVC)**
	

Biodegradable runner clips are an agricultural material used to divide crops with runners (stems) that creep along the ground, such as strawberries and melons. Since they are biodegradable and decompose in the soil, they do not become waste and do not require collection. In addition, since they are made from biomass plastic not derived from petroleum, they also contribute to reducing CO_2 and reducing environmental impact.

Applications	Products used
Agricultural materials	**Biodegradable runner clips**
	

Our semiconductor products enable significant power savings for PCs and servers, which are indispensable in an information-based society. They also contribute significantly to the digital transformation of industry by improving access to information and communication technologies.

Applications	Products used
PCs, servers	**Silicon wafers, Photoresists, Photomask blanks, etc.**
	 Silicon wafers　Photoresists　Photomask blanks

Power semiconductors used in electric vehicles such as EVs and hybrids are the core material for motor drives.
We provide IGBT wafers for power semiconductors, thereby promoting the spread of EVs and contributing to the reduction of greenhouse gas emissions.

Applications	Products used
Motor drive control system for automobiles	**Silicon wafers**
	

Using high-performance and compact rare earth magnets in the drive motors of electric and hybrid vehicles, as well as in a variety of other motors in vehicles, can reduce the overall weight of the vehicle and improve its fuel efficiency.

Applications	Products used
Automotive motors	**Rare earth magnets**

Silicone heat-dissipating materials are used in lithium-ion batteries and various electronic control devices and help prevent malfunctions and failures caused by heat.

Applications	Products used
Electric vehicles (EVs) Hybrid vehicles (HVs)	**Silicones**

Our silicon-based anode material contributes to increasing the capacity and power output of lithium-ion batteries. Rechargeable lithium-ion batteries serve as a power source for EVs and contribute to reducing environmental impact.

Applications	Products used
Lithium-ion batteries	**Silicon-based anode material**

Silicone can lower rolling resistance and help improve fuel efficiency as a tire modifier.

Applications	Products used
Fuel-efficient tires	**Silicones**

Our cellulose derivatives for food used in plant-based meat substitutes make it possible to achieve meat-like texture that cannot be achieved with raw materials such as soybeans alone and contribute to solving the problem of feeding a growing world population.

Applications	Products used
Meat substitute	**Cellulose derivatives**

Synthetic quartz glass has excellent permeability and heat resistance. It is used in projectors and other optical systems which have been introduced in schools because it is considered easier for students to clearly understand content they are learning.

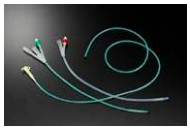
Applications	Products used
Educational data projector	**Synthetic quartz glass**

Our cellulose derivatives for pharmaceutical use have various capabilities to control where the medicine dissolves in the body and to enhance its effects, contributing to improving people's health.

Applications	Products used
Pharmaceuticals	**Cellulose derivatives**

A catheter is an instrument inserted into the body to support physical functions that have been impaired by illness or surgery. Compared to other materials, silicone rubber reacts less with body tissues and is less likely to cause allergic reactions. It also has excellent heat tolerance and chemical resistance, making it suitable for use with advanced medical technologies.

Applications	Products used
Medical instruments	**Catheter**



Biometric authentication systems that use semiconductor devices (fingerprint recognition, facial recognition, etc.) enable highly accurate and rapid authentication, helping companies enhance their security and manage work hours more effectively.

Applications

Biometric authentication system

Products used

Silicon wafers, Photoresists, Photomask blanks, etc.

Silicon wafers | Photoresists | Photomask blanks

Industrial robots that use semiconductor devices can operate 24 hours a day and perform tasks with a high degree of precision, helping companies mitigate labor shortages and improve productivity.

Applications

Industrial robots

Products used

Silicon wafers, Photoresists, Photomask blanks, etc.

Silicon wafers | Photoresists | Photomask blanks

The strong magnetic force of our rare earth magnets increases the efficiency of the motor, reducing power consumption and helping to reduce the environmental impact. In addition, the low vibration and noise levels lead to improved ride comfort and a more pleasant environment around the train.

Applications

Bullet train motors

Products used

Rare earth magnets

Smartphones allow access to information anytime, anywhere. A variety of Shin-Etsu Chemical products are used in the semiconductor devices that play a central role in smartphones. By facilitating real-time communication between people and enabling high-speed and high-capacity communications, we are contributing to improving the prosperity of society.

Applications

Smartphone

Products used

Silicon wafers, Photoresists, Photomask blanks, etc.

Silicon wafers | Photoresists | Photomask blanks

Our ship-bottom paints made of silicone help improve fuel efficiency by preventing marine organisms from adhering to the bottom of the ship. They also contribute to the protection of marine ecosystems.

Applications

Ship-bottom paints

Products used

Silicones

Our silicones are also used in sealing materials for the double-layer glass used to insulate residential windows and in sealing materials for building construction that enhance environmental performance.

Applications

Sealing materials

Products used

Silicones

Our silicones are used to impart oxygen permeability to contact lenses, helping to improve wearing comfort.

Applications

Contact lenses

Products used

Silicones

PVC-framed windows have lower thermal conductivity compared to aluminum and offer excellent insulation, which helps protect the indoor environment from the heat and cold of the outside air, leading to energy-saving benefits. By reducing the amount of heat that enters or leaves home through windows, we can maintain a comfortable room temperature and save energy.

Applications

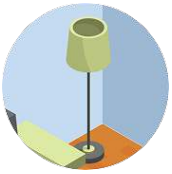
PVC-framed windows

Products used

Polyvinyl chloride (PVC)

The use of rare earth magnets for the compressor motor of air-conditioning systems increases energy consumption efficiency and reduces power consumption.

Applications	Products used
Air conditioner motor	**Rare earth magnets**
	



Our silicones are used in LED encapsulant materials, adhesive materials, reflectors, and more. They are essential materials for LEDs, which are known for their energy efficiency and long lifespan, which reduce their environmental impact.

Applications	Products used
LED lighting	**Silicones**
	

Our semiconductor products are used in electronic devices such as inverters that enable significant power savings, contributing to improving the convenience of people's lives while saving energy.

Applications	Products used
Home appliances	**Silicon wafers, Photoresists, Photomask blanks, etc.**
	 Silicon wafers Photoresists Photomask blanks

Tap water and drinking water are made safe and sanitary by using high-quality sodium hypochlorite with less impurities to sterilize the water.

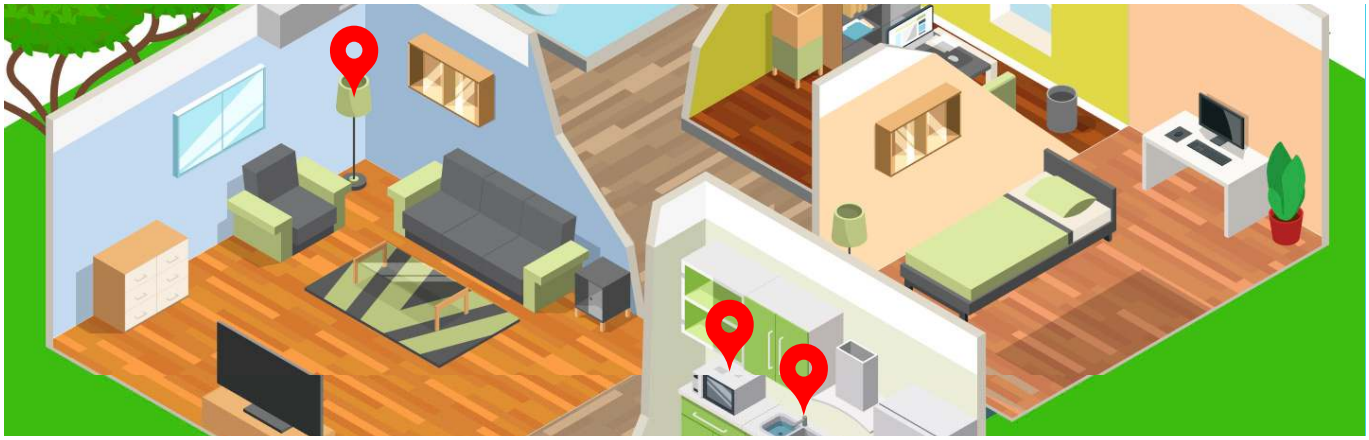
Applications	Products used
Water	**Sodium hypochlorite**
	

PVC is highly durable and can be used for a long time, which helps in reducing waste. It is also easy to recycle, allowing used hoses to be reused.

Applications	Products used
Garden hose	**Polyvinyl chloride (PVC)**
	

The use of highly durable PVC for PVC pipes and fittings makes replacement of water and sewage pipes unnecessary for at least 50 years, contributing to resource conservation.

Applications	Products used
Water and sewer pipes	**Polyvinyl chloride (PVC)**
	



Our Sustainable ACT Interview





The Shin-Etsu Group employs 26,000 people at its sites around the world.
Here we explain the various initiatives and intentions, such as reducing environmental impact and improving productivity, that support the Group's sustainability.

Interview 01

The synthetic pheromones we develop contribute to the sustainability of agriculture and food

E.O.
Specialty Chemicals Research Center, Naoetsu Plant

Interview 02

Building a system where all employees contribute to reducing environmental impact

B.C.
Environmental and Regulatory Specialist
Shin-Etsu Silicones of America, Inc.

Interview 03

Continuous innovation in production processes leads to higher productivity and less environmental impact

K.T.
Silicone Production Dept., Gunma Complex

Interview 04

Automating tedious, repetitive tasks to create a more comfortable and productive workplace

Y.O.
Mimasu Semiconductor Industry Co., Ltd.
Digital Engineering Department, Engineering Headquarters

Interview 05

Preventing incidents and accidents through awareness of on-site hazards and risks

R.U.
Environmental Health & Safety Department
Shin-Etsu Magnetics Philippines, Inc.

Developing synthetic pheromones that contribute to biodiversity conservation

I am in charge of developing synthetic pheromones to control agricultural pests. Pheromones are substances that insects secrete from their bodies to transmit information between individuals of the same species. By artificially synthesizing and using the sex pheromones that female pests use to attract males, we can disrupt their mating process.

Since synthetic pheromones act only on the target pests, they can protect crops without adversely affecting the ecosystem, thereby contributing to the conservation of biodiversity. The use of synthetic pheromones also reduces the frequency of the use of insecticides and other chemical pesticides, helping to conserve water resources and prevent soil contamination. They can also prevent the development of resistance in pests caused by the repeated application of chemical pesticides, and are even effective against pests hiding inside leaves and branches that are difficult to reach with pesticide sprays.

In this way, synthetic pheromones can be said to make a significant contribution to the sustainability of agriculture and food. A particular strength of our products is that they have excellent uniform release performance and consistently demonstrate high pest control efficacy.

Promoting the introduction of formulations based on biodegradable resins

As part of our commitment to responsible production, we manage all processes from the production of pheromone ingredients to the production of formulations, and we are focused on developing and introducing synthetic pheromones based on eco-friendly biodegradable resins. I was involved in introducing these biodegradable resin-based synthetic pheromones into Europe, and that's when I learned that Shin-Etsu Chemical had first begun considering the use of biodegradable resins more than 30 years ago. The fact that my predecessors had chosen such a future-oriented development topic was extremely inspiring to me. Today, people are demanding products that contribute to sustainability, so I never proceed with R&D without asking how our formulations can contribute to this.

Focusing on expanding the targeted pest species and crop groups

I believe that spreading the use of synthetic pheromones will contribute to sustainability. To this end, the research group considers it particularly important to develop products targeting new pests (synthesizing new pheromone ingredients, formulating them, and studying their effectiveness in controlling pests), and to develop new formulations suitable for crops where they are not yet widely used. The Group is working together as one to promote product development with the aim of further spreading and advancing synthetic pheromones.

Focusing on waste recycling and pollution prevention

Shin-Etsu Silicones of America, Inc. (SESA) is engaged in many projects to reduce waste and air and water pollution.

For example, in accordance with the Resource Conservation and Restoration Act (RCRA), we have installed a triple rinse station for empty pails and drums. Rinsing the containers allows us to rinse and recycle our metal containers that previously contained hazardous materials, rather than disposing of them. We have also initiated a collaboration with an external partner to recycle a portion of silicone materials that otherwise would have been wasted. In addition, by properly managing our solvent-soaked wipes, we have exempted them from hazardous waste regulations set by the Environmental Protection Agency (EPA), which has reduced disposal costs and achieved significant cost savings.

To prevent air pollution, we have replaced acetic acid, which was used as a neutralizer in our reactor unit for fluorosilicone rubber production, with CO_2, thereby contributing to the removal of VOCs (volatile organic compounds). The drainage area has also been retrofitted with new cement gutter drainage pipes to prevent and reduce stormwater pollution. We have also added an oil barrier around a transformer and are power washing around the campus to remove oily buildup and reduce leaching into the storm drains.

SESA excels in environmental performance

SESA acquired ISO14001 certification at all manufacturing sites on April 2025. We have been implementing environmental impact reduction activities beyond the legal requirements, and in 2023, we received an award from the Ohio Environmental Protection Agency, as well as high praise from the EPA.

SESA educates employees about environmental conservation efforts by prioritizing education of our employees through monthly training. The more our employees know and understand about environmental protection, the more they are able to think critically about their own impact. We also provide environmental protection training to contractors every year. SESA also utilizes a digital bulletin board to display custom content, including environmental protection topics and cleanup notices. In addition, SESA has an incentive program to reward employees for their suggestions for environmental contributions, ensuring that all SESA employees are involved in improving environmental performance.

There are many environmental issues and themes in the forefront of the United States of America, especially surrounding the new administration taking office and the reconfiguration of priorities. We therefore stay up to date with any new or updated requirements by staying involved with external committees such as the Society for Chemical Hazard Communication and the Summit County Safety Council, as well as subscriptions and newsletters. This ensures we are always aware of changes and can remain compliant with all federal, state, and local requirements.

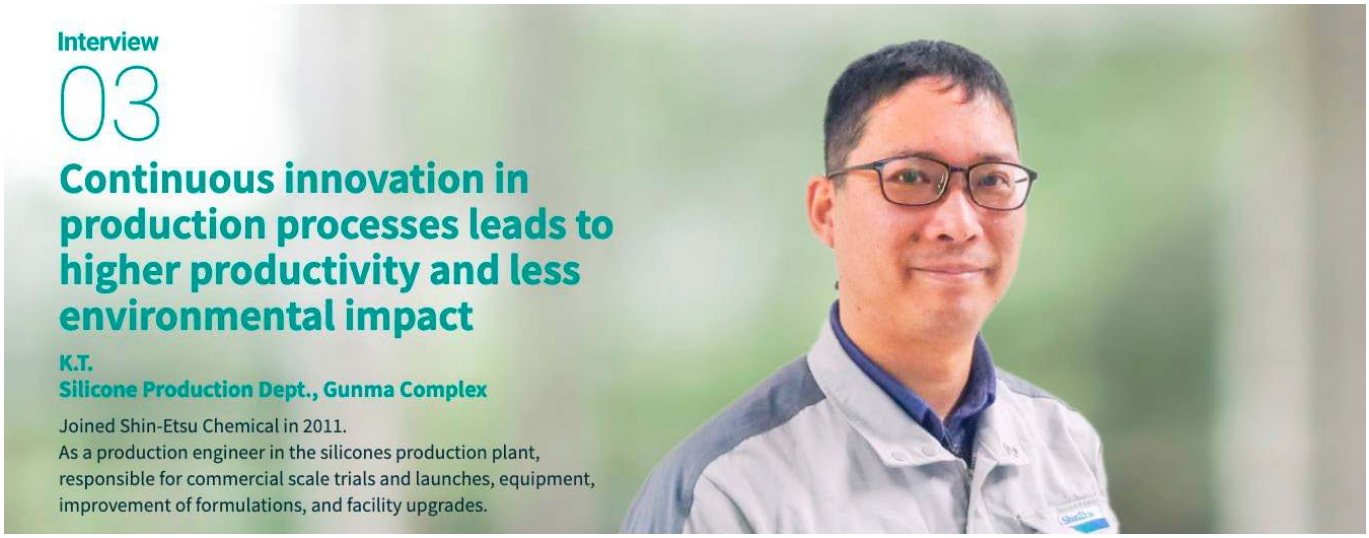
Aiming to achieve carbon neutrality by 2050

SESA is constantly growing and expanding its production output, which requires the input of more resources. We therefore employ supplier questionnaires and contractor vetting forms to ensure we are ethically sourcing our materials. Moreover, aiming to achieve carbon neutrality by 2050, we are slowly replacing some of our older equipment with newer models for a cleaner, more efficient process.

SESA has ingrained sustainability into our company culture. From the top down, every employee contributes something to our sustainability journey, bringing us step by step closer to becoming carbon neutral.

Related Information

› Shin-Etsu Silicones of America, Inc.



Using sensors to double productivity

Silicones have the characteristic of having a diverse molecular structure, and we have developed over 5,000 different product varieties. These products play an important role in a wide range of fields from everyday products to solar and wind power generation and hybrid and electric vehicles, and are also essential components for achieving carbon neutrality. For example, silicone used in tires reduces rolling resistance and contributes to improved fuel efficiency.

My main role is to take silicone prototypes that are still in the development stage and produce them in mass quantities in the plant for commercialization, while working every day to improve productivity.

The plant I am in charge of manufactures more than 300 product varieties per year. Because some of these products require highly accurate monitoring of reaction rates, operators used to take samples every hour and bring them to the research department for measurement. However, once a certain sensor was found and integrated into the production line, we were able to measure reaction rates in real time, eliminating the workload on operators and the research department. At the same time, we increased the reaction temperature to shorten the reaction time. This increased the solubility of the raw materials, enabling us to reduce the amount of organic solvent used to dissolve the raw materials by 90%. This organic solvent was incinerated, so by reducing the use of organic solvent, we were able to reduce CO_2 emissions by 50% (15 tons of CO_2 annually). Combined with the increased reaction speed, this increased the yield that could be produced at once, doubling productivity.

Approaching continuous improvement with flexible thinking

There is room for improvement everywhere on the manufacturing sites. The examples of improvements I mentioned here were inspired from the perspective of reducing the workload on operators and the research department, so I was very surprised that they led to higher productivity and less environmental impact, which were unexpected benefits.

Our products compete in the global marketplace, so if we just keep doing the same old thing, we will have no future. I believe it is important to always imagine the ideal of how things should be, identify challenges, and continue to make improvements every day in accordance with fundamental principles. Knowing that even small improvements, when accumulated daily, can become significant competitive advantages in five or ten years, I will never stop relentlessly pursuing higher quality and productivity in our processes.

Interview

04

Automating tedious, repetitive tasks to create a more comfortable and productive workplace

Y.O.
Mimasu Semiconductor Industry Co., Ltd.
Digital Engineering Department, Engineering Headquarters

Joined Mimasu Semiconductor Industry Co., Ltd. in 2009. After working in the Quality Assurance Department of the Semiconductor Division, now working on automating tasks using RPA and other tools in the Digital Engineering Department of the Engineering Headquarters.

Automating tasks reduces overtime and makes work more comfortable

I worked in the Quality Assurance Department of the Semiconductor Division for about 10 years, primarily handling tasks such as verifying and compiling shipment data. During that time, I took childcare leave for about a year, and after returning to work, I became involved in automating tasks using RPA (Robotic Process Automation) tools. This led me to the Engineering Department, where I learned programming languages. Currently, I study ways to automate routine tasks and tedious, repetitive tasks that are done manually, and I develop applications using RPA tools and programming languages in response to requests from various departments.

The company is actively working to improve operational efficiency throughout the workplace, and each department has drawn up a list of tasks that can be automated. For example, in wafer processing, where the processing recipes involve intricate combinations of conditions depending on the specifications and grades, we created an application that automatically matches over 40,000 device-specific recipes against a master database. This eliminates human error while improving yields and reducing time on task, which reduces overtime and makes work more comfortable.

Taking advantage of the short-time work system and childcare leave to balance work and child-rearing

I am currently taking advantage of the short-time work system in order to balance my work promoting automation in the Digital Engineering Department with child-rearing. This system allows employees to choose to work six- or seven-hour days until their child finishes the third grade of elementary school. It is used by employees who find it difficult to balance full-time work with child-rearing and employees who want to have more time to spend with their children.

In the past, some male employees were reluctant to take childcare leave, but since then the Japanese government revised the Act on Childcare Leave and Caregiver Leave and a lot of male employees' concerns about childcare leave have been alleviated. As a result, the workplace environment has become more positive about taking childcare leave. In addition, the Personnel Department coordinates with employees and their supervisors in the workplace, creating an environment where employees can take childcare leave with ease. One male employee who took childcare leave reported, "When I mentioned that my wife was pregnant, my supervisor encouraged me to take childcare leave, and I was able to take it without feeling I was a burden." Another reported, "It made me want to continue to do my best as a father even after returning to work."

A mindset of eliminating waste to focus on productive work

I have come to realize that balancing work and childcare is much more difficult than I had imagined. Sometimes I feel tension between wanting to devote time to work and wanting to participate in my children's events and watch them grow up, and I wonder if I should return to full time work or continue to work shorter hours. However, to maintain work-life balance, we need the understanding and support of those around us. For this reason, I keep in close communication with those around me to ensure that my work does not pile up, and I try to adopt a mindset of eliminating waste to focus on productive work. In addition, with efficiency as my motto, I am striving to effectively fulfill my managerial duties as a section chief within the limited time available.

Related Information

› Mimasu Semiconductor Industry Co., Ltd.

Interview

05

Preventing incidents and accidents through awareness of on-site hazards and risks

R.U.
Environmental Health & Safety Department
Shin-Etsu Magnetics Philippines, Inc.
Studied mechanical engineering at a college and joined Shin-Etsu Magnetics Philippines in 2012.
After working as Machining Supervisor, transferred to the Environmental Health and Safety Department to work on occupational health and safety and environmental health issues.

Creating a consistently safe work environment down to the smallest detail

The Environmental Health and Safety Department (EHS) of Shin-Etsu Magnetics Philippines (SMP) has established an occupational health and safety management system, staffed with company doctors and nurses in addition to safety officers and pollution control officers. I develop and lead the EHS planning to ensure a safe work environment.

Specifically, we conduct risk assessments on new processes, machinery, and work areas, and take appropriate measures to address those risks. For example, we take measures to protect employees from the moving and rotating parts of machinery and equipment, and conduct 5S workplace organization audits (the five Ss are sort, systematize, shine, standardize, and sustain). We also pay attention to the health of our employees.

In addition to providing SDSs (safety data sheets) for the chemicals used in the manufacturing process, we conduct regular audits to ensure that environmental health and safety measures are being implemented in accordance with Philippine law, and we review and update our procedure manuals.

It is important to be fully aware of hazards and risks

SMP began new risk assessment activities in 2023, with the EHS Safety Officer, the person in charge of the process, and the actual operator coordinating on a monthly basis on specific processes to identify and assess potential risks, including their likelihood of occurrence.

I believe that ensuring all employees are fully aware of the hazards and risks lurking in their work areas is the first step in preventing future incidents and accidents. Therefore, all new employees attend a General Safety Orientation. We are also planning to have yearly discussions of previous incidents and accidents encountered in SMP along with their root causes and corrective actions. Most of the accidents encountered from previous years are the result of non-compliance with the set safety procedures, such as wearing inappropriate personal protective equipment (PPE) or not wearing it at all. We therefore enforce strict compliance with rules and regulations and regularly check that corrective and preventive measures are being implemented.

Actively promoting recycling activities with the aim of supplying sustainable products

We have a responsibility to provide a stable supply of magnet products, which play an important role in electronic devices, industrial machinery, automobiles, and other applications. The sustainability of our magnet products is therefore a top priority. We emphasize high-quality, long-lasting design, which is one of our advantages over our competitors, and we are also recovering and reprocessing the magnet sludge to reduce our consumption of natural resources and minimize our impact on the global environment.

We also operate facilities to separate non-hazardous waste from hazardous waste and recycle it into materials such as cardboard, paper, plastic, and metal. Additionally, we collaborate with packaging material suppliers to recycle waste into new products, such as bricks, rulers, and toys. SMP is also equipped with a wastewater treatment facility that ensures that the wastewater we generate is treated prior to discharge to the sewer line, and we have installed dust collection facilities in the sludge collection area to prevent contamination of soil, water, and air. We have also installed solar power generation systems in our major plants and are working towards becoming carbon neutral by supplying a portion of our electricity consumption with renewable energy.

Sustainability Management

Shin-Etsu Group's Sustainability

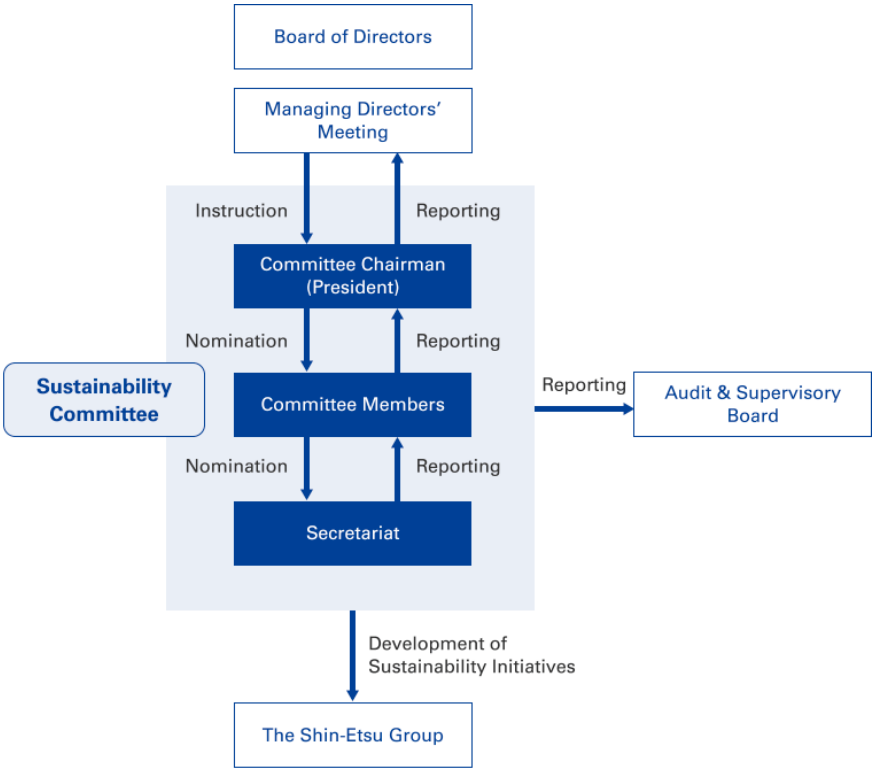
The Shin-Etsu Group has established a Basic Sustainability Policy based on its Business Principle and is working to address nine key sustainability issues. In May 2024, we revised our Basic Sustainability Policy following approval by the Managing Directors' Meeting and the Board of Directors attended by all directors, audit & supervisory board members and corporate officers.

Structure of Initiatives

The Group believes that it is the social responsibility of the Group to contribute to all of our stakeholders, such as shareholders, investors, customers, suppliers, local communities, and employees.

To achieve this, we formulated the “Basic Sustainability Policy” and internal regulations and carry out sustainability activities. In order to develop sustainability initiatives effectively and properly at a company-wide level in all aspects of corporate activities, we have set up the Sustainability Committee, which is chaired by the President and comprises approximately 60 members, including Directors, Corporate Officers and department heads of Shin-Etsu Chemical and sustainability officers from group companies.

Structure of Initiatives



List of Executives in Charge of Sustainability Initiatives

Position	Name	Current Positions (related to Sustainability)	Key Issues about Sustainability and Other Matters
Representative Director, Chairman of the Board Meeting	Fumio Akiya	In charge of Technologies	Key Issue: Product quality improvements and product safety control
Representative Director, President	Yasuhiko Saitoh	Chairman of Sustainability Committee	
Managing Corporate Officer	Toshiya Akimoto	Vice Chairman of Sustainability Committee In charge of Public Relations, Legal Affairs, Business Auditing General Manager of Office for Digitization and Digitalization Chairman of Risk Management Committee	The foundation of all activities: legal compliance, fair corporate activities Key Issue: Respect for and protection of intellectual property Key Issue: Accurate and timely information disclosure and communication with stakeholders Risk Management Corporate Governance
Managing Corporate Officer	Fumio Arai	In charge of Purchasing	Key Issue: Promoting CSR procurement and the diversification of supply sources
Managing Corporate Officer	Shigeyoshi Netsu	In charge of Patents	Key Issue: Respect for and protection of intellectual property
Corporate Officer	Toshiyuki Kasahara	In charge of General Affairs General Manager of Finance & Accounting Dept.	Corporate Governance (Fair tax payment, etc.)
Corporate Officer	Kai Yasuoka	Personnel & Labor Relations	Key Issue: Respect for human rights, the development of human resources, and the promotion of diversity
Corporate Officer	Ichiro Onozawa	In charge of Environmental Control & Safety Relations	Key Issue: Health and safety of employees and contractors Key Issue: Energy-Saving, Resource-Saving, and Reduction of the Environmental Impact

As of June 27, 2025

Participating in the UN Global Compact

In November 2010, the Group joined the UN Global Compact.

Life in society has become more complex and diverse in recent years, and the social responsibilities of enterprises have grown. The Group remains firmly committed to its business principle of complying with all laws and regulations, conducting fair business practices and creates unrivaled value for society and industry through the provision of key materials and technologies. At the same time we respond flexibly to changes in the social and economic environment.

The Group has also been participating in the Global Compact Network Japan (GCNJ) since November 2010. The Group joins subcommittees, such as the Environmental Management Subcommittee and ESG Subcommittee, to use the information gained on the latest development of sustainability to promote the Group's Sustainability.

The Group, as the first in Japan, signed a document to support GCNJ's Tokyo Principles for Strengthening Anti-Corruption Practices in February 2018.

Global Compact Ten Principles

Human Rights

Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and

Principle 2: make sure that they are not complicit in human rights abuses.

Labour

Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

Principle 4: the elimination of all forms of forced and compulsory labour;

Principle 5: the effective abolition of child labour; and

Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

Principle 7: Businesses should support a precautionary approach to environmental challenges;

Principle 8: undertake initiatives to promote greater environmental responsibility; and

Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Related Information

› Legal Compliance

Evaluation from Outside the Company

The Company is incorporated in the following Sustainability indexes. We also disclose environmental risks, opportunities, and impacts through CDP*1. In FY2024, our CDP climate change evaluation was A-.

*1 CDP
An international environmental non-profit organization established in the UK in 2000 that operates a global environmental information disclosure system for companies and local governments. The annual environmental information disclosure and evaluation process is widely recognized as an international standard for corporate environmental information disclosure.

FTSE4Good

FTSE Blossom Japan Sector Relative Index

FTSE Blossom Japan Index

Supplier Engagement Leader CDP 2024

2024 CONSTITUENT MSCI NIHONKABU ESG SELECT LEADERS INDEX

S&P/JPX Carbon Efficient Index

2025 Sompo Sustainability Index

* FTSE Russell (the trading name of FTSE International Limited and Frank Russell Company) confirms that Shin-Etsu Chemical Co., Ltd. has been independently assessed according to the FTSE4Good criteria, and has satisfied the requirements to become a constituent of the FTSE4Good Index Series. Created by the global index provider FTSE Russell, the FTSE4Good Index Series is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE4Good indices are used by a wide variety of market participants to create and assess responsible investment funds and other products.
https://www.lseg.com/en/ftse-russell/indices/ftse4good
* FTSE Russell: FTSE Russell hereby certifies that Shin-Etsu Chemical Co., Ltd. has met the requirements for inclusion in the FTSE Blossom Japan Sector Relative Index as a result of a third-party survey and has become a constituent of this index. The FTSE Blossom Japan Sector Relative Index is widely used to create and evaluate sustainable investment funds and other financial products.
https://www.ftserussell.com/products/indices/blossom-japan/
* FTSE Russell confirms that Shin-Etsu Chemical Co., Ltd. has been independently assessed according to the index criteria, and has satisfied the requirements to become a constituent of the FTSE Blossom Japan Index. Created by the global index and data provider FTSE Russell, the FTSE Blossom Japan Index is designed to measure the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices. The FTSE Blossom Japan Index is used by a wide variety of market participants to create and assess responsible investment funds and other products.
* MSCI:The inclusion of Shin-Etsu Chemical Co., Ltd. in any MSCI index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of Shin-Etsu Chemical Co., Ltd. by MSCI or any of its affiliates. The MSCI indexes are the exclusive property of MSCI. MSCI and the MSCI index names and logos are trademarks or service marks of MSCI or its affiliates.

As of July, 2025

Utilization of Supply Chain CSR Management Systems

The Group utilizes supply chain CSR management systems, such as RBA Online*2, Sedex*3, and EcoVadis*4 to disclose CSR information.

*2 RBA Online
An online database organized by NPO Responsible Business Alliance (former: Electronic Industry Citizenship Coalition) to manage labor, health and safety, environment, and ethics in the supply chain. Enterprises in the global electronic industry and others join the Responsible Business Alliance.
*3 Sedex
An online database organized by and named after NPO Sedex for storing and accessing data on ethical and responsible business practices. Enterprises from 150 countries in 28 industries, including food, automobile, cosmetics, and amenity, have joined Sedex.
*4 EcoVadis
The supply chain management system operated by the French CSR rating agency, EcoVadis, is used by multinational corporations in 150 countries in North America, Asia, and Europe.

Key Sustainability Issues

Key Sustainability Issues

Key Sustainability Issues	Major Initiatives	
The foundation of all activities: legal compliance, fair corporate activities	Legal Compliance	
Health and safety of employees and contractors	Occupational Health and Safety Safety and Disaster Prevention	
Energy-saving, resource-saving, and reduction of the environmental impacts	Environment Management	
	Climate Change	TCFD Disclosure
		Initiatives Aimed at Carbon Neutrality
		Contribution through Product Characteristics
	Water Resource Conservation	
	Resource Circulation / Waste Reduction	
	Conservation of Biodiversity Pollutant Countermeasures	
Product quality improvements and product safety control	Quality Control / Product Safety Control	
Promoting CSR procurement and the diversification of supply sources	Sustainable Procurement	
Respect for human rights, the development of human resources, and the promotion of diversity	Respect for Human Rights	
	Human Resources Strategy	Basic Policy on Human Resources Strategy
		Education/Training and Personal Development
		Performance-based Personnel Evaluation Systems
	Promotion of Diversity	
	Initiatives for Work-life Balance	
Respect for and protection of intellectual property	Intellectual Property Management	
Accurate and timely information disclosure and communication with stakeholders	Communication with Stakeholders Information Disclosure	
Contribution to industry and social initiatives	Contribution to industry and social initiatives	

Specifying Key Sustainability Issues

In FY2015, the Sustainability Committee identified “key sustainability issues” that the Shin-Etsu Group needs to focus its efforts on in particular. Subsequently, in December 2018, all of our departments and major domestic Group companies reviewed the key issues and their importance, which were then reviewed again by the Sustainability Committee. As a result, we decided to carry on with the key issues we identified in 2015. We continue to view legal compliance and fair corporate activities as the foundation of all of our activities, and focus on these nine key issues.

Going forward, the Sustainability Committee will continue to review the key issues and their importance as necessary based on the status of the Group’s corporate activities, taking into account changes in the external environment in which the Group operates and trends in sustainability in Japan and overseas.

1. Clarifying key sustainability issues

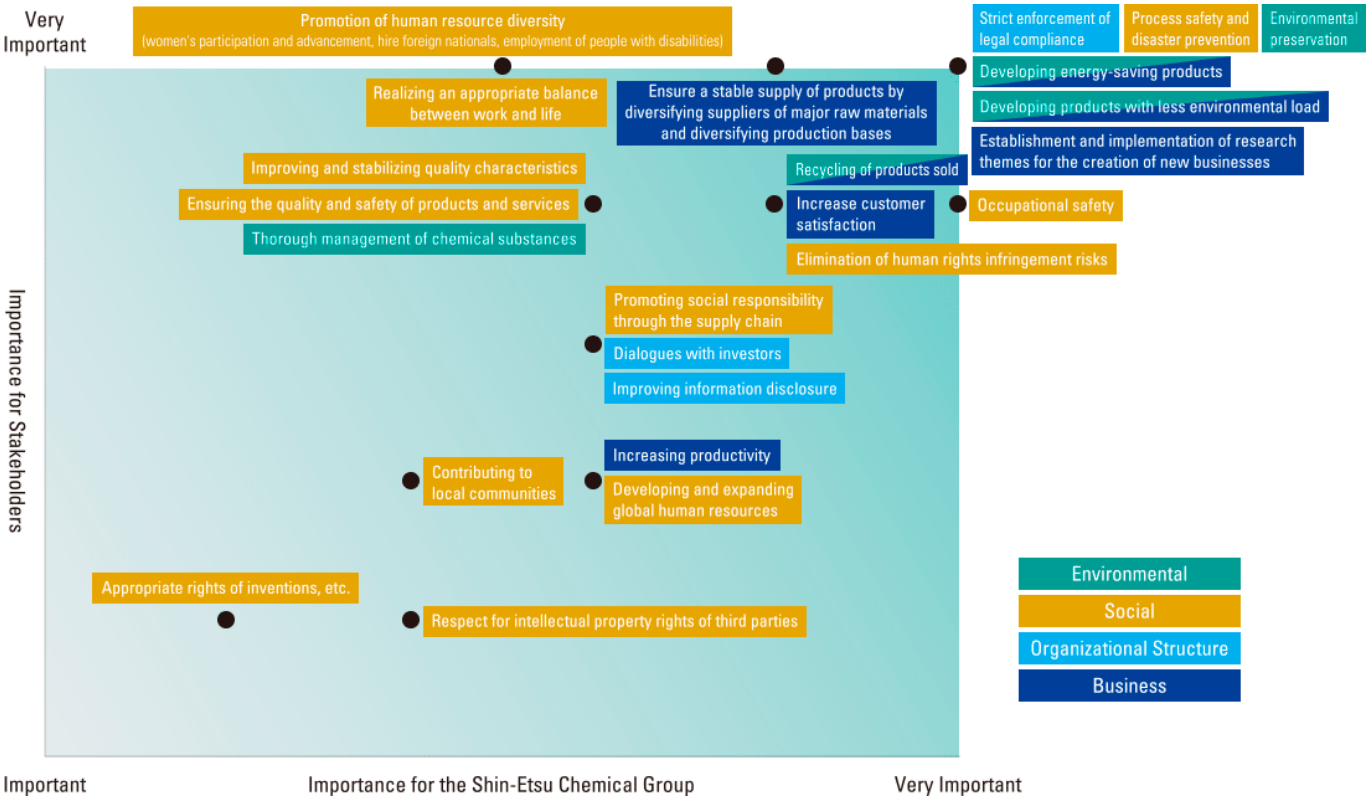
In December 2015, the committee conducted the following investigations for all of the company’s departments and major domestic Group companies.

1. The stakeholders for each department and each company are reconfirmed.
2. In reference to ISO 26000 core topics, key sustainability issues are listed for each department and each company.
3. The level of importance of each key issue for the Group as well as for stakeholders is scored.

2. Creating a scatter plot of key sustainability issues and organizing them

In January 2016, the committee created a scatter plot based on the key issues and the scores submitted by each department and each company. The result showed that the majority of key issues were very important.

The committee organized the listed key issues and created a draft of key sustainability issues that reflects the scatter plot.



3. Interviews with Outside Directors

In January 2016, individual interviews were conducted with all Outside Directors based on the prepared proposal. The followings are the suggestions and opinions from the interviews:

1. Compliance with laws and regulations is related to all issues.
2. All listed key sustainability issues are equally important to the Group, and it is difficult to prioritize them.
3. The Group should clarify its goals while specifying key sustainability issues.

4. Re-examination in the committee and approved by the management

In February 2016, the committee has re-examined the key issues based on the suggestions and opinions of the Outside Directors. The Managing Directors' Meeting, in which all Directors and Audit & Supervisory Board Members are involved in making decisions, also examined the key issues and has declared the items in the figure above to be key sustainability issues of the Group in 2015.

In December 2018, the Sustainability Committee discussed the key issues and their importance, which had been reviewed by all departments of the company and major Group companies in Japan, and decided to continue addressing the key issues identified in 2015.

The Group will work equally on all of these key sustainability issues in no particular order.

Risks and Opportunities Related to the Key Sustainability Issues

The Shin-Etsu Group recognizes the risks, and opportunities associated with all key Sustainability issues and addresses them accordingly.

Key Sustainability Issues	Major Risks and Opportunities		Corresponding Initiatives
The foundation of all activities: legal compliance, fair corporate activities	Risks	• Impact of legal violations and improprieties on corporate management. • Damage to corporate value due to loss of trust from society.	• Demand thorough compliance awareness among officers and employees through training, etc. • Regarding the prevention of bribery, thoroughly enforce a ban on provision of unfair benefits or demands, and establish internal rules at each overseas Group company • Cutting ties with anti-social forces • Compliance with sound business practices with suppliers and service providers • Support for the "Declaration of Partnership Building" KPI (FY2024 results) Number of violations of laws and regulations: 0
	Opportunities	• Ensuring full compliance awareness and fair corporate activities leads to: (1) Formation of the foundation of corporate value (2) Elimination of risks (3) Building of customer trust and expansion of business opportunities (4) Hiring and retaining of excellent human resources	
Health and safety of employees and contractors	Risks	• Impact of accidents and environmental problems on local communities and employees. • Damage to equipment caused by typhoons, earthquakes, or other natural disasters. • Impact of an infectious disease outbreak on operations.	• Safety education for employees through disaster prevention drills and workshops • Environmental control and safety audits • Improvement of the workplace environment and promotion of employees' health KPI (FY2024 results) Number of work-related employee fatalities: 0 (Consolidated) Number of serious accidents: 0 (Consolidated) Lost-time accidents rate: 0.13 (Japan), 0.08 (overseas) Lost-time accidents severity rate: 0.00 (Japan), 0.00 (overseas)
	Opportunities	• Implementing measures to prevent accidents and developing new production processes enable the creation of a safe working environment and the improvement of stable production and higher productivity • Hiring and retaining excellent human resources • Continuing operations, shutting down operations, and resuming operations safely by designing the plant in anticipation of a natural disaster and taking measures against risks • Promoting employee health, achieving a work-life balance, and cultivating a sense of motivation and fulfillment in work	

Energy-saving, resource-saving, and reduction of the environmental impacts	Risks	• Additional costs of stricter regulations related to greenhouse gas emissions • Price increases and difficulty in procuring raw materials for the quantity needed • Increased water risks, such as water depletion and flooding	• Promoting the reduction of environmental impact • Waste reduction • Pollutant countermeasures • Response to climate change • Resource recycling • Water resource conservation and water pollutant elimination • Conservation of biodiversity initiatives KPI (FY2024 results) GHG Emissions (Scope1+Scope2): 6,770 thousand tons of CO_2e Emissions intensity index of production volume relative to 1990: 56.9%(Shin-Etsu Group), 48.6% (Shin-Etsu Chemical) Average rate of energy consumption in terms of production intensity: decreased by 0.9% Average rate of water withdrawal in terms of intensity: decreased by 7.9% Average rate of BOD emissions in terms of production intensity: decreased by 8% Final waste landfill disposal rate: 0.86% (domestic consolidated companies) Average rate of emissions of air pollutants in terms of production intensity: 14.1% increased in Soot, 1.3% increased in SOx
	Opportunities	• The constant challenge of technological innovation leads to the enhancement of "manufacturing ability". • Increasing competitiveness by conserving energy and resources, reducing environmental loads, and improving productivity • Increasing the demand for products that contribute to the environment • Developing technologies that recycle water, thus contributing to business continuity	
Product quality improvements and product safety control	Risks	• Loss of trust due to product quality issues • Direct or indirect impacts on product safety	• Quality control • Quality audits and support • Product safety control • Promote automation of quality inspections and assurance (reduce personnel involvement) • Verification of the statistical validity of inspection variations and standard ranges
	Opportunities	• The track record of continuing to deliver products of the promised quality on time will lead to increased customer trust. • Sincere efforts to ensure product safety and accumulation of achievements will lead to the trust of customers and society.	
Promoting CSR procurement and the diversification of supply sources	Risks	• Impact from not being able to procure raw materials, such as discontinuation of manufacture and shipment delay to customers • Problems arising in the supply chain	• Create "Shin-Etsu Group CSR Procurement Guidelines" and revise them as appropriate • Ensuring compliance with subcontracting laws by attending seminars and conducting internal audits • Implementing initiatives to eliminate the use of conflict minerals • Implementing the supplier CSR procurement survey • Participation in RSPO "Roundtable on Sustainable Palm Oil"
	Opportunities	• Diversifying suppliers enable stable procurement, purchasing at optimal prices, and procurement of raw materials through fair transactions • Thorough CSR procurement will lead to the trust of customers and society	
Respect for human rights, the development of human resources, and the promotion of diversity	Risks	• Occurrence of human rights infringements in the Group's business activities and supply chain • Occurrence of differences and biases in the effectiveness of on-the-job training • Negative impact of performance-based evaluation (Putting emphasis on short-term results, bias in evaluation depending on department, performance decline due to external factors, etc.) • Increase in turnover rate and decrease in job seekers due to inability to meet needs for diversification of work styles	• Promotion of respect for human rights based on the Universal Declaration of Human Rights • Implementing human rights due diligence • Supporting employee growth through a training system • Promote communication between superiors and subordinates • Promoting penetration of an evaluation compensation system focused on skill development • Creating an environment where people can play an active role regardless of gender or age • Enhancement of work-life balance system KPI (FY2024 results) Number of child labour: 0 Number of forced labour: 0 Ratio of women at the time of hiring: Administrative positions 52.6%, Engineering positions 9.0% (Employees and seconded employees of Shin-Etsu Chemical) Number of women in managerial positions, including junior manager level (versus FY2014): 4.00 times (Employees and seconded employees of Shin-Etsu Chemical)
	Opportunities	• Improving the market evaluation of companies that promote respect for human rights • Active participation of excellent human resources who have cultivated practical skills through on-the-job training • Accumulation of knowledge, skills and experience • Maintaining and improving organizational vitality brought about by a strong desire to take on challenges to achieve goals • Business growth and new business development by hiring, developing, and selecting talented human resources	

Respect for and protection of intellectual property	Risks	• The adverse effect on product sales due to infringement of our intellectual property • Restrictions on our product sales and business due to the patents of other entities • Impact of cyber-attacks on production, sales, and R&D activities • Loss of trust in the company due to information leakage	• Intellectual property management • Initiatives for information asset management • Protection of personal information • Initiatives for cyber security
	Opportunities	• Promoting product development and unique manufacturing methods by protecting and utilizing our intellectual property • Contributing to the development of industry and the society by publishing inventions • Implementing technology innovation and operational reforms by utilizing digital technologies while thoroughly protecting and managing information assets and taking measures against cyber attacks	
Contribution to industry and social initiatives	Risks	• Loss of trust from local communities due to social contribution activities not meeting local needs • Impact on the world development due to the delay in achieving a sustainable world that the SDGs aim to achieve	• Contribution to SDGs goals and targets • Fundraising for the U.N. World Refugee Day • Cleanups around plants • Participation in Pine Forest Restoration Project • Support for Promotion of Sports and Healthy Growth for Local Elementary School Students • Traffic Safety Activities • Summer School for Local Elementary School Students • Contribution to Society Activities at Overseas Group Company
	Opportunities	• Creation of employment opportunities, stable employment and tax payment due to business stability • Building relationships of trust with the local community through dialogue and continuous activities • Contributing to a better world by addressing SDG issues through business operations	
Accurate and timely information disclosure and communication with stakeholders	Risks	• Impairment of corporate value through the non-disclosure and inadequate disclosure of information • Loss of trust from stakeholders and the society due to failure to fulfill accountability	• Appropriate and timely disclosure of company information • Communication with stakeholders • Dialogue with mass media including conference calls with analysts and investors after the announcement of financial results • Holding an exhibition
	Opportunities	• Creating a fair market evaluation and improving corporate value • Earning the trust of stakeholders and the society	

Related Information

› Sustainability Data

Governance: Corporate Governance

Basic Approach

Our basic management policy is to continuously enhance our corporate value and meet shareholder expectations. To carry out this policy, we have established an efficient organizational structure and various systems designed to respond to changes in the business environment. In addition, to improve transparency in management and strengthen oversight functions, our basic approach to corporate governance is to accurately disclose information to shareholders and investors, and we consider this to be one of our highest management priorities.

Related Information

Corporate Governance Report PDF

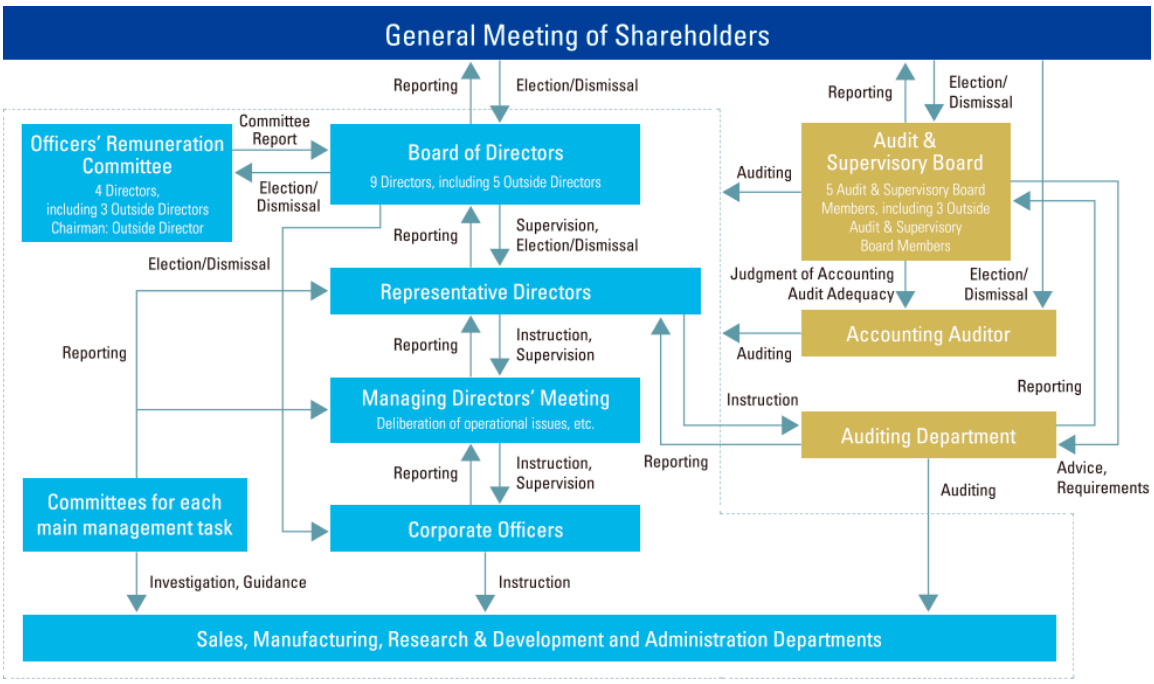
Corporate Governance Structure

The Board of Directors consists of nine directors, five of whom are Outside Directors with extensive corporate and organizational management experience and outstanding insight.

In addition to the Board of Directors, we have established the Managing Directors' Meeting to function as another deliberation and decision-making body for business execution. In principle, both organizations meet once per month. The Board of Directors deliberates and makes decisions on important matters related to management, including the Company's basic policies and matters required to be resolved by laws, regulations, and the Articles of Incorporation of the Company. The Managing Directors' Meeting deliberates and makes decisions on all aspects of the Company's operations (excluding matters submitted to the Board of Directors). Furthermore, the Company has formed the Officers' Remuneration Committee, which is chaired by an outside director and serves as an advisory body to the Board of Directors, in an effort to ensure transparency and appropriateness in reviewing and evaluating remuneration for officers and the nomination of candidates for directors and Audit & Supervisory Board members.

Shin-Etsu Chemical has adopted the Company with Audit & Supervisory Board Members system as its organizational structure. The Audit & Supervisory Board consists of five Audit & Supervisory Board Members, including three Outside Audit & Supervisory Board Members. In addition to attending important internal meetings such as meetings of the Board of Directors and the Managing Directors' Meeting, Audit & Supervisory Board Members receive reports from Directors, Corporate Officers, employees, and others on the status of execution of their duties and audit the execution of duties by Directors through on-site inspections of business sites and subsidiaries and other investigations. Audit & Supervisory Board Members also receive quarterly reports and explanations regarding accounting audits from an accounting auditor, and ensure proper collaboration by exchanging information and opinions as necessary. They also regularly receive reports and explanations regarding the status of internal auditing from the Internal Auditing Department and work cooperatively with it, exchanging views and ideas.

Corporate Governance System at Shin-Etsu Chemical



As of June 27, 2025

Officers' Remuneration

Officers' Remuneration Committee

To ensure transparency and appropriateness in the processes involved in reviewing and evaluating remuneration for officers, as well as nominating candidates for senior management, directors, and Audit & Supervisory Board members, we have established the Officers' Remuneration Committee. This committee is chaired by Independent Outside Director Hiroshi Komiyama and includes two other independent outside directors, Kuniharu Nakamura and Michael McGarry, as well as Representative Director-President Yasuhiko Saitoh, making a total of four directors. They comprehensively review and evaluate each director's contributions to the Company's performance and overall management every fiscal year, and report their findings to the Board of Directors.

Basic Fundamental Policy Regarding Remuneration and Its Calculation Method

The remuneration system of Directors shall be designed to contribute to the mid- to long-term enhancement of the corporate value of the Company, and the remuneration of Directors shall be determined by the Board of Directors based on the results of the review and evaluation by the Officers' Remuneration Committee as well as its opinion thereon. The remuneration shall consist of "fixed remuneration" determined as appropriate for each individual's position, job responsibilities, etc., and "performance-based remuneration" that takes into consideration the annual financial performance of the Company as an incentive for the enhancement of corporate value, as well as "stock options" as an incentive for higher motivation and morale to execute one's duties and to improve performance, and ultimately for the enhancement of shareholder value (stock price-linked remuneration).

On the other hand, the remuneration of Audit & Supervisory Board Members shall be determined through their mutual consultation. The remuneration shall consist of "fixed remuneration" determined as appropriate for each individual's job responsibilities as an Audit & Supervisory Board Member. Outside Directors and Audit & Supervisory Board Members are not entitled to any "performance-based remuneration" or "stock options" as they are expected to perform supervisory and checking functions over management.

Remuneration Amount by Director Type and Its Detail, Number of Applicable Directors (For the year ended March 31, 2025)

Designation	Amount of remuneration, etc. by type (¥ million)			Number of recipients (People)	Amount of remuneration, etc. by type (¥ million)	Number of recipients (People)
	Fixed	Performance-based	Total		Non-monetary remuneration, etc.	
Directors (excluding Outside Directors)	468	299	767	4	196	4
Audit & Supervisory Board Members (excluding Outside Audit & Supervisory Board Members)	19	—	19	1	—	—
Outside Directors and Outside Audit & Supervisory Board Members	181	—	181	9	—	—

Notes:
1 The above includes one director who retired at the conclusion of the 147th Ordinary General Meeting of Shareholders held on June 27, 2024.
2 The Officers' Retirement Benefits Program was repealed at the conclusion of the 131st General Shareholders' Meeting held on June 27, 2008.
3 The amount of non-monetary remuneration, which consists of stock options, is an expensed amount calculated for the current fiscal year based on the accounting standards. Therefore, it does not represent the amount paid in cash or the amount the Company guarantees to pay in cash, either.
4 The total amount of remuneration issued to Directors (excluding Outside Directors), which consists of fixed, performance-based and non-monetary remuneration, etc., was ¥964 million.

Assessment of Board of Directors Effectiveness

At every meeting of our Board of Directors, Outside Directors ask questions and make suggestions regarding agenda items, and there is a lively exchange of opinions and discussion. In addition, the Board of Directors receives individual opinions each year from Outside Directors regarding the effectiveness of the Board of Directors as a whole. In FY2024, the Board of Directors of the Company was evaluated as being effective. During the evaluation, the Outside Directors also gave the Board of Directors valuable feedback on issues such as "Earlier Explanations (and More Data) to Facilitate Discussions at Board of Directors Meetings" and "Implementation of Site Visits for Outside Directors and Outside Audit & Supervisory Board Members."

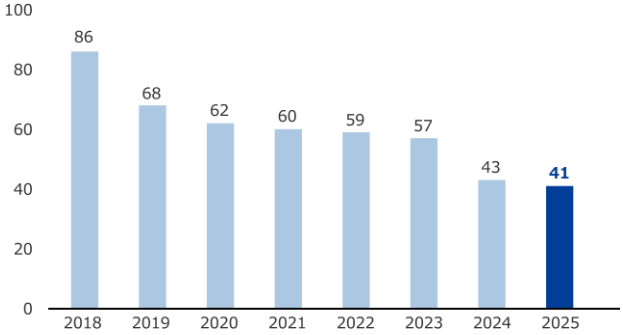
Policy on Cross-shareholdings

When we determine that maintaining and strengthening a stable business relationship with another company will contribute to the enhancement of our corporate value through sustainable growth, we may hold shares in that company where appropriate depending on the importance of that company to our business strategy. At least once per year, the Board of Directors reconsiders the medium- to long-term economic rationality of individual cross-shareholdings, taking into account whether the benefits and risks of maintaining and strengthening these business relationships and holding the relevant shares are commensurate with the cost of capital.

In cases where the Board of Directors judges that the economic rationality of holding the relevant shares has diminished, we gradually sell the shares, thereby reducing our cross-shareholdings. As of March 31, 2018, our cross-shareholdings consisted of 86 individual stocks, and by March 31, 2025, the number had decreased to 41.

With regard to our remaining cross-shareholdings, when exercising the shareholder voting rights they confer, we vote on each proposal in the shareholder meetings individually based on a comprehensive judgment that considers factors such as whether the proposal might damage shareholder value, based on the perspective of our purpose in holding the shares (which is to enhance our corporate value through sustainable growth) as well as what will contribute to enhancement of the corporate value of the investee.

Number of Individual Stocks Held as Cross-shareholdings (as of March 31 of each year)



Note: The indicated number of individual stocks held as cross-shareholdings consists of the total number of specified investment shares and deemed holdings under Japan's Cabinet Office Order on Disclosure of Corporate Affairs.

Internal Control System and Operational Audit

The Company has formulated a “Basic Policy on Internal Controls” to help put in place “structures to ensure that the execution of duties by Directors is fully compliant with relevant legislations and the articles of incorporation, and structures to ensure the appropriateness of business operations within the corporate group, which consists of its subsidiaries, this corporation, and other corporate business,” as stipulated by the Companies Act and an Ordinance of the Ministry of Justice. Our internal control system is structured and implemented in accordance with the above policy. We review it constantly and endeavor to make it more appropriate and efficient.

The Auditing Department, which is a dedicated department, conducts operational audits of each department from the perspective of legality and rationality of business activities, and evaluates the status of development and operation of internal controls related to financial reporting from an independent standpoint. The results are reported directly to Directors, including the Representative Director, and Outside Audit & Supervisory Board Members. The Auditing Department also conducts audits of the status of operations, including Group companies that are not subject to the internal control reporting system for financial reporting based on Japan’s Financial Instruments and Exchange Law (J-SOX), and verifies that each company’s operations are conducted under appropriate internal controls.

Information Disclosure

Key sustainability issues relevant to this topic

Accurate and timely information disclosure and communication with stakeholders

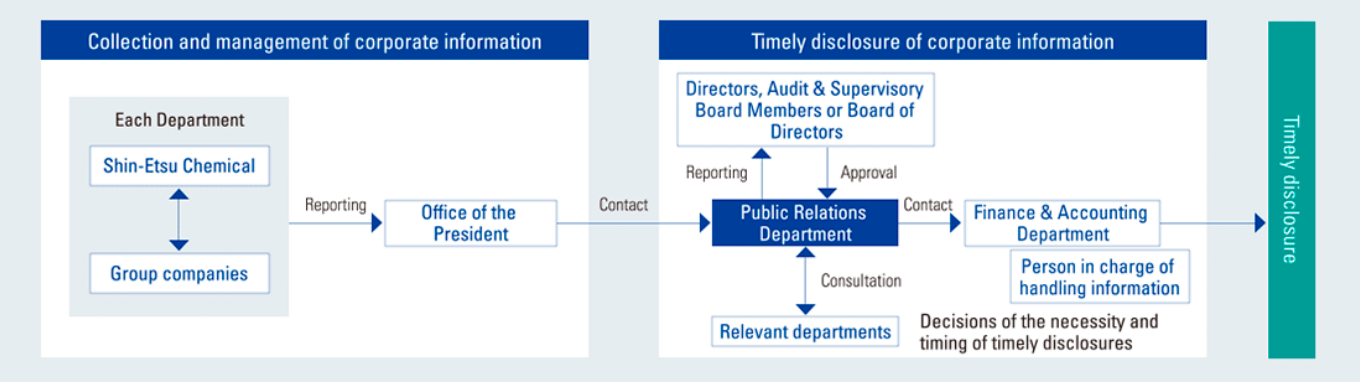
The Group believes that the appropriate and timely disclosure of company information boosts the understanding of stakeholders and leads to the creation of a fair market evaluation.

Information Disclosure System

The Group has disclosed financial information in accordance with the Financial Instruments and Exchange Act and the regulations regarding information disclosure set by the stock exchange. Regarding the collection, management, and timely disclosure of corporate information, the Company formulated internal regulations based on the disclosure rules of the stock exchange, such as the “Regulations on Timely Disclosure of Corporate Information” and the “Rules on Regulations of Insider Trading.” We have announced these regulations to all of the departments in the Company and Group companies to promote seamless and timely disclosure.

For non-financial information, we disclose information voluntarily, such as posting information on the Company’s website, publicizing it through the news media, and providing an annual report, financial statements and other reports.

State of the Internal System for Timely Disclosure



Enhancing Communication with Shareholders and Investors

Recognizing that constructive dialogue with shareholders leads to sustainable growth and enhanced corporate value, we are working to enhance communication through dialogue with shareholders and investors. Opinions received from shareholders and investors through dialogue are reported to management and relevant departments as appropriate and are incorporated into management.

Related Information

› Communication with Stakeholders

Establishing a “Silent Period”

We endeavor to perform fair and transparent information disclosure and set a “silent period (from the day following the date of quarterly financial settlement to the date of publication of financial settlement)” during which we decline any communication regarding the information of the financial results and, during such period, we decline any inquiries about the financial results and interaction with news media so as to securely prevent any insider information leakage.

Policy on Tax Payments and Tax-related Initiatives

In its business principle, the Group states that it strictly complies with all laws and regulations and conducts fair business practices. Each and every Group employee performs their daily work duties sincerely based on this. We believe that it is our social responsibility and one of our contributions as a company to properly pay taxes for the profits in accordance with the laws and regulations of the countries and regions in which we operate.

As part of our efforts to this end, we strive to instill and raise awareness of tax compliance and provide education, especially for employees involved in tax affairs, to improve their tax knowledge and practical skills. For important tax issues, we consider the appropriateness of tax treatment while receiving appropriate advice from experts, and strive to file appropriate tax returns based on the laws and regulations of each country. We also place importance on maintaining good relationships with the tax authorities in each country by dealing with them in good manner. We do not engage in any business activities for the purpose of tax avoidance. The total corporate income tax paid in FY2024 was 187.0 billion yen for consolidated companies. The breakdown by region is as follows: Japan 127.0 billion yen, the U.S. 47.9 billion yen, Europe 4.5 billion yen, and Asia-Oceania 7.4 billion yen.

Operation of Group Companies

The Company aims to develop the whole Group by supporting and respecting the autonomy of the Group companies.

Group companies are managed based on the “Shin-Etsu Chemical Group Company Operational Regulations.” The 99 consolidated subsidiaries conduct prior consultation and report on the following projects.

(1) Prior consultation example
Capital increase or decrease, mergers, dissolutions, and amendments to the articles of incorporation
New business and capital investment plan
Transfer or acquisition of business
Appointment, dismissal, or transfer of officers and seconded executives
(2) eporting example
Operations review
Financial results
Risk information identified by Group companies
Important information such as deficiencies in internal control

Furthermore, by holding meetings that are attended by the presidents of our main Group companies at least once a year, we actively promote the sharing and exchange of information among Group companies.

Related Information

› Sustainability Data

Governance: Composition of the Board of Directors and Audit & Supervisory Board Members

Composition of the Board of Directors and Audit & Supervisory Board Members

As of June 27, 2025

Board of Directors

Representative Director-Chairman of the Board Meeting

Fumio Akiya

In charge of Semiconductor Materials and Technologies
Representative Director & President of Shin-Etsu Handotai Co., Ltd.

Representative Director-President

Yasuhiko Saitoh

Director & President of Shintech Inc.
Director & President of Shin-Etsu Handotai America, Inc.

Director, Senior Managing Corporate Officer

Susumu Ueno

In charge of Silicone Chemical Technologies & Magnetic Materials Division

Director, Senior Managing Corporate Officer

Masahiko Todoroki

In charge of Semiconductor Materials Dept., Senior Managing Director of Shin-Etsu Handotai Co., Ltd.

Director

Hiroshi Komiyama*1

Former President, National University Corporation, The University of Tokyo
Chairman, Mitsubishi Research Institute, Inc.

Director

Kuniharu Nakamura*1

Special Adviser, SUMITOMO CORPORATION
Outside Director, Panasonic Holdings Corporation

Director

Michael H. McGarry*1

Former Director & Chairman, Chief Executive Officer, PPG Industries, Inc.
Director, United States Steel Corporation
Director, Holcim AG
Director, C. H. Robinson Worldwide, Inc.

Director

Mariko Hasegawa*1

Former President, National University Corporation, the Graduate University for Advanced Studies, SOKENDAI
President, Independent Administrative Agency, the Japan Arts Council

Director

Takashi Hibino*1

Senior Executive Adviser, Daiwa Securities Group Inc.
Outside Director, Mitsui Fudosan Co., Ltd.

*1 Indicates an Outside Director as defined in Item 15, Article 2, of the Corporations Law.

The Company's basic policy is to structure the Board of Directors in a way that facilitates accurate and swift decision-making and adequate supervision of business activities. To that end, the Company elects internal directors with specialized expertise in areas such as sales, manufacturing, and R&D, along with multiple outside directors who can actively express their opinions on growth strategies and the enhancement of governance from a broad perspective. An appropriate number of directors, regardless of nationality or gender, are appointed to the Board based on the scale of the Company's business.

The Company has elected five outside directors, including one foreign national and one female, all of whom have a wealth of experience and proven track records in a wide range of industries. The expertise and areas of involvement of the directors are as follows.

Name	Growth strategy	Production technology/ Productivity	Product development	Risk management	Capital policy	Human capital	Sustainability
Fumio Akiya	●	●	●	●		●	●
Yasuhiko Saitoh	●		●	●	●	●	●
Susumu Ueno	●	●	●	●			●
Masahiko Todoroki	●		●	●			●
Hiroshi Komiyama		●	●	●		●	●
Kuniharu Nakamura	●			●	●		●
Michael H. McGarry	●	●		●	●	●	●
Mariko Hasegawa				●		●	●
Takashi Hibino	●			●	●		●

As of June 27, 2025

Note: The above list represents the most specialized expertise of each Director and is not meant to be an exhaustive list of their knowledge and experience.
Risk management and Sustainability are areas in which the Company expects all Directors to be involved.

An overview of each area of expertise shown in the table above is as follows.

Expertise	Overview
Growth strategy	Skills and experience in formulating policies from a longer-term perspective for the purpose of enhancing corporate value and ensuring sustained business growth, and in executing or overseeing various measures for realizing such policies.
Production technology/ Productivity	Skills and experience in executing or overseeing various measures aimed at transforming production technology from the perspectives of mainly productivity improvements, safe and stable operations, and the reduction of environmental impacts.
Product development	Skills and experience in executing or overseeing product development activities aimed at further strengthening competitiveness and achieving early commercialization.
Risk management	Skills and experience in anticipating all kinds of risks that may arise in business activities in general, and in executing or overseeing various measures related to the prevention and mitigation of such risks.
Capital policy	Skills and experience in examining and executing capital policies for making the Company's financial base more resilient, for growth investments, and for enhancing shareholder returns, or in overseeing the execution of such policies.
Human capital	Skills and experience in executing or overseeing human capital management, including securing and developing talent, building a corporate culture that embodies organizational diversity, and enhancing individual employee engagement.
Sustainability	Skills and experience in executing or overseeing corporate governance, addressing global environmental issues such as climate change, and implementing activities that respect human rights, all of which form the foundation for the sustained enhancement of corporate value.

As of June 27, 2025

Audit & Supervisory Board Members

Full-time Audit & Supervisory Board Member

Hidenori Onezawa

Full-time Audit & Supervisory Board Member

Yoshimitsu Takahashi

Audit & Supervisory Board Member

Yoshihito Kosaka*2

C.P.A., Certified Public Tax Accountant

Audit & Supervisory Board Member

Mitsuko Kagami*2

Lawyer, Partner Lawyer, KAGAMI Law Office
Outside Director, MEDIPAL HOLDINGS CORPORATION

Audit & Supervisory Board Member

Hiroko Kaneko*2

C.P.A., Member of the Business Accounting Council, Financial Services Agency
Outside Director/Audit & Supervisory Committee Member, Mitsubishi HC Capital Inc.
Outside Audit & Supervisory Board Member, Development Bank of Japan Inc.

*2 Indicates an Outside Audit & Supervisory Board Member as defined in Item 16, Article 2, of the Corporations Law.

Governance: Risk Management

Risk Management

Risk Management Committee

We have established a Risk Management Committee consisting of approximately 20 members, including directors, corporate officers, and department managers, to establish a risk management system, develop rules and regulations, and identify and prevent risks that may arise in the course of business activities. In addition, we promote cross-functional activities among divisions and Group companies, including the formulation of business continuity plans, training, and information sharing. Furthermore, important matters in risk management are reported to the Board of Directors, the Managing Directors' Meeting, and the Audit & Supervisory Board. In FY2024, the Risk Management Committee met four times and monthly meetings were held by the secretariat. At the meetings, a variety of risks such as earthquake risks, information leakage risks and raw materials procurement risks, are discussed and shared within the Committee in order to enhance risk preparedness. In addition, proposals are discussed and reviewed within the Committee to formulate priority risk management issues to be addressed in FY2025 onward.

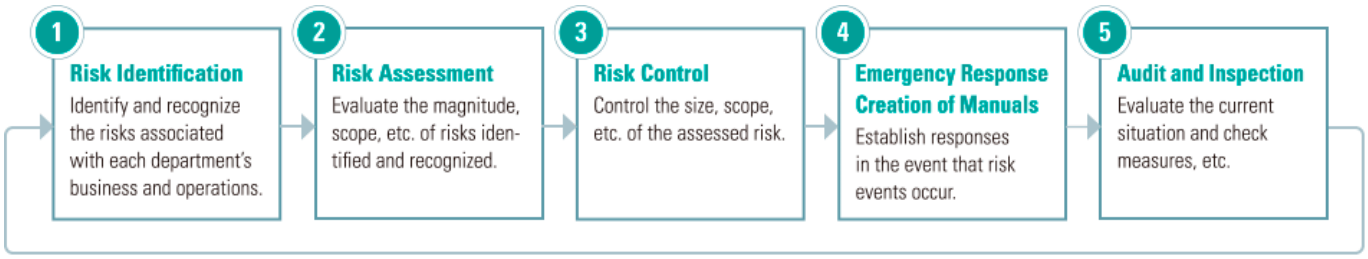
Risk Management Regulations

The Company has established Risk Management Regulations that anticipate comprehensive risks that may arise in the course of the Shin-Etsu Group's business activities from a long-term perspective and has established a risk management system and responses to any risks that materialize.

Risks Anticipated in the Risk Management Regulations

Risk Management Procedures

Risk management is carried out following the procedures of the PDCA cycle shown in the diagram below in accordance with the characteristics of each risk.



Activities of the Risk Management Committee in FY2025

The Risk Management Committee works in a multifaceted and company-wide effort to preemptively eliminate risks that may affect management and business activities, and to minimize the impact of risks when they do occur and prevent their recurrence.

In FY2024, in addition to its ongoing work of considering countermeasures against geopolitical risks, cybersecurity risks, infrastructure risks, occupational safety risks, raw materials procurement risks, and other risks, including those of Group companies in Japan and overseas, the Committee worked on securing human resources, taking measures to prevent talent outflow, and ensuring stable procurement of raw materials.

In light of the volatile international situation in FY2025, the Committee will continue its efforts to prevent and strengthen measures against the following risks:

- Cyber risk
- Business continuity planning (BCP)
- Procurement of hard-to-obtain raw materials
- Expansion of risk management systems to subsidiaries and affiliates, etc.

In addition, we will check the status of efforts to address these risks in each of our core business divisions and Group companies and proceed with necessary countermeasures together with the relevant business unit. The Risk Management Committee will continue to support the sustainable development of the company by eliminating risks before they occur and enhancing risk preparedness.

Business Continuity Plan and Handling in Emergencies

The Group offers a number of products with high market share not only in Japan but around the world or which used in special applications in state-of-the-art industries. For that reason, if these products cannot be supplied due to an accident or serious disaster such as a massive earthquake or fire, it will have an effect on society.

In the Company, each division and each plant is preparing for a disaster and accident and formulates a business continuity plan on the basis of the Companywide Business Continuity Management Regulations. Each Group company also formulates a business continuity plan.

In addition, if a disaster or accident occurs, we will work using the structure shown below. Each of the countermeasures head office and organizations carry out emergency response and recovery support on the basis of pre-defined business standards.

System and Major Response Operation in the Occurrence of a Disaster or Accident

Disaster countermeasures head office
Director: President

With the countermeasures head office (Head office administration department)	Division countermeasures head office (Appropriate division)	Plant countermeasures head office (Appropriate plant)
• Grasp the situation of the accident, disaster • Information collection, transmission • Confirm the safety of employees, ensure necessary personnel • Situational awareness of business partners, secure alternative suppliers • Respond to outside inquiries	• Grasp the damage, confirm the stock • Grasp the customer's situation • Respond to customer inquiries • Implement alternative measures, re-examine the recovery plan	• Report, contact regions, head office, employees • Grasp the damage to production equipment, employee safety • Secondary disaster prevention • Ensure necessary personnel • Recovery plan proposal, implementation

(June 2024, Shin-Etsu Chemical Gunma Complex)

(November 2024, Shin-Etsu Chemical Kashima Plant)

Conduct comprehensive disaster prevention drills

Governance: Information Security

Key sustainability issues relevant to this page
Respect for and protection of intellectual property

Initiatives for Information Asset Management

For daily business operations and smooth communication, it is extremely important to use information assets effectively. On the other hand, the risk of information being leaked or otherwise mishandled is growing due to the inappropriate management of information assets. For this reason, all personnel who handle information are required to understand the importance of information assets and manage and use them properly. In the case of an emergency, we must prevent it from becoming worse and affecting other operations, and make the greatest possible effort to maintain information security on a Group-wide basis.

Regulations are set under the “Information Asset Management Basic Policy” to protect, utilize, control, and manage information assets.

Furthermore, related rules and regulations such as “Information Asset Management Standards” stipulate the details concerning the handling, management, retention period, and discarding of all information related to our customers and suppliers. In addition, we have formulated the “Standards for Preventing Technology Leaks” in order to prevent the outflow of technologies.

We also regularly carry out training related to information asset management, check the status of compliance with the “Information Asset Management Basic Policy” and other rules, and perform internal audits. In September 2024, we revised the “Information Asset Management Basic Policy” and “Information Asset Management Standards” and applied them to Shin-Etsu Group companies in Japan and overseas.

The Shin-Etsu Chemical head office and information management local offices established in each region play a central role in confirming the storage and management status of information assets through audits of all departments throughout the company. We are working to further advance the prevention of information leaks and the organizing information and effective use of information.

Protection of Personal Information

In order to properly protect personal information in accordance with the Act on the Protection of Personal Information, we have established a “Privacy Policy,” which is available on our website.

We also educate our staff on laws and regulations and hold lectures regarding personal information protection in trainings for each staff rank in order to ensure the appropriate handling and protection of personal information.

Group companies in the EU area comply with the EU’s General Data Protection Regulation (GDPR)*1, which came into force in May 2018.

*1 General Data Protection Regulation (GDPR)
The General Data Protection Regulation stipulates on the handling and transfer of personal information. EU member countries had their own regulations to protect personal data, and these regulations were unified under the General Data Protection Regulation in May 2018.

Cyber Security

To systematically defend against cyberattacks, we implement a perimeter (multi-layered) defense.

We have established security countermeasures for entrance, internal and exit of system, and maintain a 24/7 Security Operation Center (SOC) for monitoring. In addition, we undergo security assessments by external vendors and continuously implement necessary security measures.

- Entrance security countermeasures：Sand Box*2 etc.
- Internal security countermeasures：Access log monitoring etc.
- Exit security countermeasures：Web Access Control etc.

We have also strengthened security measures to protect important data and equipment from cyberattacks by physically and logically separating the factory automation network from the office automation network. Meanwhile, we investigate the security measures of other Group companies, requiring them to strengthen their security measures to the same level as Shin-Etsu Chemical, and providing support for doing this. In March 2024, we revised our digital utilization guidelines, which cover such areas as generative AI, translation software, stricter password policies, and cloud usage, and made them widely known to Group companies. In order to strengthen information security measures at Group companies in Japan and overseas, in September 2024 we started organizing online video conferences with each company, attended by its president and system administrator, to exchange information and confirm that operations are being carried out in accordance with the latest policies.

We invite outside experts to give lectures on cyber security. In 2024, we designated August as Cybersecurity Month, and held a lecture on the theme of “cybersecurity countermeasures,” with content that was easy for users to understand, including incident case studies and the latest cyberattack trends.

We have deployed a system to prevent targeted email attacks. In addition to measures for preventing intrusions, we are strengthening our measures for detecting and analyzing attacks. In order to raise employee awareness of security, we also conduct targeted email attack drills every year for the Shin-Etsu Chemical and group companies. E-mails simulating the latest targeted attack techniques were sent to all participants four times a year, and after the training was completed, explanatory materials on targeted attack e-mails were distributed to all participants. We provide individual training to each employee those who opened the targeted e-mails at least twice during the drill.

*2 Sand Box for Mail
A virtual environment that detects programs that act like viruses when using e-mail.

Cybersecurity lecture
(Shin-Etsu Chemical Head Office, August 2024)

Legal Compliance

Key sustainability issues relevant to this page

The foundation of all activities:
legal compliance, fair corporate activities

Ensuring Full Compliance Awareness

The Shin-Etsu Group has established internal guidelines and rules for complying with various laws and regulations to ensure that it carries out its corporate activities in full compliance with those laws and regulations.

Whenever laws and regulations related to corporate activities are enacted or revised, the Legal Department shares the information internally and ensures that all employees are fully aware of the changes. In addition, to promote understanding of important laws and regulations, we serialize articles explaining them in the company newsletter and host lectures by outside experts. In November 2024, 1,383 employees of Shin-Etsu Chemical and 35 Group companies in Japan attended the training course (webseminar) for promoting appropriate subcontracting transactions conducted by the Fair Trade Commission and the Small and Medium Enterprise Agency. In addition, from January to March 2025, we held online courses for Shin-Etsu Chemical employees on the Antimonopoly Act, the anti-bribery policy, the Subcontract Act, and the Freelance Protection Act, and 1,297 employees passed a test to confirm their understanding. We also provided information to Group companies in Japan via the Company intranet mainly on the “Price Negotiation Promotion Month” and the Guidelines on Price Negotiation for Appropriate Pass-through of Labor Costs. We also provided information to our overseas Group companies regarding the prohibition on the imposition of non-compete agreements for employees in the United States. To ensure compliance with laws and regulations, the Auditing Department also checks whether Group companies have taken any actions that violate them.

All of the officers and employees have submitted a written oath of compliance to the company. The oath covers compliance with laws, ethics, and company regulations, including compliance with antitrust laws and the prohibition of conflicts of interest. We have also established disciplinary measures to deal with any inappropriate action that may occur.

Related Information

› Corporate Governance

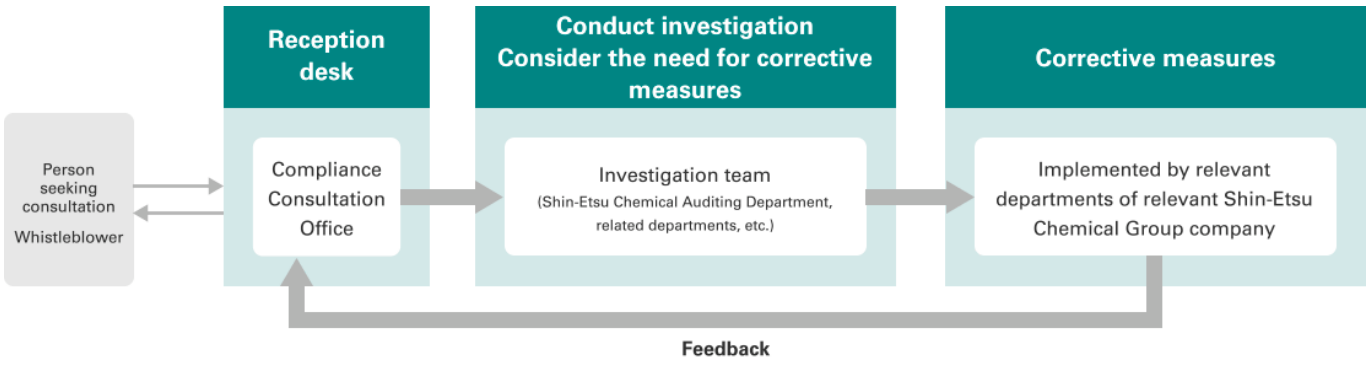
Compliance Consultation and Reporting

Officers and employees are stipulated to report to the “Compliance Consultation Office” if they discover a violation of laws and/or regulations.

The Compliance Consultation Office is a point of contact for consultation and reporting in the event of identifying suspected violations of laws, ethics, or company regulations in the course of business, or in the event of assuming any suspected violations to happen. Any Shin-Etsu Group officer, employee, adviser, staff member, contractor, or other employee and retiree can use this. To inform employees about the Compliance Consultation Office, we publicize it, for example by posting about it on the Company intranet. In addition, we revised the “Compliance Consultation and Whistleblowing Regulations” in June 2022 in response to revisions to the Whistleblower Protection Act, and translated them into 14 languages to disseminate them throughout the Group.

If a report is made to the Compliance Consultation Office, the department in charge of investigation will investigate the content of the report, and the company will take corrective measures as necessary after accurately grasping the facts. The confidentiality of people seeking consultation and whistleblowers will be protected, and they will not be treated unfavorably for consulting or reporting.

From Compliance Consultation and Reporting to Corrective Measures



Initiatives Aimed at Preventing Corruption

In the Basic Sustainability Policy, the Group declares that we will conduct our corporate activities in compliance with laws. In 2015, we established the Anti-Bribery Regulations to clearly indicate that we will not be involved in any form of bribery. The scope of application of the Anti-Bribery Regulations is our officers, employees, and contract employees, and stipulates prohibition of bribery of public officials, non-public officials, etc., and disciplinary action. In addition, by submitting a "Compliance Pledge," we thoroughly prevent the provision of unfair benefits and requests to public officials, customers, and business partners in Japan and overseas. Furthermore, by making the status of compliance with ethics in general one of the items in personnel evaluations, we are working to raise employees' awareness of legal compliance. We also conduct regular internal audits for corruption, embezzlement and bribery. We are also promoting anti-bribery education. From January to March 2025, we held online anti-bribery courses for Shin-Etsu Chemical employees, and 1,297 employees passed a test to confirm their understanding.

For overseas Group companies, we also conduct risk assessments related to anti-bribery and anti-corruption using the country-by-country corruption perception index published by Transparency International (an international non-governmental organization that tackles corruption issues) to take into account the circumstances such as the country, company size, business details, etc.

Related Information

› The Anti-Bribery Regulations (only available in Japanese) PDF

Supporting GCNJ's "Tokyo Principles for Strengthening Anti-Corruption Practices"

The Group declares in the Basic Sustainability Policy that it is committed to conducting its corporate activities in compliance with laws, and we are working to prevent corruption, including bribery. The "Tokyo Principles for Strengthening Anti-Corruption Practices" of Global Compact Network Japan (GCNJ) correspond with the Group's current policy and initiatives for preventing corruption, so we immediately decided to support them and became a signatory in February 2018.

We will continue to make it our principle to comply with laws and regulations and carry out business activities fairly, and work to conduct business in accordance with the Tokyo Principles and our internal anti-corruption regulations.

› GCNJ's "Tokyo Principles for Strengthening Anti-Corruption Practices" (only available in Japanese)

Anti-Corruption Collective Action

Export Control

In order to comply with export-related laws and regulations such as the Foreign Exchange and Foreign Trade Law, we have established the Security Export Control Regulations. In accordance with this regulation, we are working on the following:

- Classification, customer review, and transaction review when exporting products
- Conducting security export control audits for Group companies to ensure that each company's export control system is properly developed and operated
- Training officers and employees and providing instructions to Group companies

Cutting Ties with Anti-social Forces

The Group declares in its "Basic Policy on Internal Controls" that the Group shall adopt a firm attitude towards anti-social forces and shall take the measures necessary to cut itself off from any and all associations with them. In accordance with this policy, we developed internal systems under the leadership of the department in charge of managing these issues, and signed memorandums and letters of confirmation regarding the exclusion of anti-social forces with customers and suppliers. In addition, we are working closely with external specialized agencies.

Related Information

› Sustainability Data

Environment Management

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Environment Management System

Environment Management

The Group works on energy savings, waste reduction, and chemical substance management as important issues. We create the “Shin-Etsu Group Environmental Safety Management Plan” every year in accordance with the Responsible Care Codes* and set numerical goals. The company and the plants of our Group companies set goals annually according to this plan and work to achieve them. The plants conduct employee education programs such as inviting outside experts to give environmental lectures.

Hosting an environmental lecture
(June 2024, Shin-Etsu Chemical Naoetsu Plant)

Annual activity results are reported to the corporate officer in charge of environment control at the Group Environmental Protection Conference.

In order to increase the quality of activities, each plant and the Group companies perform several internal audits a year to check if they have set appropriate goals and the progress that they have achieved. In addition, we check their activities and achievements through periodic environmental control and safety audits. The audit results are reported to the top management.

* Responsible Care Codes
Responsible Care Codes set the basic conditions for the implementation of Responsible Care. They consist of seven codes, including the Management System Code which is designed to operate the areas such as environmental preservation, disaster prevention, occupational health and safety, and distribution safety.

Environmental Certification

In 1996, Shin-Etsu Chemical Gunma Complex obtained the ISO 14001 certification, becoming the first facility of a major chemical company in Japan to achieve such a certification. The Group has continued to obtain the ISO 14001 certification, the international standard for environmental management systems.

› ISO 14001 Certification of the Shin-Etsu Group PDF

Targets and Results

The following shows our targets and results for environmental protection and chemical substance management for FY2024 and our targets for FY2025.

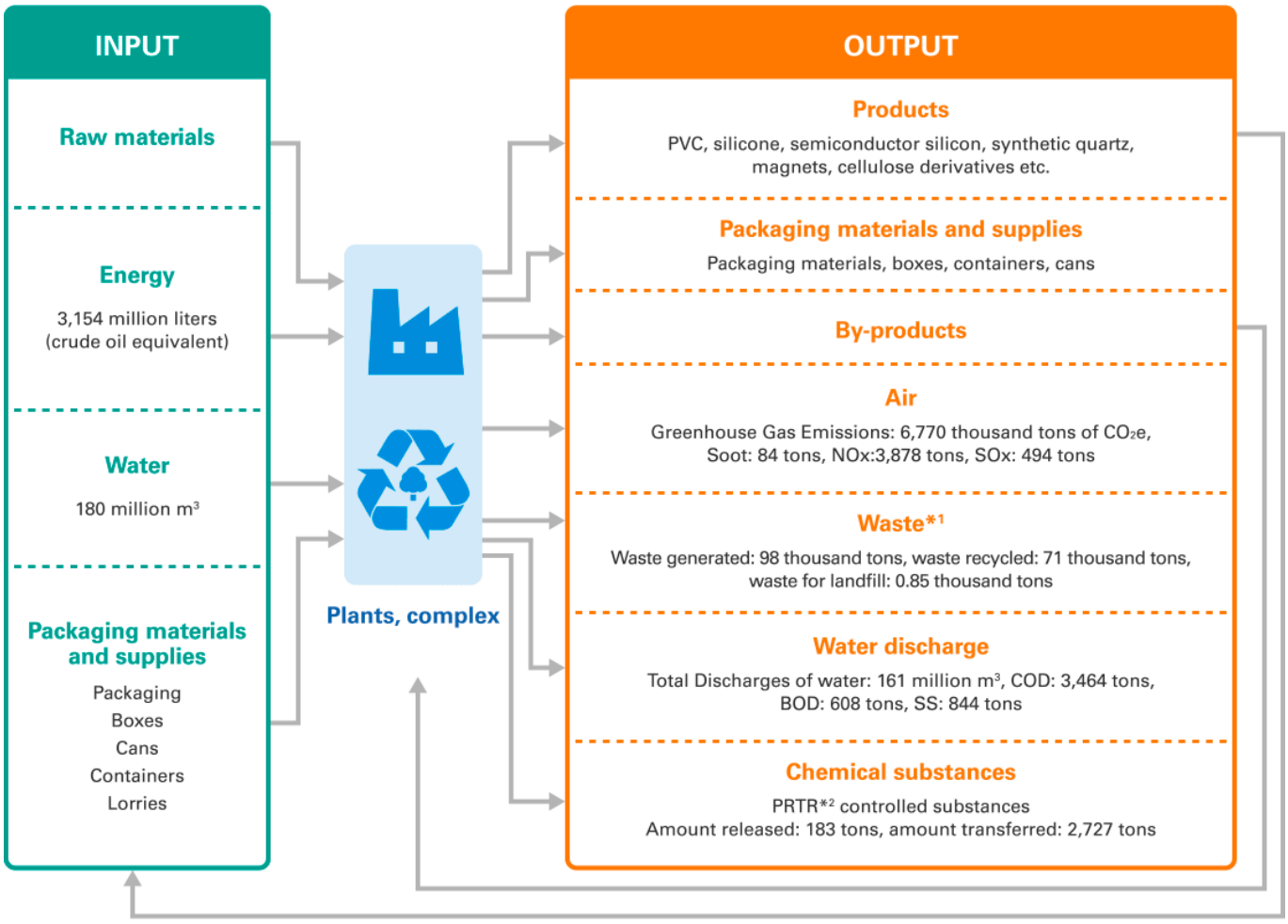
› Target, Implementation Status, Evaluation, and Planned Implementation Items PDF

Reduction of Environmental Impact

Promoting the Reduction of Environmental Impact

The Group constantly works to promote the reduction of environmental impact in the manufacturing stage. Furthermore, we are considering ways to reduce the environmental impact at the product usage stage and to contribute to energy and resource conservation. The Research, Manufacturing, and Sales Departments work together to develop products that are used in various fields, including the manufacturing industry, our daily lives, and the renewable energy industry.

Environmental Impact of Business Activities



*1 Waste
Since the standards of waste differs between Japan and other countries, the range of entities for the waste is Shin-Etsu Chemical Co., Ltd. and the consolidated in Japan.

*2 PRTR controlled substances
515 substances have been identified as Class I designated chemical substances from the Pollutant Release and Transfer Register (PRTR) system in the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management. Since the standards of PRTR differs between Japan and other countries, the range of entities for the PRTR is Shin-Etsu Chemical Co., Ltd. and the consolidated in Japan.

Environmental Accounting*3

In FY2024, the company referred to the “Environmental Accounting Guidelines 2005” prepared by the Ministry of the Environment in Japan to calculate the investments and expenditures necessary to reduce the environmental impacts of air pollution, water pollution, environmental release of chemical substances, etc.; energy-saving measures to conserve the global environment; and reducing waste and recycling to reuse resources. In FY2024, productivity increased due to yield improvement, resulting in a significant increase in economic impact.

Environmental Conservation Costs in FY2024

million yen

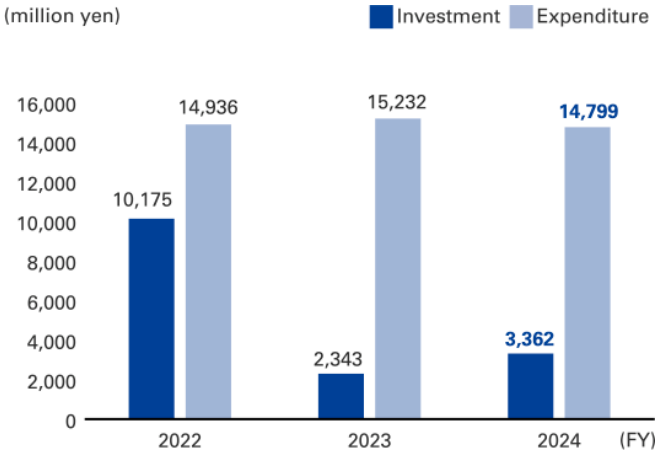
Category	Details	Investment	Expenditure
Plant area costs		2,674	10,623
(1)Pollution prevention costs	Prevention measures for air, water, noise and other type of pollution	724	4,681
(2)Global environmental conservation costs	Energy saving and global warming mitigation measures	1,446	3,107
(3)Resource recycling costs	Waste reduction, recycling and other measures	504	2,835
Upstream and downstream costs	**Green purchasing and container and packaging measures**	649	107
Administration costs	**Environmental management, environmental impact monitoring and environmental education measures**	39	481
Research and development costs	**Research and development of environmentally conscious products and processes**	0	3,434
Social engagement costs	**Donations and contributions to environmental saving**	0	130
Environmental remediation costs	**Assessment, handling and other costs related to environmental pollution**	0	24
Total		**3,362**	**14,799**

Economic Impact of Environmental Accounting in FY2024

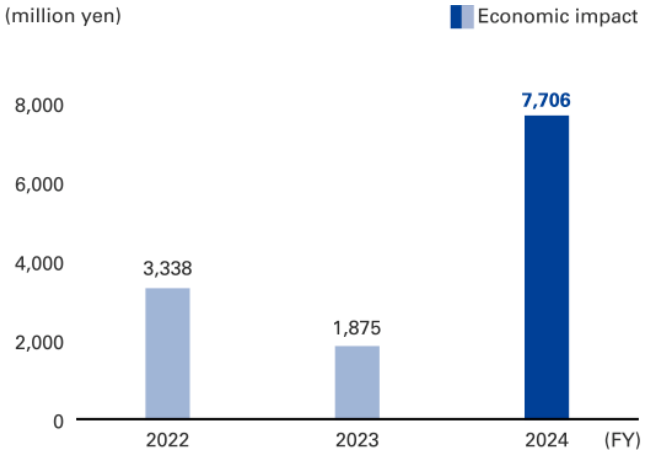
million yen

Details of impact	Economic impact
Energy saving	2,054
Improved production efficiency	5,242
(1) Production process	4,538
(1) Production process	4,538
(2) Secondary materials costs	704
Reduction in waste treatment costs	156
Profit from sale of valuable resources	254
Total	7,706

Cost of Environmental Conservation: Investment and Expenditure

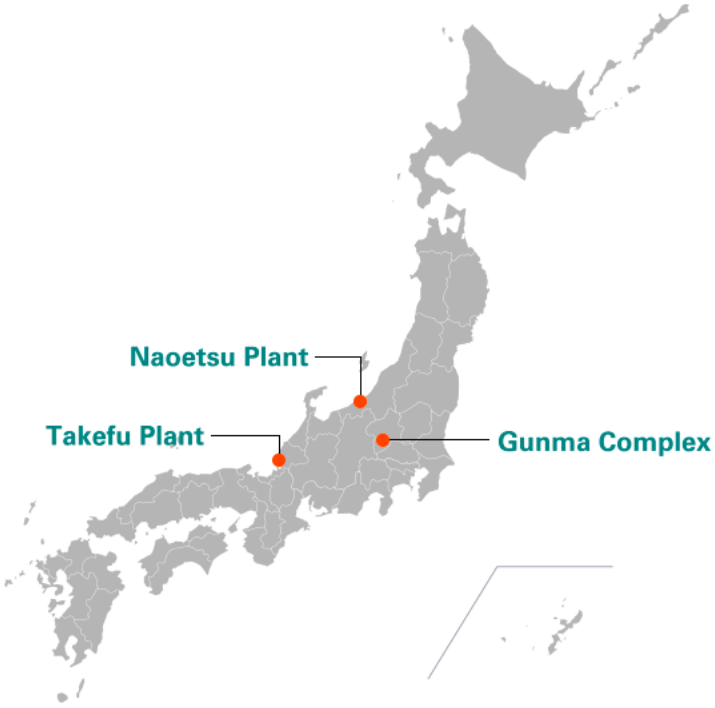


Economic Impact



*3 The range of entities for the Environmental Accounting is Shin-Etsu Chemical Co., Ltd.

Reduction of Environmental Impact in Plants



Gunma Complex

The Gunma Complex, our main production base for silicone products, is working to reduce greenhouse gas emissions by introducing a cogeneration system fueled by natural gas. In addition, it is implementing initiatives to minimize water withdrawal by recycling the water taken from rivers and to reduce the percentage of final landfill disposal to less than 1% of the amount of waste generated.

Naoetsu Plant

The Naoetsu Plant, which produces a wide range of chemical products and highly functional products, including silicone products and electronics materials, is working to reduce greenhouse gas emissions with a gas turbine cogeneration system. It is also working to save energy by reusing nitrogen necessary for chemical reaction processes.

Takefu Plant

The Takefu Plant, which conducts research and production of cutting-edge magnet materials using rare earths, and produces silicone products and rare earth compounds, is working to promote energy conservation and reduce greenhouse gas emissions by, among other measures, applying heat-shielding paint to the roof of the factory building to prevent heating from sunlight.

Related Information

› Sustainability Data

Key Sustainability Issue:Energy-saving, resource-saving and the reduction of the environmental impact Targets and Results

The FY2024 targets and results and FY2025 targets for environmental protection and management of chemical substances are as listed below.

Item	Priority Issues (Target)	Implementation Status for FY2024	Evaluation	Planned Implementation Items for FY2025
Management System	1. Continuous improvement and implementation of the environmental management system	• Implement plans and achieve goals without fail through activities leveled throughout the year • Conduct substantial internal audits • Appropriate responses to the findings of head office audits and plant internal audits, and reliable follow-up	◎	• Formulation and steady implementation of an action plan throughout the year (ongoing) • Conduct substantial internal audits (ongoing) • Appropriate responses to the findings of head office audits and plant internal audits, and reliable follow-up (ongoing)
	2. Qualitative improvement of environmental safety audits	• Implementation of appropriate follow-up to the findings of the head office's environmental safety audits • Effective and proper implementation of environmental safety audits at affiliated companies in the plant area	○	• Implementation of appropriate follow-up to the findings of the head office's environmental safety audits (ongoing) • Effective and proper implementation of environmental safety audits at affiliated companies in the plant area (ongoing)
Environmental conservation	1. Zero environmental accidents	• Achieved target of zero environmental accidents	◎	• Zero environmental accidents
	2. Thorough environmental management	• Continued appropriate compliance with environmental laws and regulations	◎	• Appropriate compliance with environmental laws and regulations (ongoing)
	3. Promotion of energy savings (Reduce energy consumption by an average annual rate of 1% per unit production)	• Reduced at an annualized rate of 0.9%	△	• Reduce energy consumption at an anannualizesd rate of 1% in production intensity and formulation and promotion of an activity plan for achievement
	4. Reducing greenhouse gas emissions (Intensity reduction to 54% of 1990 level by fiscal 2025)	• The Group reduced to 56.9% and the Company 48.6% compared to fiscal 1990 • Periodic inspection based on the Act on Rational Use and Proper Management of Fluorocarbons and reporting to the national government on the amount of leakage calculated	△	• Reduction to 45% of 1990 level in production intensity by fiscal 2025 and formulation and promotion of an activity plan for achievement • Periodic inspection based on the Act on Rational Use and Proper Management of Fluorocarbons and reporting to the national government on the amount of leakage calculated (ongoing)
	5. Reduce waste (Achieve zero waste emissions (waste to landfill ratio to 1% or less)	• Consolidated in Japan: Landfill waste to total waste ratio of 0.86%	○	• Promote achievement of zero emissions (waste generation to landfill ratio to 1% or less), and formulation and promotion of an activity plan for achievement • Promotion of waste generation in production intensity, and formulation and promotion of an activity plan for achievement
	6. Reduced emissions of substances causing water pollution or air pollution (Reduction in intensity at annualized rate of 1%)	• Reduced at an annualized rate of 8% for BOD[1] • Increased at an annualized rate of 14.1% for soot • Increased at an annualized rate of 1.3% for SOx • Regular review and strict compliance with specific facility using hazardous substances pertaining to the Water Quality Pollution Control Act and installation standards for designated storage facilities • Promotion of separation of process wastewater and rainwater discharged (including cooling water) and the laying of pipes installed in the rainwater drainage way on the ground	△	• Regular review and strict compliance with specific facility using hazardous substances pertaining to the Water Quality Pollution Control Act and installation standards for designated storage facilities (ongoing) • Promotion of separation of process wastewater and rainwater discharged (including cooling water) and the laying of pipes installed in the rainwater drainage way on the ground (ongoing)
	7. Reduction in water withdrawals (Reduction in intensity at an annualized rate of 1%)	• Reduced at an annualized rate of 7.9%	○	• Reduction in production intensity at an annualized rate of 1% and formulation and promotion of an activity plan for achievement • Plan and implement measures for improving recycling water ratio
Chemical substance management	1. Thorough new chemical substance management	• Thorough management of permitted production volumes (confirmed) and production results • Communicated reporting of harmful substance information, etc., at the time of acquisition	◎	• Thorough management of permitted production volumes (confirmed) and production results (ongoing) • Communicated reporting of harmful substance information, etc., at the time of acquisition (ongoing)
	2. Compliance with legal and other requirements for chemical substance control	• Responded to revisions and strict compliance with the Chemical Substances Control Law[2], Industrial Safety and Health Act, PRTR Law[3], and Poisonous and Deleterious Substances Control Act • Strict compliance with overseas laws and regulations • Appropriate treatment of PCB waste (Low-concentration treatment, Deadline: end of March 2027)	◎	• Ensuring compliance with relevant domestic laws and regulations • Promotion of autonomous management required of business operators under the revised Industrial Safety and Health Act • Thorough application and proposal management for new chemical substances and manufacturing volume management (Chemical Substances • Control Law, Industrial Safety and Health Law) Reporting obligations when acquiring new hazard information, etc., and publicizing such information (Chemical Substances Control Law) • Compliance with overseas laws and regulations (ongoing) • Appropriate treatment of PCB waste (Low-concentration treatment, Deadline: end of March 2027) (ongoing)
	3. Information disclosure on the harmfulness of chemical substances	• Information disclosure and awareness raising of substances handled by contractors and subcontractors	○	• Making sure of well-known situations and information provision related to substances handled by contractors and subcontractors (ongoing)

1 BOD (Biochemical Oxygen Demand)
Biochemical oxygen consumption. The amount of oxygen required when decomposing contaminants in the water by microorganisms. This indicates the degree of water pollution.

2 Chemical Substances Control Law
Short for the “Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.” A law intended to prevent environmental pollution by chemical substances that can be harmful to human health or to ecosystems.

3 PRTR Law
Short for the “Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof.” A law intended to promote improved self-directed control of chemical substances by business operators, in order to prevent the risk of damage to the environment.

* Intensity unit
A measure calculated from the production volume of a reference product.
* Average annual rate for implementation
Average annual reduction rate from FY 2021 to FY 2024
* Evaluation standards
◎: Goal achieved ○: Goal basically achieved △: 50% achieved ×: Far from achieved

Reduction of Environmental Impact in Plants: Gunma Complex

Efforts to Reduce the Environmental Impact at Gunma Complex

Shin-Etsu Chemical Gunma Complex is located in Annaka City, which is located in the western part of Gunma Prefecture and is surrounded by an environment rich in nature. It is continuously developing as a research and production base for state-of-the-art silicon chemistry and plays a role as the main production hub for the products of Shin-Etsu Silicone.

In 1996, Gunma Complex was the first among major domestic chemical companies to acquire International Standard ISO 14001 certification concerning the environmental management system. Since then, it has positively approached sustainability activities and has steadily obtained good results.

Shin-Etsu Chemical Gunma Complex

Promotion of Energy Efficiency and Reduction of Greenhouse Gas Emissions

Gunma Complex uses electricity and natural gas with low emissions of greenhouse gases as energy sources.

Although energy consumption in this Complex rises as the production of silicone products increases, it approaches the promotion of energy savings (reduction of average annual rate of 1% in original units) and the reduction of greenhouse gas emissions (reduction of 45% in comparison with 1990 by 2025 in original units) by introducing a cogeneration system and renewable energy and by implementing measures to save energy in the manufacturing processes.

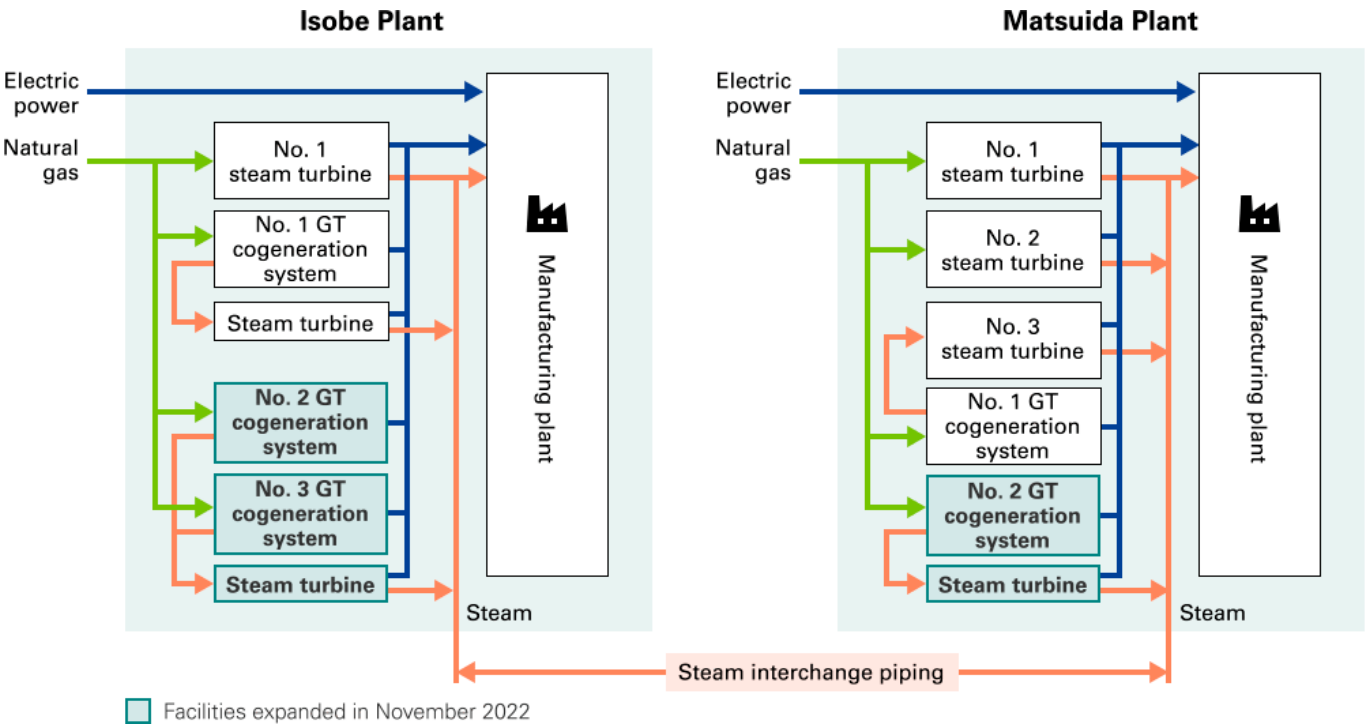
Introduction of Cogeneration System

Both electric power and steam are generated from the cogeneration system using natural gas as fuel to supply the plants. The electric power is used for motors and lighting, and the steam is used as the heating sources for manufacturing facilities. In addition, power is generated by steam turbines using the pressure difference of steam. The energy utilization efficiency of the system is higher than that of commercial power supply and steam supply from boilers and thus greatly contributes to energy savings and the reduction of greenhouse gas emissions.

Cogeneration facility

Electric power is supplied from a power company and cogeneration system to the plant in parallel. The system was constructed so that, even if a problem occurred at the power company, the cogeneration system could supply power independently by disconnecting the line to the power company and is useful for emergency measures and continuous production.

In November 2022, we added two gas turbine generators at the Isobe Plant and one at the Matsuida Plant in order to reduce greenhouse gas emissions. These cogeneration systems were awarded the Chairman's Award in the Industrial Category, the highest award, at COGENERATION AWARD 2023 sponsored by the Advanced Cogeneration and Energy Utilization Center JAPAN. With the introduction of these cogeneration systems, the Isobe and Matsuida plants will be able to achieve a self-sufficiency rate of 100% going forward and reduce CO_2 emissions by approximately 24,000 t-CO_2 per year.



Collection of Waste Heat

The reactive heat generated in the production processes are collected and effectively used as steam generation and product heating. In addition, part of the steam generated in the cogeneration system produces cold water using absorption type refrigerators, and the cold water is used as the cooling source for the manufacturing facility and the air conditioners in the clean rooms.

Absorption type refrigerators

Energy Saving Measures in Manufacturing Processes in Each Plant

Operation aimed at saving energy is promoted in each manufacturing process.

In the manufacturing process of the intermediate material of silicones, we are making improvements aimed at the effective use of thermal energy. Our new manufacturing method introduced in 2023 effectively utilizes the thermal energy generated by chemical reactions as the thermal energy required for the manufacturing process, resulting in a 48% reduction in energy consumption and a 47% reduction in greenhouse gas emissions compared to before the method was introduced.

Introduction of Solar Panels

Solar panels with a power generation capacity of approx.148 kW were installed at the Goubara plant, and operation started in March 2021. They cover part of the power used at the plant, and the reduction of CO_2 emissions of approx.72.3 tons per year is expected from annual power generation of approx.160 MWh*.

In addition, at the Gunma Complex, new solar power generation facilities were installed in the west area of the Isobe Plant and began operation in July 2023. This facility will generate 155 MWh of electricity per year, covering part of the power used at the plant, and is expected to reduce CO_2 emissions by approximately 67 tons per year*.

* Trial calculation from sunlight irradiation in Gunma Prefecture

Solar panels

Introduction of High-efficiency Chiller

Because the production line uses a clean room, air conditioning runs 24 hours a day. Introducing one high-efficiency modular chiller was enough to reduce the energy consumption by 39% (9% of the total power of the target plant).

High-efficiency chiller

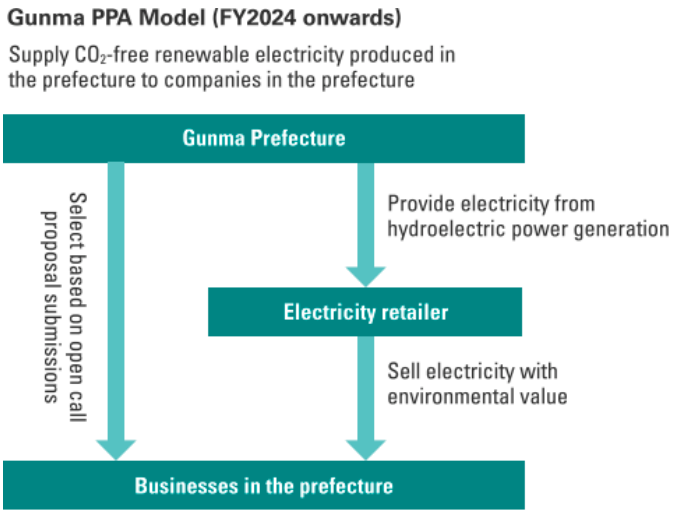
Participating in “Local Production for Local Consumption Type PPA (Gunma Model)”

In March 2024, Shin-Etsu Chemical decided to participate in the “Local production for local consumption type PPA”* (hereinafter, “Gunma Model”) offered by Gunma Prefecture.

The Gunma Model is a new system that supplies electricity from Gunma Prefecture’s hydroelectric power plants to businesses in Gunma Prefecture. The electricity generated by hydroelectric power generation is green electricity that does not emit greenhouse gases. The new electricity procured through this program will cover all of the electricity used at the Yokonodaira Plant at Shin-Etsu Chemical’s Gunma Complex, enabling the plant to reduce its greenhouse gas emissions by approximately 90%.

* PPA
Abbreviation for “power purchase agreement.” A type of contract in which an electricity user purchases electricity from a power producer at a fixed unit price for a fixed period of time.

Hydroelectric power plant in Gunma Prefecture



(Based on materials provided by Gunma Prefecture)

Approaches to the Preservation of Water Resources

Gunma Complex is surrounded by an environment rich in nature and takes in almost all amounts of the water necessary for the production of silicones from peripheral rivers.

Since the manufacturing of chemical products requires a large amount of water, this Complex recirculates the water taken in and reutilizes it for production facilities and cooling water as much as possible in order to minimize the amount of water taken in from rivers. In addition, we perform the purification treatment before discharging water to rivers to control the water quality thoroughly.

Furthermore, in addition to recycling used wastewater and reusing it for other purposes, we are reducing the amount of wastewater discharged from our plants in the first place through measures such as installing an exhaust gas absorption tower to reduce the amount of water used in the scrubber (exhaust gas treatment equipment) and switching to a manufacturing method that does not use cleaning water.

Various Facilities for Preservation of Water Resources

The Gunma Complex is equipped with various facilities to effectively utilize limited water resources and prevent the discharge of pollutants outside the complex.

Water intake facility

The Isobe and Matsuida plants take in water from the Yanagise River flowing in the plant and a waterway divided from the Usui River in the vicinity of the plant, respectively, to use it as water sources of industrial water for producing silicones. In addition, city water is also partly used.

Purification facility for river water

River water taken in is subjected to purification treatment similar to that of waterworks to remove turbidity for use as industrial water to produce silicones.

Rainwater pit

Rainwater is stored to be effectively utilized for miscellaneous application.

Installation of detectors (TOC (total organic carbon) meter and oil film detector)

A TOC meter is installed at the end of the discharge port of the plant so that when the leakage of chemical substances to drain ditches for rainwater occurs, it can be detected as early as possible. In addition, continuous monitoring is performed using pH meters. Furthermore, oil film detectors are installed at many places in the plant so that when the leakage of silicone fluid occurs, it can also be detected as early as possible.

Cooling tower

This is a cooling facility for removing the reaction heat generated during silicone production and the condensing heat generated in the distillation process. Pumps supply water to the production facilities and the water warmed in the cooling process returns to the cooling tower. It is cooled by the tower and supplied again to the production facilities. The tower removes the heat efficiently by using circulating water only by replenishing water that evaporates during heat dissipation.

Emergency pit

When the TOC meter or the oil film detector operates and an automatic gate shuts off the water in the rainwater ditch, the drainage is temporarily stored in the emergency pit. The stored water is transferred to a wastewater treatment facility and discharged into the rivers after purification.

Approaches to Reducing Waste Materials and Preventing Air Pollution

Efforts are underway at the Gunma Complex to achieve the Shin-Etsu Group's goal of zero waste emissions (a 1% or less ratio of final landfill disposal volume to waste generation volume). These efforts also include promoting waste generation reduction in terms of emission intensity. Besides, emissions reduction targets have been set to prevent air pollution. Measures to reduce emissions have been implemented, such as switching to fuels with a lower environmental load.

Incineration Facility

Industrial waste materials from each plant are collected for incineration and disposal at the incineration facility at the Isobe plant. To reduce dioxin emissions from this incineration facility, the Isobe plant is working on operation management optimization through around-the-clock operation and stable incineration at high temperatures. Its efforts also extend to utilizing the heat generated at the incineration facility to produce steam for each plant.

Incineration facility

Switching to Natural Gas for Air Pollution Prevention

The Gunma Complex positively uses natural gas as an environment-friendly energy source along with electricity. Natural gas is an ideal energy source: it does not produce much nitrogen oxide (NOx) emissions, which are deemed responsible for acid rain and air pollution, and produces no sulfur oxide (SOx) emissions (see the figure above). Accordingly, the Gunma Complex stays well below the emission standard for NOx, and its SOx emissions remain below the measurable lower limit.

Cogeneration facility

TOPIC **Cleaning activities for roads around the office**

Every year, the Gunma Complex cleans the roads around the plant as part of its environmental beautification campaign. We spend about two hours each time collecting empty cans, PET bottles, and paper scraps that have been thrown away along the road. In addition to contributing to the local community, this activity is also useful for raising employees' environmental awareness and enlightening their manners.

Reduction of Environmental Impact in Plants: Naoetsu Plant

Efforts to Reduce the Environmental Impact at Naoetsu Plant

The Shin-Etsu Chemical Naoetsu Plant is located in the north of Joetsu City, which is at the southeast of Niigata Prefecture in the center of the coastal area facing the Sea of Japan. With the expansive Sea of Japan to the north, as well as Joshin'etsu-kogen National Park and the lush Kubiki Plain to the south, the area is surrounded by natural landscapes that change with the seasons. This region has prospered as a key area for transportation for centuries. It has a favorable environment for going to and from local communities, the Kansai region, or the Greater Tokyo Area, with the vital harbor of Naoetsu Port, the Hokuriku Expressway and Joshin-etsu Expressway for land travel, as well as the Hokuriku Shinkansen.

The Naoetsu Plant produces a wide range of chemical products and highly functional products, as well as promotes research and development to cater to the latest needs, including caustic soda, chloromethane, chlorosilanes, silicone products, cellulose derivatives, synthetic pheromones products, synthetic quartz glass substrate, photomask blanks, photo resists, and low dielectric materials for 5G. We engage in activities with the aim of helping to achieve a sustainable society and contributing to people's lifestyles, communities, and industries.

Shin-Etsu Chemical Naoetsu Plant

Promotion of Energy Efficiency and Reduction of Greenhouse Gas Emissions

Introduction of Cogeneration System

The Naoetsu Plant has two power generators (in a cogeneration system using gas turbines), and it generates electricity and steam using natural gas as a fuel with low emissions of greenhouse and toxic gases. The steam is used for heating processes within the plant, as well as for generating electricity with steam turbines (in a combined system). We proactively promote initiatives for saving energy and reducing greenhouse gas emissions.

Gas turbine generator

Steam turbine generator

Modal Shift in Product Logistics

In addition to saving energy and reducing greenhouse gas emissions through its plant equipment, the Naoetsu Plant is also promoting the reduction of greenhouse gas emissions in the area of product logistics, for example by pursuing a modal shift from road transport to rail transport and acquiring certification as an Eco-Rail Mark company.

Introduction of Nitrogen Recovery Equipment

The plant uses large quantities of oxygen and nitrogen for chemical reaction processes and for ensuring safety in the facility. To this end, we use an air separator to isolate oxygen and nitrogen from the air to obtain these two gases at a stable level of quality. The exhaust gas from this process contains a high proportion of nitrogen, and we collect and reuse it to obtain more nitrogen gas while also saving energy.

Nitrogen recovery equipment

Energy Savings in Clean Rooms

Since it is necessary to maintain a clean work area at all times in the manufacture and development of cutting-edge products, a lot of energy is invested in air conditioning. By introducing a heat pump into our air conditioning system, we were able to achieve significant energy savings. We are also adopting energy-saving filter equipment that removes extremely fine dust and particles from the air.

Introduction of heat pumps

We are proactively engaging in many other efforts to save energy, such as reducing the amount of steam used in distillation and solvent recovery in chemical processes, updating our equipment with high-efficiency coolers and gas compressors, and achieving greater efficiency in our clean room air conditioners.

We collaborate across the plant to seek out ideas for reducing greenhouse gas emissions, and we are discussing the use of advanced technologies for waste heat recovery, CO_2 recovery, and other applications.

Going forward, we will continue to drive initiatives to realize a decarbonized society.

Implementing LEDs for plant lighting

Approaches to the Preservation of Water Resources

The Naoetsu Plant has two large anaerobic wastewater treatment facilities. The methane (biogas) generated as a product of the wastewater purification process is effectively used as boiler fuel. In addition, we have deployed a carrier* that immobilizes fungi and bacteria in the existing aeration tank of our aerobic wastewater facilities, and have introduced technology that improves wastewater treatment capacity to produce treated water with a lower environmental impact.

We also have a sedimentation treatment facility that isolates the solids suspended in the water and purifies the water to be clean and clear.

* Carrier
A substance that serves as a base for affixing to other substances, such as adsorbing exhaust gas components or rare metals.

Approaches to Reducing Waste Materials

Recycling of Waste Materials

The Naoetsu Plant promotes activities to reduce waste materials generated in manufacturing and processing. For example, we take the paper materials that would otherwise be discarded in the manufacturing process, and we effectively utilize them by making recycled paper. We are also proactively considering ways to recycle the solvents from chemical reaction processes or create formulations that allow them to be reused.

Crushing device for unnecessary paper materials

Reducing the Weight of Waste for Disposal

The plant's wastewater treatment facilities separate and dehydrate the inorganic solids contained in the wastewater to make a solid sludge. This sludge is treated as industrial waste by an external contractor and is put to effective use as roadbed material and the like.

We replaced the dehydrator in the wastewater treatment facility with a new model with superior dehydration performance, which reduced the amount of water in the waste sludge, thereby reducing the weight of waste for disposal.

This has reduced the energy required to transport the waste to our external contractor. We are promoting activities that can contribute to reducing environmental impact by considering all processes up to the final treatment process.

Dehydrator installed at Naoetsu Plant

Recycling of Used Organic Solvents

Organic solvents used in chemical reaction processes are usually incinerated as industrial waste, but the Naoetsu Plant is working to reduce the amount of waste solvent that becomes industrial waste by refining and recycling solvents that have already been used. In FY2024, we continued to increase the variety and volume of recovered solvents through process improvements, achieving a further 13-ton reduction in waste solvents compared to the previous fiscal year. Going forward, we will continue to study process improvements to conserve resources and reduce environmental impact.

Improving Air Quality

Some of the large refrigerators that cool manufacturing facilities use substances that cause global warming as refrigerants. In addition to thorough management to prevent refrigerants from leaking to the outside, the Naoetsu Plant is actively introducing and upgrading refrigerators which use refrigerants with lower global warming potential.

Upgraded refrigerator

Reduction of Environmental Impact in Plants: Takefu Plant

Efforts to Reduce the Environmental Impact at Takefu Plant

Shin-Etsu Chemical's Takefu Plant is located in Echizen-shi in the central part of Fukui Prefecture in Japan. There are three branch plants in the prefecture: Asahi Plant, Fukui Plant, and Ikenokami Plant. All three are located in nature-rich environments. Takefu Plant is not only a research and production base for cutting-edge magnet materials, but also a production base for silicone products and rare earth compounds.

Takefu Plant's world-leading rare earth magnets are used not only in automotive applications such as HEV and EV motors and generators, but also in energy-saving air conditioners and industrial robots that are indispensable to our daily lives, thereby significantly contributing to energy saving and optimization in various fields. The plant handles all processes from raw materials to assembly, and by enabling the recycling of rare earth magnets, it aims to ensure a stable supply of products and effective use of resources throughout the entire life cycle.

Panoramic view of Takefu Plant

Promotion of Energy Efficiency and Reduction of Greenhouse Gas Emissions

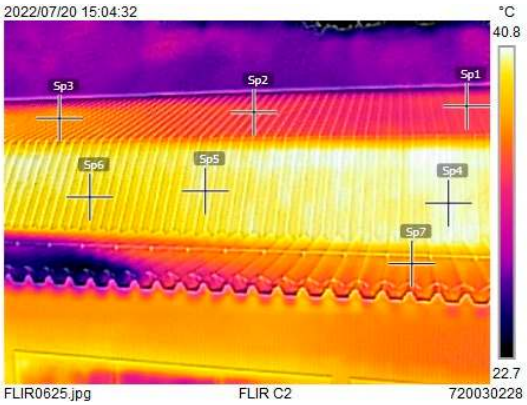
Takefu Plant uses electricity as its main energy source. As the production of its main product, rare earth magnets, has increased, the amount of electricity required has also increased. However, by continuously improving its manufacturing processes and implementing energy-saving measures, the plant is working to promote energy conservation (an average annual reduction of 1% in terms of production intensity) and to reduce greenhouse gas emissions (a reduction of 45% in terms of production intensity compared to 1990 levels by FY2025).

Heat-shielding Paint Prevents Heating from Sunlight

At Asahi Plant, heat-shielding paint, developed specifically for heat dissipation, was applied to some of the roofs of the buildings to keep inside relatively cool.

When the temperature of the roof was measured in the summer, the heat-shielding paint prevented the temperature rise to around 40 degrees Celsius* even in midsummer, unlike conventional paint. Preventing heat build-up inside the building reduced the load on the air conditioning equipment, resulting in energy savings.

Roof with heat-shielding paint



* Temperature measurements of roof with heat-shielding paint (July)

Installation of Solar Panels

At Shin-Etsu Magnetics Philippines, Inc., which is a production plant for rare earth magnets, solar panels with a generating capacity of approximately 1,200 kW were installed and began operation in June 2023. They are expected to generate about 1,500 MWh of electricity per year, resulting in an annual reduction of 1,026 tons of CO_2 emission.

In Japan, Takefu Plant has installed solar panels with a power generation capacity of 137 kW, which are expected to generate 125 MWh of electricity per year, resulting in an annual reduction of 62 tons of CO_2* emission.

* Estimated based on the amount of solar radiation at Takefu

Power generation facilities at Shin-Etsu Magnetics Philippines, Inc.

Local Environmental Conservation Activities

Cleaning Up Oshozu River

Every year in late May, we clean the Oshozu River that flows along the west side of Takefu Plant. Employees at the plant use shovels and other equipment to scoop up and remove the naturally occurring algae from the river bottom. This activity is intended to make all employees understand the importance of achieving environmental harmony with the local community where the plant is located.

Climate Change : TCFD Disclosure

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Support for TCFD Recommendations

Support TCFD's recommendations In May 2019, the Shin-Etsu Group announced its support of the recommendations from the TCFD.*1 We also participated in the TCFD Consortium of Japan.*2 We will continue to share information regarding climate change in line with the TCFD recommendations.

*1 TCFD
The Task Force on Climate-related Financial Disclosures (TCFD) is a special team focusing on climate change disclosure, and was established by the Financial Stability Board (FSB) in September 2015. In July 2017, the TCFD published a set of recommendations calling for corporations to analyze their risks and opportunities based on future scenarios and various mid to long-term predictions of climate change, and to disclose the impact on their finances.

*2 TCFD Consortium of Japan
It is a group established by the Ministry of Economy, Trade and Industry, the Financial Services Agency, and the Ministry of the Environment in May 2019. Companies and financial institutions that agree with the recommendations from TCFD aim to promote the effective disclosure of information by companies and the efforts to link the disclosed information to appropriate investment decisions by financial institutions and other investors.

Disclosure of TCFD-Recommended Items

Governance

The Sustainability Committee is working with each of the Group's business divisions to address climate change.

The Sustainability Committee is one of the committees for each material management task in the Group's corporate governance system. Chaired by the president, the committee consists of about 60 members, including directors, corporate officers and divisional managers of Shin-Etsu Chemical, as well as persons in charge of sustainability at Group companies, and develop initiatives that integrate business and sustainability initiatives.

In FY2021, we established a Carbon Neutral Task Force within the Sustainability Committee to examine various issues related to climate change. The Task Force regularly reports the latest information to the president, who uses this report to determine policies for achieving carbon neutrality. In FY2022, the Task Force reported on climate change-related initiatives at the Managing Directors' Meeting and the Board of Directors attended by all directors, audit & supervisory board members and corporate officers. In FY2023, the Task Force formulated a specific plan for achieving carbon neutrality by 2050, which was discussed and unanimously approved at the Managing Directors' Meeting.

Related Information

› Sustainability Management: Structure of Initiatives

Strategy

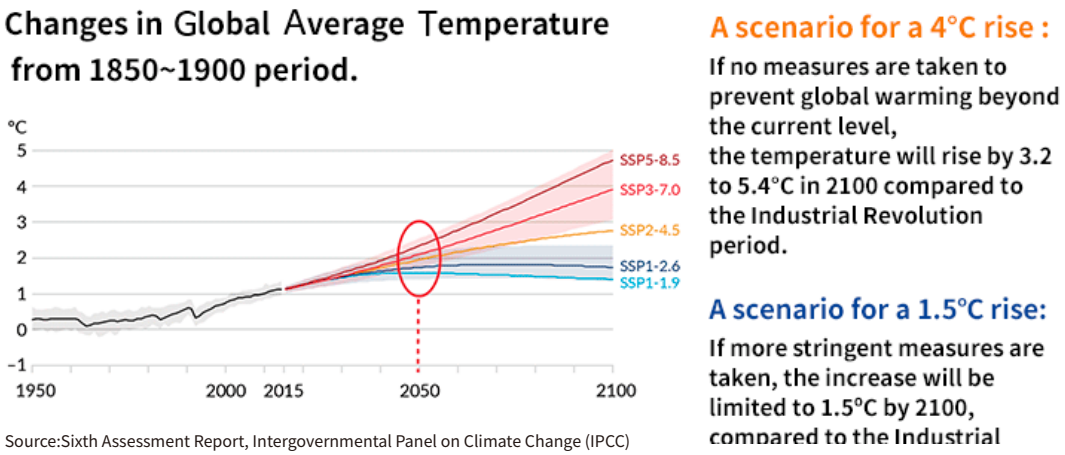
The Group considers the promotion of plans to achieve carbon neutrality by 2050 as an important management issue. While promoting information disclosure based on the TCFD recommendations, including scenario analysis, we identify important risks and opportunities that affect our business through these analyses, and reflect them in our management.

Scenario analysis of our business with respect to climate change

In FY2021, we conducted a scenario analysis of some of our businesses to identify the risks and opportunities that climate change poses to our business activities.

Assumed scenarios

Considering the impact of climate change, we have assumed scenarios for a 1.5°C rise and a 4°C rise for the year 2050.



Source:Sixth Assessment Report, Intergovernmental Panel on Climate Change (IPCC)

Event	1.5°C scenario	4°C scenario
Extreme high temperatures on land areas	The frequency of extreme high temperatures (+1.9°C compared to 1850–1900) on a once-in-a-decade scale will increase 4.1 times in 2081–2100.	The frequency of extreme high temperatures (+5.1°C compared to 1850–1900) on a once-in-a-decade scale will increase 9.4 times in 2081–2100.
Heavy rainfall on land	The frequency of extreme wetting (+10.5% compared to 1850–1900) on a once-in-a-decade scale will increase 1.5 times in 2081–2100.	The frequency of extreme wetting (+30.2% compared to 1850–1900) on a once-in-a-decade scale will increase 2.7 times in 2081–2100.
Global mean sea level	Compared to the 1995–2014 average, global mean sea level will increase by 28 cm to 55 cm by 2100.	Compared to the 1995–2014 average, global mean sea level will increase by 63 cm to 101 cm by 2100.
Percentage of renewable energy in power supply composition	Renewable energy ratio will account for 90% of total electricity generation in 2050.	
Financial impact	Economic slowdown due to the introduction of the carbon tax and the impact of higher electricity prices on corporate profits.	Economic stagnation and increased insurance premiums due to severe wind and flood damage.

Source: Sixth Assessment Report, Intergovernmental Panel on Climate Change (IPCC)
International Energy Agency (IEA) “Net Zero by 2050”
Mitsubishi Research Institute “Climate Change Response / Environmental Disclosure (TCFD)”

(1) Business Opportunities Arising from Climate Change: A scenario for a 1.5°C rise

Applications	Details	Revenue impact
Resin windows	Polyvinyl chloride resin is used for resin windows because of its excellent heat insulation properties. Demand for resin windows is expected to increase along with the spread of energy-saving homes.	Large
Electric vehicles, hybrid vehicles, fuel cell vehicles	Semiconductor silicon is used in power semiconductor devices such as inverters to control the number of rotations of motors, logic semiconductor devices for automatic driving system and AI. High-performance and compact rare-earth magnets can reduce the overall weight of a vehicle and improve its fuel efficiency, which will expand their use in the drive motors of electric, hybrid, and fuel cell vehicles, as well as in a variety of other motors in vehicles. Silicone heat-dissipating materials are used in lithium-ion batteries and various electronic control devices. Demand is expected to grow as it helps prevent malfunctions and failures caused by heat.	Large
Wind power generators	Demand for rare earth magnets is expected to grow as they contribute to higher efficiency in offshore wind turbines and lower maintenance costs for generators.	Large
	Demand for vinyl chloride used for wire sheathing is also expected to increase due to the development and expansion of the power grid.	
Air conditioners	Demand for semiconductor silicon is expanding as it is used in inverter control devices for compressor motors and contributes to power saving by adjusting the rotation speed of the motor to an appropriate level.	Medium
	Demand for rare earth magnets is expected to grow as they improve the energy efficiency of air conditioner compressor motors and reduce energy consumption.	
Aircrafts	Rare earth magnets are indispensable for the electrification and hybridization of small aircraft and for the electrification of hydraulic drive units in large aircraft. Demand for rare earth magnets is expected to increase as their small size and high power will help reduce the weight of the aircraft and improve fuel efficiency.	Medium
Motors for industrial use	Demand for rare earth magnets is expected to grow as they increase the efficiency of industrial motors and reduce the amount of electricity consumed.	Medium
Robots for services	Semiconductor silicon is increasingly being used in semiconductors for energy-saving robot control motors for manufacturing, logistics, agriculture, and other applications, as well as in medical and disaster response robots.	Medium
Binder for plant-based meat alternatives	A diet centered on plant-based foods may reduce CO_2 emissions by 1.6 gigatons per year*1. “Metolose MCE-100TS", one of the products of cellulose derivatives, is used as a binder for alternative meats derived from plants. The global market for plant-based meat is expected to grow at a double-digit rate annually, and further market expansion is expected.	Medium

*1 From “DRAWDOWN – The Most Comprehensive Plan Ever Proposed to Reverse Global Warming” edited by Paul Hawken

(2) Business Risks Due to Climate Change and Countermeasures: 1.5 °C scenario (transition risk)

Events	Risks to the Company	Revenue impact	Countermeasures
Introduction of carbon taxes and establishment of carbon emission quotas around the world	Payment of carbon tax Incurring costs of purchasing emission credits to meet carbon emission quotas Increased costs of measures to reduce greenhouse gas emissions	Large	Reduce scope 1 emissions • Further promotion of more efficient production processes and introduction of highly efficient equipment, etc. • Use of energy sources that do not emit carbon dioxide, such as hydrogen and ammonia • Use of CCUS • Use of carbon-neutral natural gas (natural gas with emission credits) as a heat source Achievement of reduction targets in the absolute amount of greenhouse gas emissions Collection of information on environmental regulations such as carbon taxes in each country and implementation of countermeasures
Widespread use of electricity derived from renewable energy sources and rising electricity prices resulting from tightening regulations on greenhouse gas emissions	Increase in electricity costs	Large	Reduce scope 2 emissions • Further promotion of production processes that use less electricity, introduction of high-efficiency equipment, etc. • Introduction of cogeneration systems using carbon-neutral natural gas (natural gas with emission credits)

(3) Business Risks Due to Climate Change and Countermeasures: 4°C scenario (physical risk)

Events	Risks to the Company	Revenue impact	Countermeasures
Increase in the frequency of extreme weather events Increased frequency of flooding caused by changes in precipitation patterns, etc.	Flooding of production sites Disruption of the supply chain	Large	Raising the ground level of production sites, installation of watertight walls around critical facilities, installation of instrument rooms in areas with low risk of flooding, installation of seawalls at production sites close to ports Multiple production bases Diversification of raw material procurement sources Securing product inventory Enrollment in damage insurance
Introduction of carbon taxes and establishment of carbon emission quotas in some countries	Payment of carbon tax imposed on greenhouse gases emitted from production sites in the said countries Costs of purchasing emission credits and payment of surcharges will be incurred if our greenhouse gas emissions do not meet the carbon emission targets established by the said countries	Small	Reduce scope 1 emissions • Further promotion of more efficient production processes and introduction of highly efficient equipment, etc. • Use of energy sources that do not emit carbon dioxide, such as hydrogen and ammonia • Use of CCUS • Use of carbon-neutral natural gas (natural gas with emission credits) as a heat source Achievement of reduction targets in the absolute amount of greenhouse gas emissions Collection of information on environmental regulations such as carbon taxes in each country and implementation of countermeasures
Electricity price	According to the IEA scenario analysis (current measures scenario), electricity prices will not increase. Therefore, there is no risk to the Company.	—	—

Risk Management

The Risk Management Committee works to prepare for and eliminate the various risks surrounding our business, including risks posed by climate change. The Committee is chaired by a managing corporate officer and consists of approximately 20 members, including our directors, corporate officers, and department managers. Our Group has established Risk Management Regulations to identify potential risks associated with our business activities and address these risks appropriately. The Risk Management Regulations clearly state specific risks, risk management systems, and responses to risks that materialize. The Risk Management Committee reports to the Board of Directors, Managing Directors' Meeting, Audit & Supervisory Board, and relevant parties in a timely manner on important risk management issues, and works to address them appropriately. With regard to the risks related to climate change, which have become increasingly important in recent years, the Sustainability Committee works with the Risk Management Committee to ascertain risks through scenario analysis.

Climate-related physical risks include increased spending due to CO_2 emissions trading and carbon taxes, transition risks such as rising manufacturing costs due to rising energy prices, damage to equipment due to the wind disaster, and damage to electrical equipment due to flooding, or plant shutdown resulting from such cases.

Related Information

› Governance: Risk Management

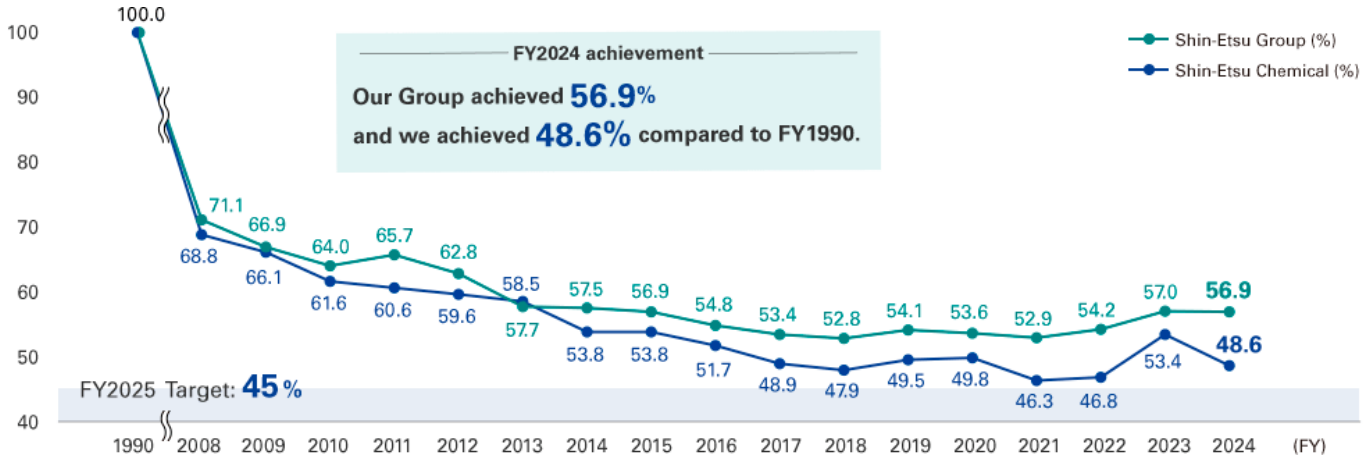
Metrics and Targets

The Shin-Etsu Group aims to achieve net zero greenhouse gas emissions (Scope 1 and 2) by 2050.

Furthermore, we will continue to promote the reduction of greenhouse gas emissions in terms of intensity. We will work to achieve the new medium-term target set in FY2016 of "Reduce greenhouse gas emissions in terms of intensity to 45% of the FY1990 level by FY2025."

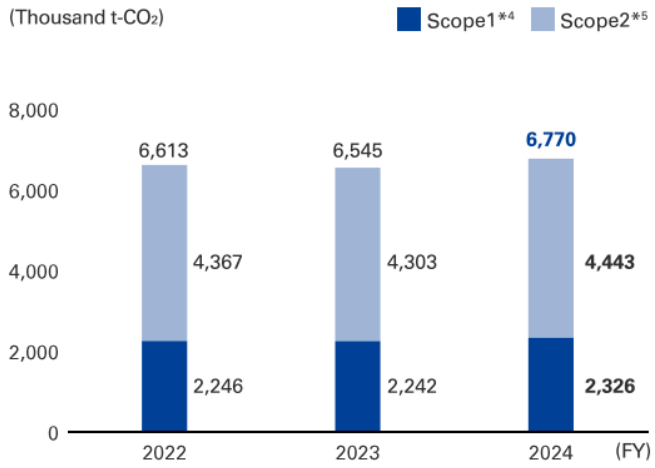
Long-term target
Achieve carbon neutrality by 2050 (scopes 1 and 2)
Result in FY2024
6,770 thousand t-CO_2 (scope1　2,326thousand t-CO_2, scope2　4,443thousand t-CO_2)
Mid-term target
Reduce greenhouse gas emissions in terms of production intensity to 45% (i.e. down 55%) of the FY1990 level by FY2025. *2
Result in FY2024
Achieves reduction to 56.9% (i.e. down 43.1%) for the Shin-Etsu Group*3 and 48.6% (i.e. down 51.4%) for Shin-Etsu Chemical.
FY2024 target
Reduce energy consumption in terms of production intensity at an average annual rate of 1%
Result in FY2024
The average annual reduction rate from FY2021 to FY2024 was 0.9% decreased

Changes in Greenhouse Gas Emissions in Terms of Production Intensity Relative to the FY1990 Level



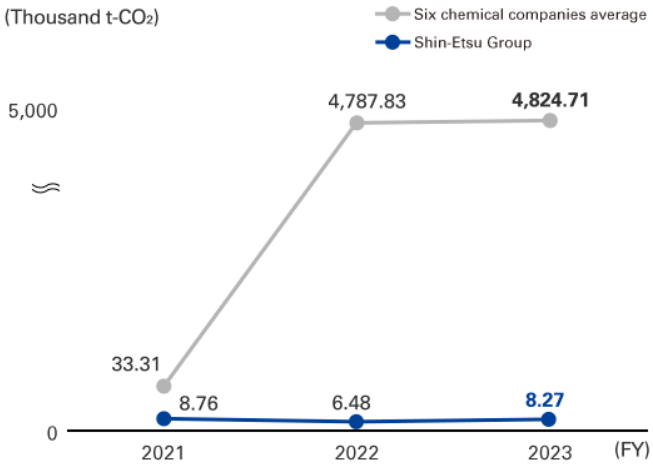
*2 For the calculation of emissions, CO_2 emission factors for electricity are averaged from 2000 to 2009 so that efforts to reduce electricity can be clarified. Furthermore, to clarify our efforts in energy reduction and rationalization, the figures do not include additional emissions categories associated with the amendments to Japan's Act on Promotion of Global Warming Countermeasures that took effect in 2024.
*3 Includes non-consolidated group companies.

Greenhouse Gas Emission Volume Trends



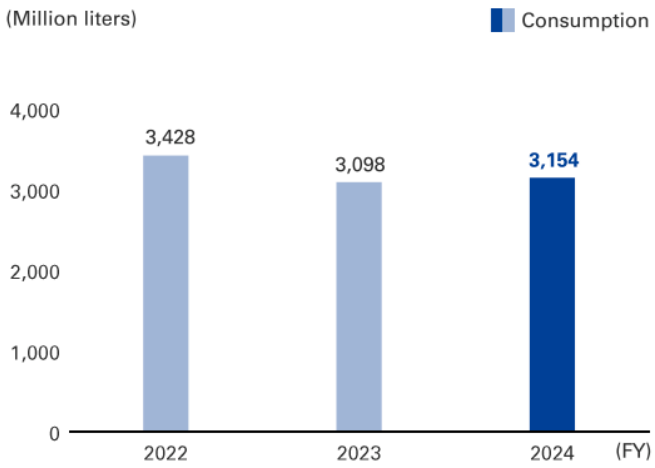
*4 • Direct emissions from facilities the company owns or controls (e.g., fuel oil, natural gas)
*5 • Emissions from the production of energy purchased by the company (e.g., purchased electricity, steam)
• We have refined our calculation of greenhouse gas emissions and revised the Scope 2 emissions for FY2023, which were disclosed in July 2024.

Greenhouse Gas Emissions by Chemical Companies Ordinary Income in Terms of Production Intensity*6

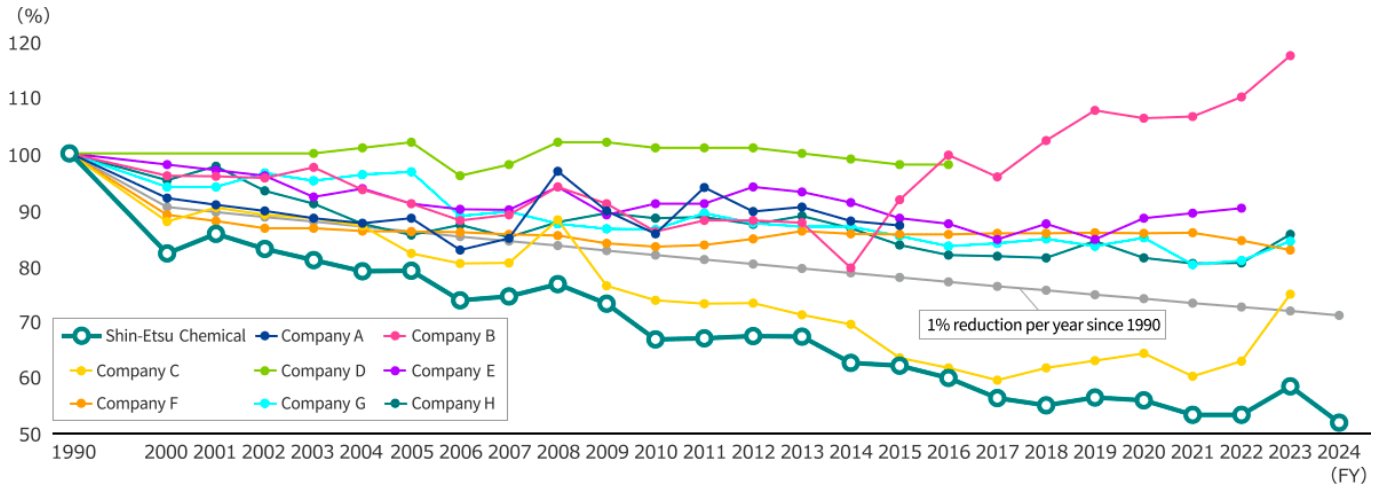


*6 • Scope of calculation for 5 chemical companies other than Shin-Etsu: 4 consolidated companies and 1 major group company
• If ordinary income is negative, the previous year's value is used

Energy Consumption (crude oil equivalent)



Changes in Energy Consumption by Chemical Companies in Terms of Production Intensity Relative to the FY1990 Level*7



*7 Source: Published materials from each company
Aggregation scope: Non-consolidated
Company A has not disclosed production volume since 2015; Company D since 2016; Company E since 2022.
Energy consumption is converted to crude oil equivalent

Scope 3 greenhouse gas emissions

The Group's scope 3 greenhouse gas emissions*8 for FY2024 were 12,096 thousand tons of CO_2, amounting to 64% of the supply chain's total emissions.

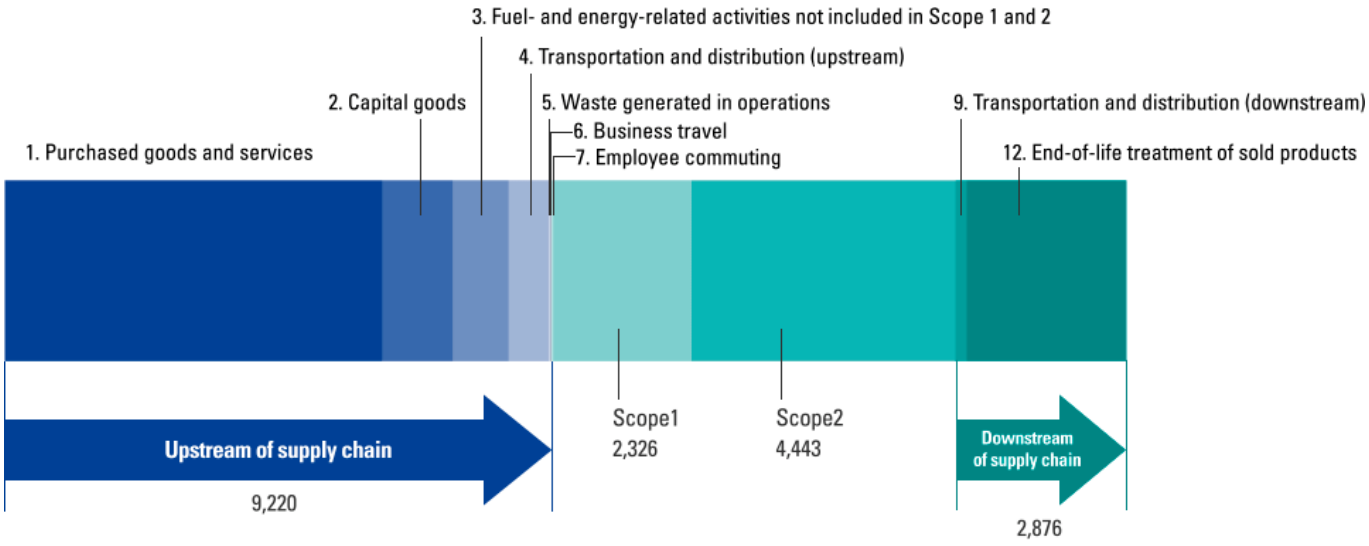
*8 Scope 3: Emissions from the supply chain

Scope 3 Emissions (FY2024) and How to Measure Them

Category	Category definitions	Emissions (Unit: Thousand t-CO_2)	Amount of activity	Source of emission intensity used
1. Purchased goods and services	Emissions from activities up to the time raw materials, parts, purchased goods, and materials for sale are manufactured	6,348	Amount of raw materials, etc. purchased	Emission intensity obtained from suppliers IDEA v2 Ministry of the Environment Emission Intensity Database (Ver. 3.5)
2. Capital goods	Emissions from the construction and manufacture of the company's capital goods	1,186	Increase in tangible and intangible fixed assets	Ministry of the Environment Emission Intensity Database (Ver. 3.5)
3. Fuel- and energy-related activities not included in Scope 1 and 2	Emissions from the mining, refining, etc. of procured fuel Emissions associated with the mining and refining of fuels used to generate procured electricity	941	Total energy purchased	Ministry of the Environment Emission Intensity Database (Ver. 3.5)
4. Transportation and distribution (upstream)	(1) Emissions associated with the distribution to the company of products and services purchased from suppliers during the reporting year	672	Weight of purchased raw materials and transport distance of raw materials	Act on Rationalizing Energy Use (ton-kilo method) IDEA v2
	(2) Emissions associated with logistics services other than those in (1) purchased during the reporting year (emissions associated with logistics for which the company bears the costs)		Volume and distance of products transported (at our expense)	Act on Rationalizing Energy Use (ton-kilo method)
5. Waste generated in operations	Emissions from the transportation and end-of-life treatment of waste generated by the company	39	Amount of waste by type	Ministry of the Environment Emission Intensity Database (Ver. 3.5)

6. Business travel	Emissions associated with employee business travels	3	Total number of travel days by type	Ministry of the Environment Emission Intensity Database (Ver. 3.5)
7. Employee commuting	Emissions from employees commuting to and from the office	30	Commuter passes and other commuting expenses	Ministry of the Environment Emission Intensity Database (Ver. 3.5)
8. Leased assets (upstream)	Emissions from the operation of leased assets leased by the company	—	What are excluded from the calculation At the Group, leasing transactions by overseas non-production facilities are subject to the calculation, but there was no materiality.	
9. Transportation and distribution (downstream)	Emissions associated with the distribution of products sold by the company to final consumers (for which the company does not bear the cost)	189	Volume of products and how far they are transported (at the expense of the customer)	Act on Rationalizing Energy Use (ton-kilo method) IDEA v2
10. Processing of sold products	Emissions from the processing of intermediate products by businesses	—	Not applicable The WBCSD Chemical Sector Guidelines apply, which state: “Chemical companies are not required to report scope 3, category 10 emissions, since reliable figures are difficult to obtain due to the diverse application and customer structure.”	
11. Use of sold products	Emissions associated with the use of products by users (consumers and businesses)	—	Not applicable The WBCSD Chemical Sector Guidelines apply, which state: “Chemical companies should not include indirect use-phase emissions in the inventory, unless the end use of chemical products is known.”	
12. End-of-life treatment of sold products	Emissions resulting from the end-of-life treatment of products by users (consumers and businesses)	2,687	Volume of products sold	Ministry of the Environment Emission Intensity Database (Ver. 3.5) IDEA v2
13. Leased assets (downstream)	Emissions from the operation of leased assets leased to others	—	Not applicable The Company has no assets leased to other companies.	
14. Franchises	Emissions at franchisees	—	Not applicable The Company is not a franchise owner.	
15. Investments	Emissions associated with the management of investments	—	Not applicable There is no profit-seeking investment.	
	Total Scope 3 emissions	12,096		

Scope 1, 2, and 3 Emissions Flows (FY2024)(unit: Thousand t-CO_2)



Related Information

› Sustainability Data

Climate Change: Initiatives Aimed at Carbon Neutrality

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Measures for Achieving Carbon Neutrality by 2050

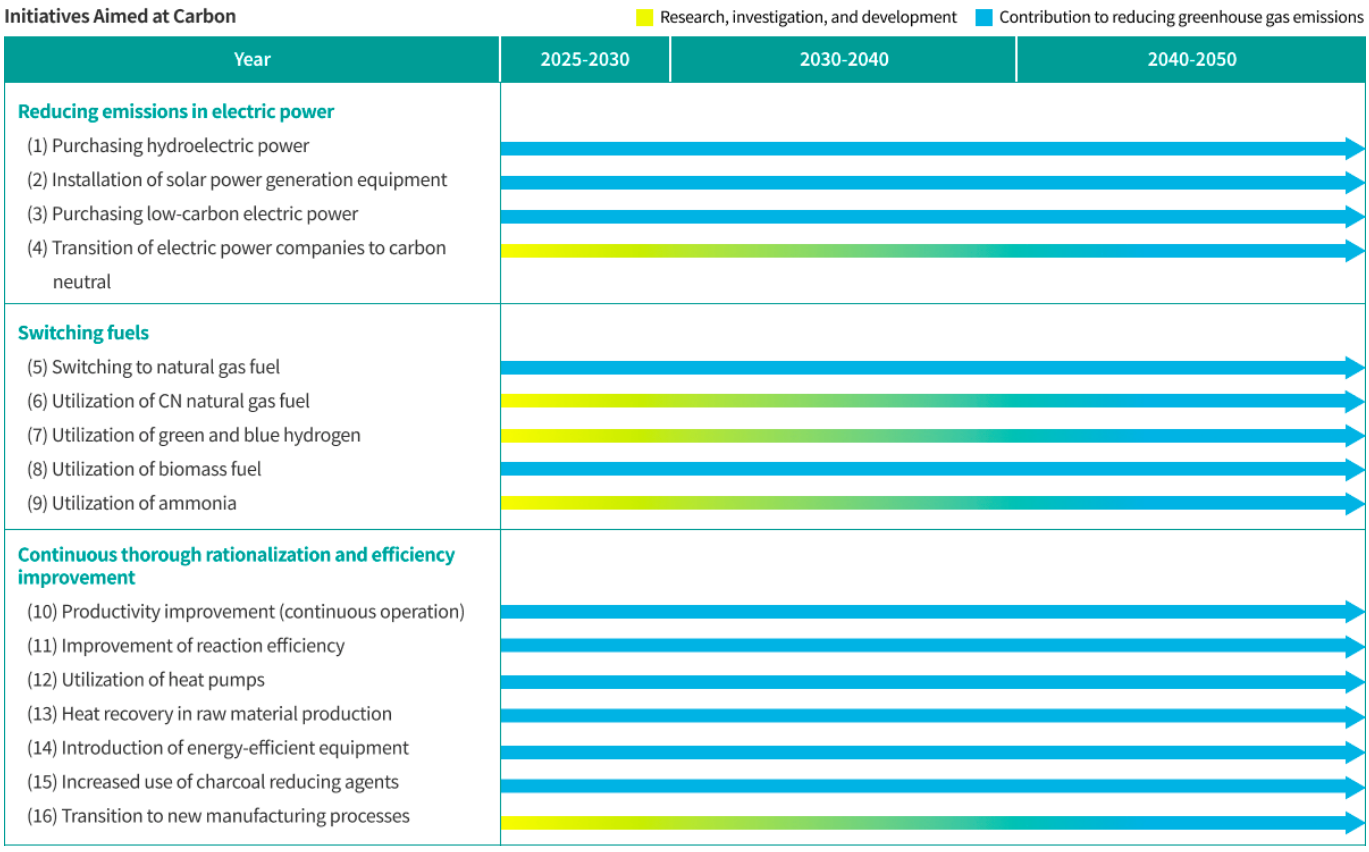
The Shin-Etsu Group has formulated a plan to reduce greenhouse gas emissions (Scope 1 and Scope 2) to net zero, with the aim of achieving carbon neutrality by 2050.

Initiatives Aimed at Carbon Neutrality

The Group is investing in the construction of new plants and expansion projects in each of our businesses to drive growth. These investments are focused on maximizing productivity and energy efficiency. A prime example is the new plant at Shintech, Inc. in the U.S., which was completed and started operation in 2024. However, it is not possible to reduce the CO_2 emissions associated with new facility expansion to zero with currently available technology.

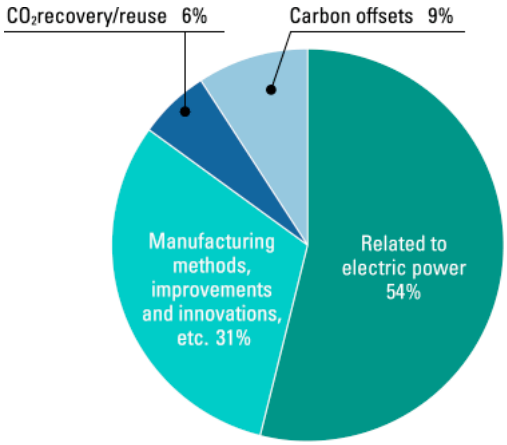
We will continue to maximize the productivity and energy efficiency of our existing plants, install the latest technologies at the time of new facility expansion, and address the challenges outlined in “Initiatives Aimed at Carbon Neutrality” below as we work to become carbon neutral by 2050.

Initiatives Aimed at Carbon Neutrality



CCU (Carbon capture and utilization) (17) Introduction of carbon capture plant, and utilization	
Promotion of recycling (18) PVC products (19) Rare earth magnet (20) Other products	
Other (21) Tree planting (22) Carbon offsets	

The Group's Reduction Measures



The components of reduction measures toward 2050 that the Company currently supposes are as described in the above pie chart. We will select the optimal ways to reduce emissions as technology evolves in the future.

Reducing greenhouse gas emissions by deploying renewable energy in Thailand

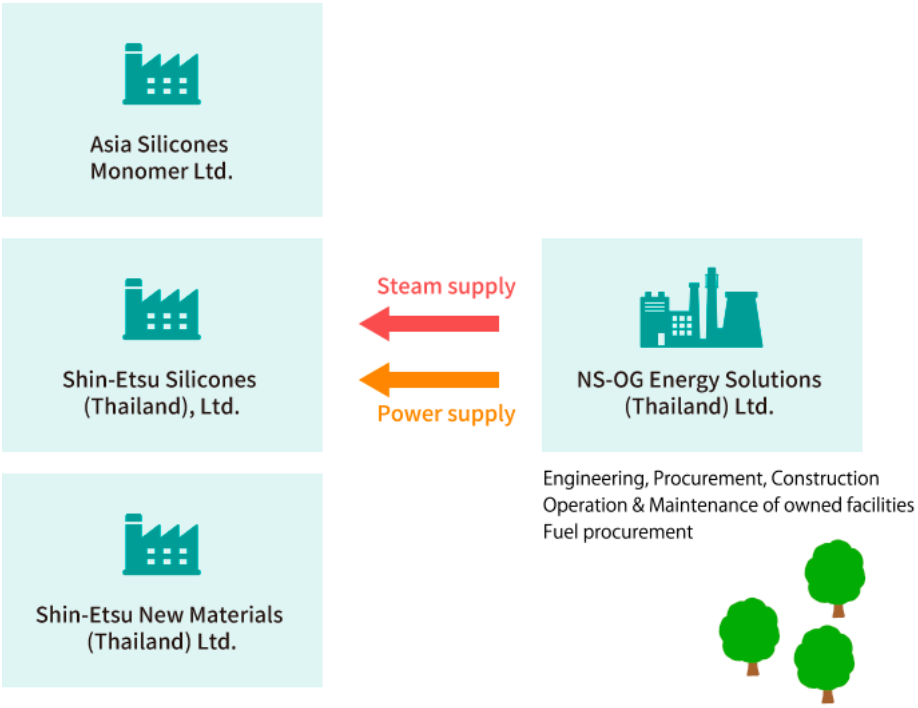
Three Shin-Etsu Group companies in Thailand—Shin-Etsu Silicones (Thailand), Ltd., Asia Silicones Monomer Ltd., and Shin-Etsu New Materials (Thailand) Ltd.—will receive renewable energy from a biomass cogeneration system from NS-OG Energy Solutions (Thailand) Ltd. (NSET), a joint venture between Nippon Steel Engineering Co., Ltd. and Osaka Gas Co., Ltd. The project is proceeding with the aim of starting energy delivery in 2027.

NSET's renewable energy supply business is an initiative selected by the Ministry of the Environment's "Financing Programme for Joint Crediting Mechanism (JCM) Model Projects"*1 in FY2024. NSET will install and manage the operation of the relevant facility at Shin-Etsu Silicones (Thailand), Ltd site and supply all the renewable energy (electricity and steam) produced using Thai wood chips as fuel to the three companies.

The new energy sourced through this initiative will cover a portion of the energy used by the three companies. This initiative is expected to reduce the combined greenhouse gas emissions of the three companies by approximately 48,000 t-CO_2 per year.

*1 Financing Programme for Joint Crediting Mechanism (JCM) Model Projects In that Programme, JCM model projects aim to reduce greenhouse gas emissions by utilizing leading decarbonization technologies in developing countries and other such regions while implementing Measurement, Reporting, and Verification (MRV) of these reductions. The goal is to help achieve greenhouse gas emission reduction targets in Japan and partner countries through the JCM while also reducing emissions in developing countries and other such regions. Model projects receive subsidies covering up to half of the initial investment costs for leading decarbonization technologies. The Programme is being implemented in collaboration with the Thai and Japanese governments.

Conceptual Framework of the Project Scheme



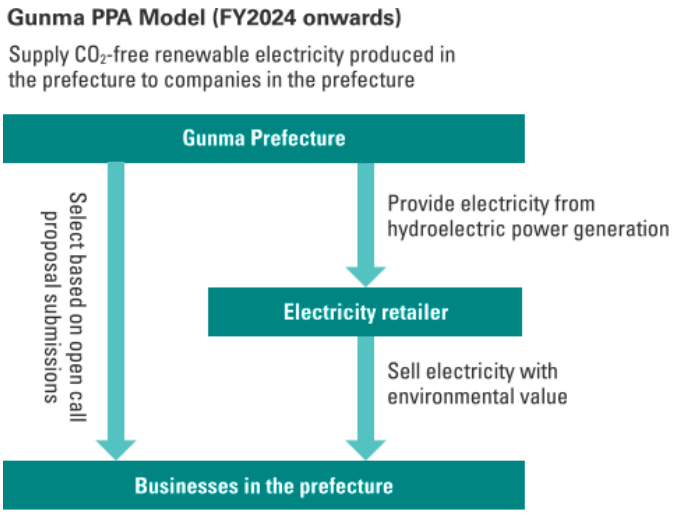
Participation in “Local production for local consumption type PPA (Gunma model)”

As an initiative to reduce emissions from electric power, in March 2024, Shin-Etsu Chemical decided to participate in the “Local production for local consumption type PPA”*2 (hereinafter, “Gunma Model”) offered by Gunma Prefecture.

The Gunma Model is a new system that supplies electricity from Gunma Prefecture’s hydroelectric power plants to businesses in Gunma Prefecture. The electricity generated by hydroelectric power generation is green electricity that does not emit greenhouse gases. The new electricity procured through this program will cover all of the electricity used at the Yokonodaira Plant at Shin-Etsu Chemical’s Gunma Complex, enabling the plant to reduce its greenhouse gas emissions by approximately 90%.

*2 PPA
Abbreviation for “power purchase agreement.” A type of contract in which an electricity user purchases electricity from a power producer at a fixed unit price for a fixed period of time.

Hydroelectric power plant in Gunma Prefecture



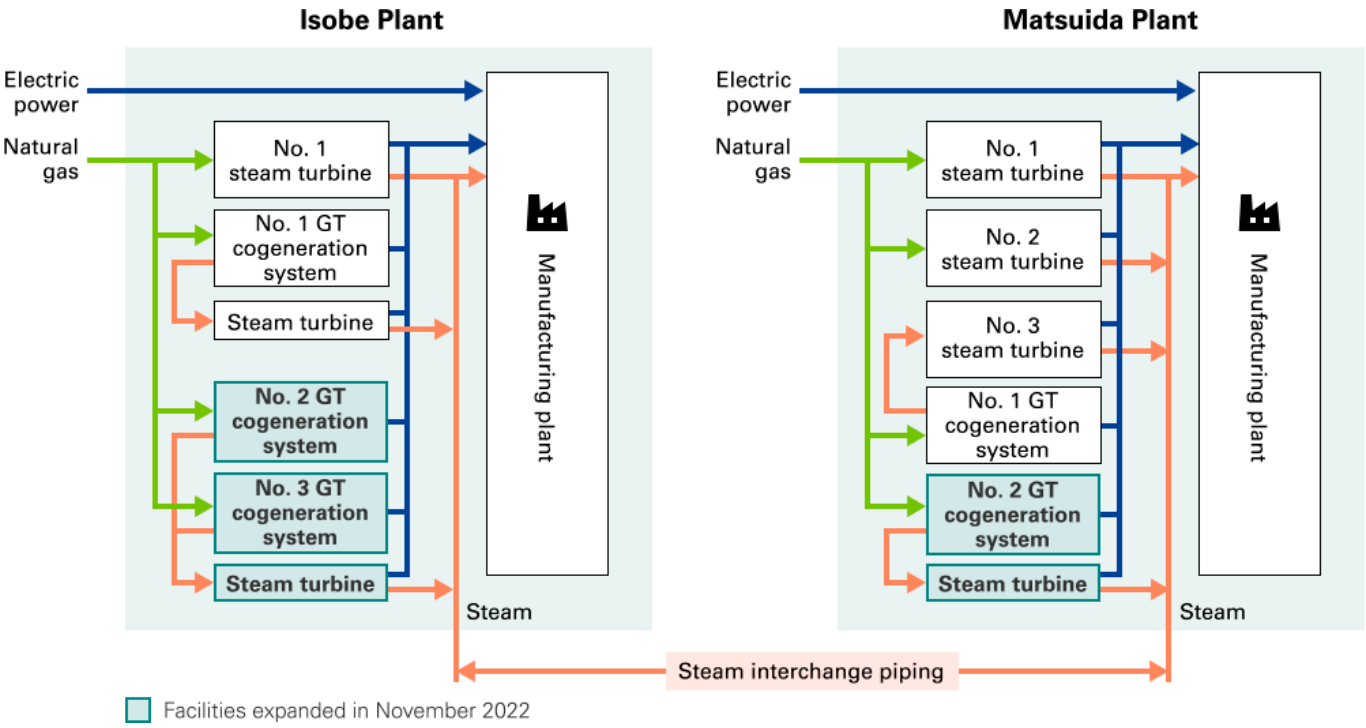
(Based on materials provided by Gunma Prefecture)

Installation of cogeneration systems

Shin-Etsu Chemical's Gunma Complex and Naoetsu Plant have installed cogeneration systems*3 that use natural gas to produce steam and electricity to support the operation of their manufacturing facilities. In November 2022, the Gunma Complex added two gas turbine generators at the Isobe Plant and one at the Matsuida Plant in order to reduce greenhouse gas emissions.

These cogeneration systems were awarded the Chairman's Award in the Industrial Category, the highest award, at COGENERATION AWARD 2023 sponsored by the Advanced Cogeneration and Energy Utilization Center JAPAN. With the introduction of these cogeneration systems, the Isobe and Matsuida plants were able to achieve a self-sufficiency rate of 100% and reduce CO_2 emissions by approximately 24,000 t-CO_2 per year in the future.

*3 Cogeneration system (heat and power combined)
This system generates power with engines, turbines, and fuel cells using natural gas, petroleum, liquefied petroleum gas, etc., and simultaneously collects the generated heat as steam. Effective use of both electricity and waste heat can reduce CO_2 emissions and improve economic efficiency through energy conservation.



Other Initiatives to Help Realize a Carbon-neutral Society

Initiatives for Carrying Out Life Cycle Assessment

By conducting life cycle assessment, the Group will contribute to the reduction of greenhouse gases throughout the supply chain.

Reduction of Greenhouse Gas Emissions in Logistics

We are working to reduce greenhouse gas emissions during product transportation. This initiative will contribute to the reduction of scope 3 greenhouse gas emissions.

Reduction in Logistics

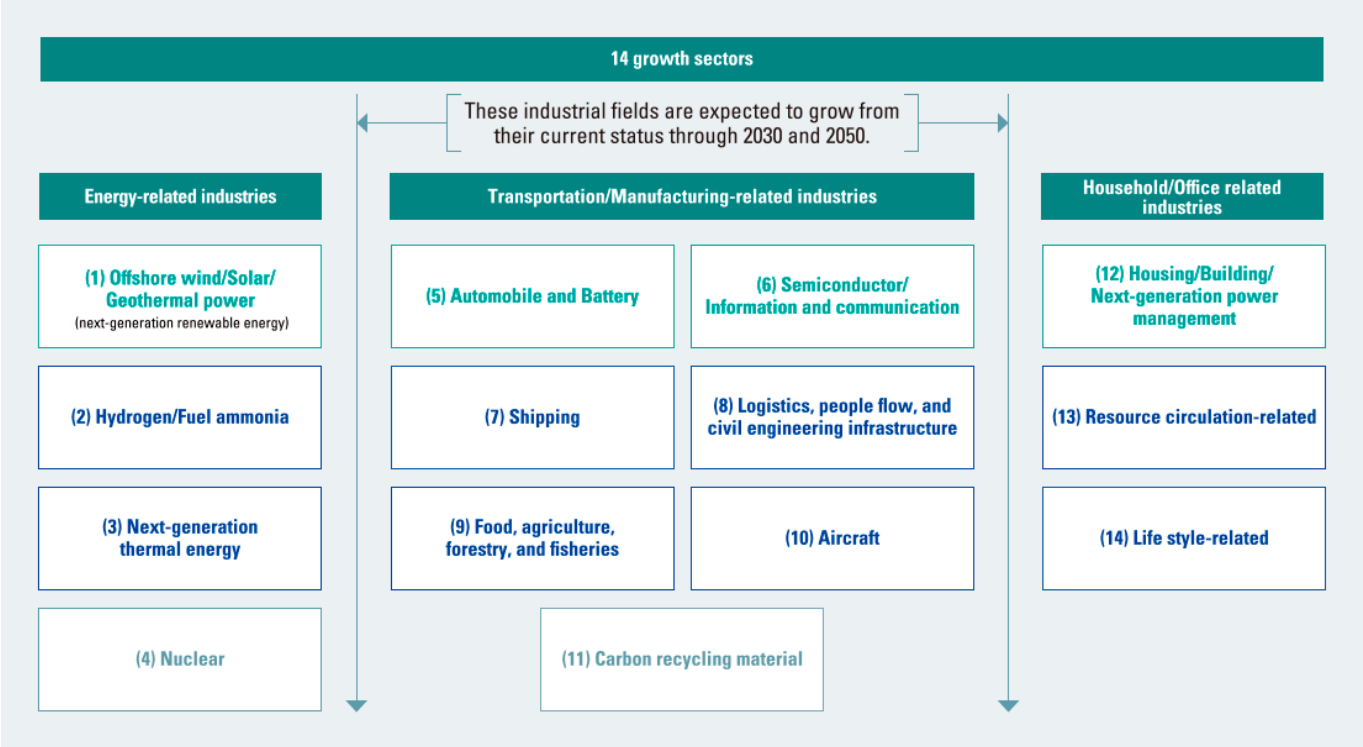
Examples	Scope 3 emissions categories contributing to reductions
Modal shift*1 in methanol transport (switched from tank truck to railcar)	Category 4: “Emissions from product transport”
Modal shift in silicon wafer transport (switched from aircraft to ocean vessel)	
Modal shift in silicone products transport (switched from truck to railcar)	

*1 Modal shift
Shifting from trucks and other freight transports to railways or ships with less environmental impact.

Expand Manufacturing and Sales of Products That Contribute to Reducing Greenhouse Gas Emissions

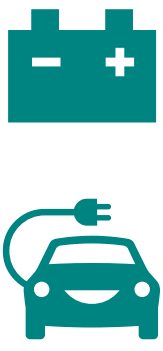
Our group’s products are used in a wide range of fields, including housing, infrastructure, electric vehicles, DX and GX, and support the foundations of people’s lives and industries. Many of these products also help reduce greenhouse gases. In June 2021, The Japanese government has identified 14 essential areas to aim for carbon neutrality in 2050. The ratio of sales in these 14 areas to the Group’s consolidated sales in FY2024 is approximately 70%. We will continue to contribute to the carbon neutrality of society as a whole by focusing on developing, manufacturing, and expanding sales of these products.

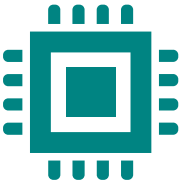
14 Growth Sectors

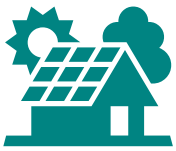


Source: Green Growth Strategy Through Achieving Carbon Neutrality in 2050 (announced by the Japanese government in June 2021)

Shin-Etsu Chemical Group Products and Technologies Contributing to the Realization of a Carbon Neutral Society

14 areas of expected growth*2	Products and technologies listed in the Green Growth Strategy	Shin-Etsu Chemical Group products and technologies that contribute to green growth strategies*3
 **(1) Offshore wind, solar and geothermal industries (Next-generation renewable energy)**	• Offshore wind power generation • Photovoltaic power generation (next-generation technologies such as perovskite, next-generation inverter and grid control system technologies) • Geothermal power generation	●PVC (wire coating) ●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Photocatalyst Coatings ●Low Friction Compound(Wire coating) ●Photovoltaic power generation related technology (initial deterioration prevention technology)
 **(2) Hydrogen and fuel ammonia industry**	• Hydrogen power generation • Hydrogen vehicles (fuel cell vehicles) • Fuel cells for household use • Hydrogen transportation and storage (e.g., liquefied hydrogen carriers) • Hydrogen production (e.g., water electrolyzers) • Burners for power generation, such as ammonia co-firing burners • Ammonia production plants	●PVC (wire coating) ●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Cellulose derivative (fuel cell parts) ●Liquid Fluoroelastomers ●Low Friction Compound(Wire coating) ●Hydrogen associated with soda industry, etc.
 **(3) Next-generation heat energy industry**	• Gas decarbonization (e.g., directly using of synthetic methane and hydrogen, introducing LNG with carbon offsets, using carbon capture and utilization technologies, etc.)	●Semiconductor materials*4
 **(4) Nuclear power industry**	• Fast reactors • Small modular reactors • High-temperature gas reactors • Nuclear fusion	●Semiconductor materials*4
 **(5) Automotive and storage battery industry**	• Electric vehicles, fuel cell vehicles, plug-in hybrids and hybrids • Various infrastructures for autonomous driving, etc. • Storage batteries	●PVC (wire coating) ●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Cellulose derivative (battery part) ●Anode material for storage batteries ●Liquid Fluoroelastomers ●Fluorinated Anti-smudge Coating ●Viewing angle, optical path control film ●Input device　Touch switch ●Wafer vacuum superposition device ●FPD panel vacuum superposition device

 **(6) Semiconductor and information and communication industry**	• Semiconductors such as power semiconductors and memory • Optoelectronics • Data centers • Information and telecommunications infrastructure	●PVC (wire coating) ●Semiconductor materials (silicon wafers, substrates for gallium nitride epitaxial growth, photoresists, mask blanks, pellicles, synthetic quartz, glass substrates, high-purity silane, etc.) ●Rare earth magnet ●Rare earth (Spray coating of semiconductor manufacturing equipment) ●Preform for optical fiber ●Silicone ●Wafer Cases ●Input device　Touch switch ●Electronic component transport tape ●Wafer vacuum superposition device ●FPD panel vacuum superposition device ●Micro LED Process Equipment
 **(7) Shipbuilding industry**	• Ships with hydrogen and ammonia engines • Highly efficient LNG-fueled vessels • Introducing energy-efficient vessels	●Semiconductor materials*4 ●Silicone (Ship bottom paint) ●Room temperature curing type silicone rubber tape (Maintenance of piping inside the ship)
 **(8) Logistics, people flow and civil engineering infrastructure industry**	• Smart transportation (e.g., autonomous driving) • Green logistics (e.g., introducing fuel cell railroads) • Saving energy in sewage systems and promoting waste heat utilization • Utilizing ICT in construction work • Drone logistics (e.g., cargo transport using drones) • LED road lighting	●PVC (wire coating) ●Semiconductor materials*4 ●LED encapsulant ●Silicone ●Cellulose derivative (fuel cell parts) ●Room temperature curing type silicone rubber tape(Maintenance of transportation infrastructure)
  **(9) Food industry, agriculture, forestry and fisheries**	• Reducing chemical pesticides and fertilizers, curtailing fossil fuel use • CO_2 absorption and fixation • Blue carbon (carbon storage by marine ecosystems) • Promoting use of new materials such as modified lignin and cellulose nanofiber (CNF) • Reducing methane and other emissions from agricultural and livestock industry • Developing and promoting new materials derived from woody biomass • Utilizing unused wood as energy • Developing new food production technologies using plant proteins	●PVC (agricultural film) ●Semiconductor materials*4 ●Cellulose derivative (plant-based meat binder) ●Synthetic pheromones (Pest control agent) ●Biodegradable runner clips (Crop fixing material) ●Biodegradable pest control sheet
 **(10)Aircraft industry**	• Hydrogen Aircraft • Reducing weight and improving efficiency of airframes and engines • Bio-jet fuel, synthetic fuel	●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Cellulose derivative (battery part) ●Viewing angle, optical path control film

 **(11) Carbon recycling and materials industry**	• CO_2-absorbing concrete • Carbon-recycled fuels (synthetic fuels) • Synthetic methane • Green LNG • Plastic raw materials by artificial photosynthesis • Plastic raw materials such as waste plastic, waste rubber and direct CO_2 synthesis • Technology to separate and recover CO_2 in exhaust gas • Developing and supplying zero-carbon steel using carbon-free electricity and carbon-free hydrogen • Expanding resource recycling and extending service life • Decarbonizing heat sources and petrochemical complexes	●PVC recycling ●Semiconductor materials*4 ●Rare earth magnet recycling
 **(12) Housing, building industry, and next-generation electric power management industry**	• ZEH and ZEB (zero energy homes and buildings) • Energy management using AI, IoT and electric vehicles • Improving energy efficiency of houses (expanded use of building materials such as heat-insulating sashes and equipment such as high-efficiency air conditioners) • Reducing cost and expanding use of stationary storage batteries • Promoting local production for local consumption of electricity and heat energy	●PVC (resin window, PVC pipe, wire coating) ●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Anode material for storage batteries ●Photocatalyst Coatings ●Room temperature curing type silicone rubber tape (Infrastructure maintenance)
 **(13) Resource circulation industry**	• CCU (Carbon Capture and Utilization) plants at waste incineration facilities • Technology to generate methane and ethanol from waste exhaust gases	●PVC recycling ●Rare earth magnet recycling ●Semiconductor materials*4
 **(14) Lifestyle-related industries**	• Total management of housing and transportation (combination and optimization of ZEH, ZEB, demand-side equipment, local renewable energy, electric vehicles and fuel cell vehicles, etc.)	●PVC (resin window, PVC pipe, wire coating) ●Semiconductor materials*4 ●Rare earth magnet ●Silicone ●Anode material for storage batteries ●Photocatalyst Coatings ●Low Friction Compound (Wire coating)

*2 Source: "Green Growth Strategy Through Achieving Carbon Neutrality in 2050" (announced by the Japanese government in June 2021)

*3 Future products are included. The colors of the letters of products and technologies indicate business segments.

【Business segments】 ●Infrastructure Materials ●Electronics Materials ●Functional Materials ●Processing, Trading & Specialized Services

*4 Semiconductor materials refer to silicon wafers, photoresists, mask blanks, sealing materials, pellicles, synthetic quartz glass substrates, high-purity silane, etc. Semiconductor materials fall under the semiconductor industry in field (6), but semiconductors manufactured using semiconductor materials contribute to control systems and other applications in a variety of fields, so they are also listed in fields other than (6).

Climate Change: Contribution through Product Characteristics

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

The Shin-Etsu Group's various products are developed while considering their contributions to reducing greenhouse gas emissions, energy conservation, and resource conservation at the stage of use. These products are used in a wide range of fields such as industry, daily life, and renewable energy. Going forward, we will continue to develop products that contribute to carbon neutrality.

Silicones

The Group produces over 5,000 silicone products, including household products and products for the automotive, construction, and energy sectors. While being put to each of their uses, these products are contributing to reductions in greenhouse gas emissions.

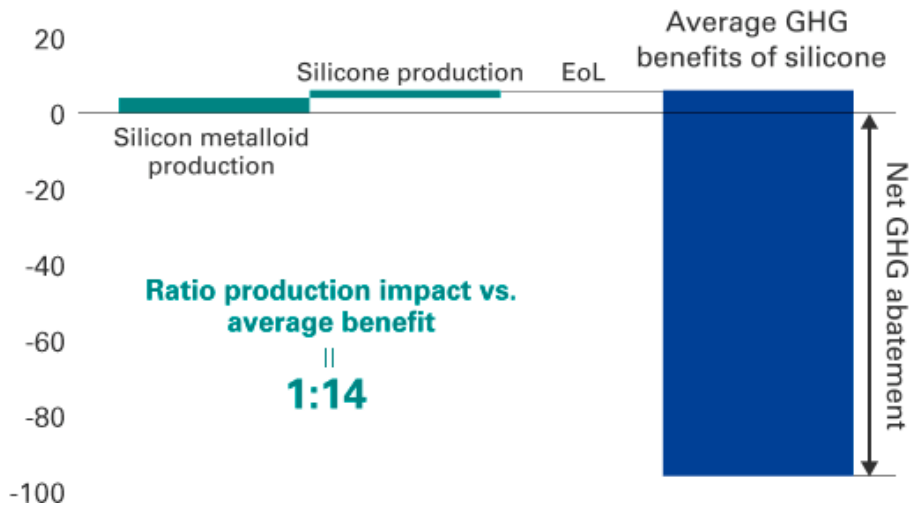
In March 2024, the Global Silicones Council carried out a study of the entire silicones market, examining silicone greenhouse gas emissions at the phase of production and how much greenhouse gas emissions are curbed by the use of silicone, in comparison to silicone substitutes and alternative methods.* The study found that the silicone used as a product has the effect of reducing emissions by 14 times that of greenhouse gases emitted during the manufacturing and disposal of silicones. This is equivalent to a reduction of 159 million CO_2-tons of greenhouse gases annually.

Silicone used in automobiles, construction account for the greatest share of overall silicone greenhouse gas emissions reductions. Silicone is contributing significantly to the improvement of sustainability.

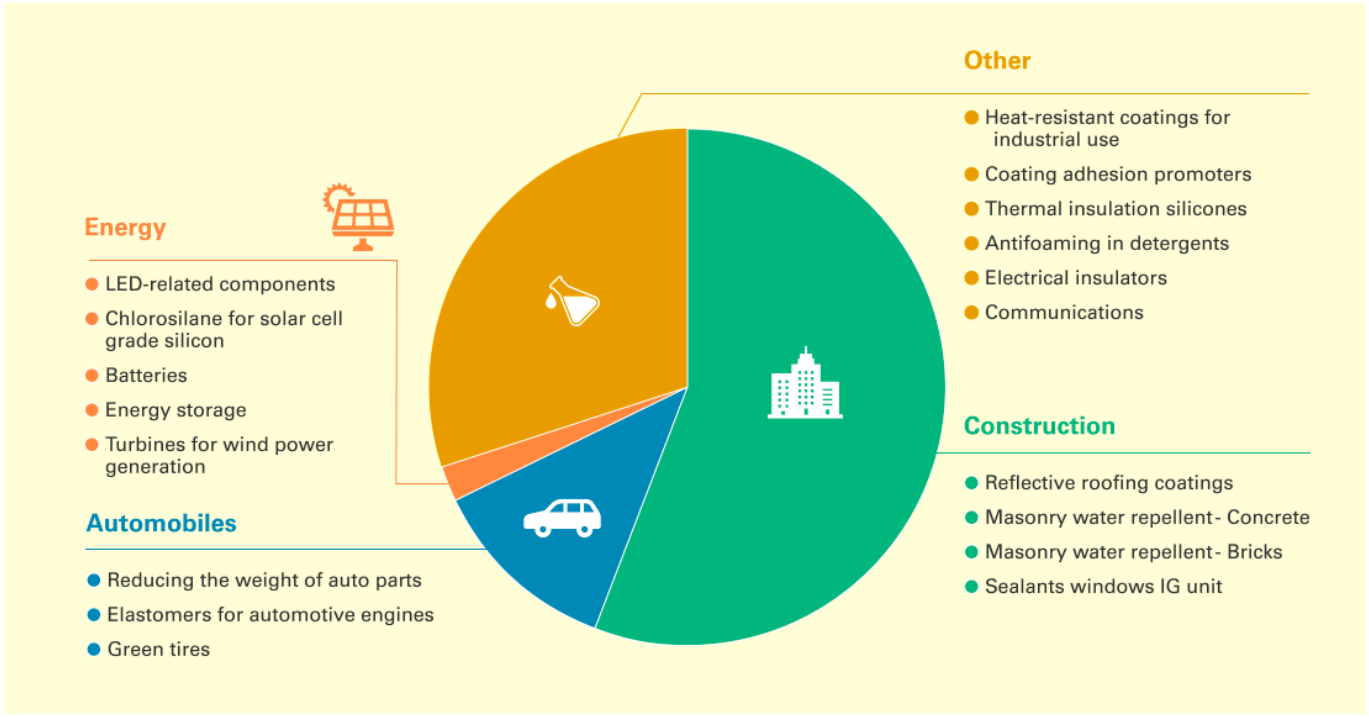
* Global Silicones Council and Silicone Industry Association of Japan, "Carbon Balance of Silicone (FY2024)"

Reduction of Greenhouse Gas Emissions by the Use of Silicone

(kg CO_2/kg average)



Fields in Which Silicone Use is Reducing Greenhouse Gas Emissions, and Major Silicone Uses



TOPIC Silicone rubber that can reduce energy consumption during manufacturing

When customers process and mold silicone rubber, after the initial molding, further heating (a post cure) is required for the purpose of removing low molecular siloxanes in the molded product and improving and stabilizing its physical properties. Shin-Etsu Chemical has developed and sells molding silicone rubber that does not require a post cure after molding. By using this silicone rubber, customers can achieve energy savings during manufacturing, improve productivity by reducing manufacturing time, and save space by eliminating the need for a dryer machine.

To meet the increasing demand from customers for this silicone rubber, we plan to expand the production facilities at both the Shin-Etsu Chemical Gunma Complex and Shin-Etsu Silicones Thailand.

The web page below allows you to calculate how much CO_2 emissions can be reduced without a post cure.

› Easy CO_2 Emission Reduction Calculator (only available in Japanese)

Related Information

› Shin-Etsu Silicones

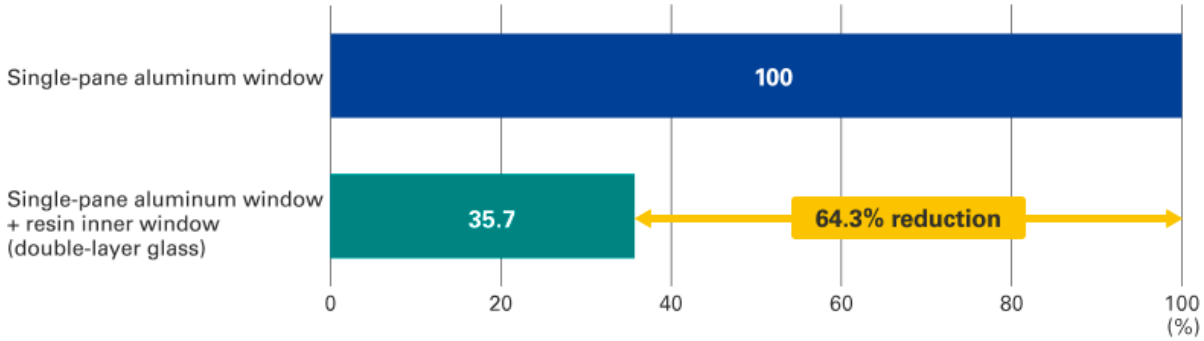
Polyvinyl Chloride Resin (PVC)

Approximately 60% of the raw materials used in PVC are salts, which are abundant throughout the world. Compared to other general-purpose resins, the benefits of PVC include a low dependence on petroleum resources, placing a relatively small burden on the environment. The process of manufacturing PVC from raw materials uses around 60% of the energy required to make other general-purpose resins. Highly durable and easy to recycle, PVC is used for a wide range of social infrastructure materials, including vinyl windows, water and sewerage pipes, public works and other construction.

Compared to aluminum, PVC-framed windows have lower thermal conductivity and are superior in insulating properties, so they are expected to protect indoors from the heat and cold of the outside air and save energy. Installing resin inner windows (double-layer glass) in single-pane aluminum windows can reduce the amount of heat loss from windows by 64% compared to single-pane aluminum windows alone.*1 By reducing the amount of heat that enters or leaves your home through windows, you can maintain a comfortable room temperature and also save energy.

PVC-framed windows have become mainstream in Europe and the United States. In Japan too, the Ministry of the Environment is promoting the use of PVC-framed windows by supporting insulation renovation work through subsidies as part of its Advanced Window Renovation Project, which aims to accelerate energy saving and CO_2 emissions reduction in homes. In Japan, shipments of PVC-framed windows in FY2024 remained at a high level at 29,951 tons*2. In addition, the ratio of PVC-framed windows in detached houses in Japan increased by 3.2% from the previous year to 36.4%. Looking specifically at Hokkaido, which is a cold region, 96.1% of the windows of detached houses are made of PVC. Furthermore, 76.9% of the windows in apartment buildings are made of PVC*3. Adopting PVC-framed windows in Japanese detached houses by 2030 would enable the reduction of carbon dioxide emissions by 640,000 tons per year*4.

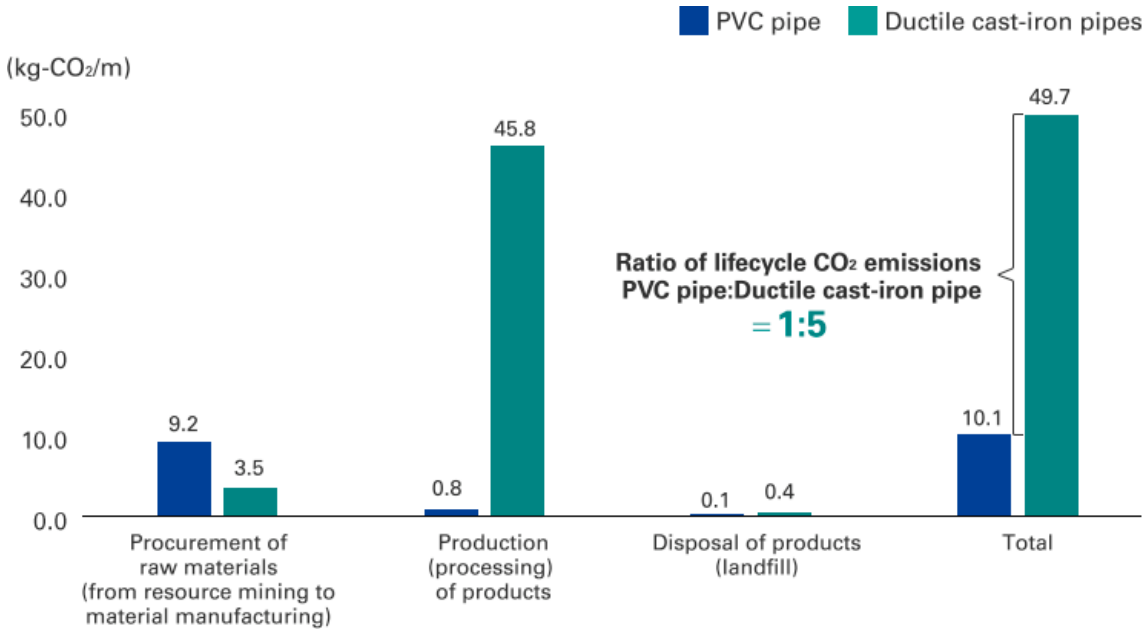
Comparison of Heat Loss from Windows



*1 Japan Construction Material & Housing Equipment Industries Federation website
*2 Vinyl Environmental Council, “Vinyl chloride resin production and shipment results by product”
*3 Japan Sash Manufacturers Association “March 2025: Residential building material usage survey”
*4 Japan Chemical Industry Association, “Case Studies of Carbon-Life Cycle Analysis (cLCA) Looking to 2030 (4th Ed.) No. 04: PVC-framed windows”

PVC pipes and fittings are products with a history spanning more than 50 years. Based on this track record and their outstanding features, PVC products are used in a wide range of applications, including water pipes and sewer pipes. As an important material that supports society from the ground up in terms of convenience, economy, and resource conservation, PVC plays an important role in our daily lives. Compared to ductile cast-iron pipes*5, PVC pipes have only 1/5 the total CO_2 emissions*6 per meter over their lifecycles. If all ductile cast-iron pipes in Japan were replaced by PVC pipes by 2030, it would be possible to reduce CO_2 emissions by 1.79 million tons per year*7.

CO_2 Emissions Per Meter of Pipe



*5 Ductile cast-iron pipes
Pipes made of spheroidal graphite and iron in which the shape of the precipitated graphite in the cast iron structure is changed from flakes to spherical nodules. It has more than twice the strength and toughness of flake graphite cast iron.
*6 Lifecycle CO_2 emissions
Total CO_2 emissions from product raw material collection to manufacturing, use, disposal, and recycling.
*7 Japan Chemical Industry Association "Case Studies of Carbon-Life Cycle Analysis (cLCA) Looking to 2030 (4th Ed.) No. 05: Piping Materials"

Related Information

- Shin-Etsu Chemical - Polyvinyl chloride (PVC)
- Japan Chemical Industry Association
- Vinyl Environmental Council
- Japan Sash Manufacturers Association (only available in Japanese)
- Japan Construction Material & Housing Equipment Industries Federation (only available in Japanese)

Rare Earth Magnets

Rare-earth magnets are roughly 10 times as strong as conventional ferrite magnets, offering a great deal of magnetic force despite their compact size. These properties allow them to contribute to making motors for hybrid and electric vehicles, energy saving air conditioning compressor motors, and the like more compact, lightweight, and high powered. For example, using rare-earth magnets in air conditioning compressors can improve energy efficiency by 5 to 10%. This cuts overall power usage, helping to reduce carbon-dioxide emissions. Rare-earth magnets are also used in wind power generation motors, contributing to the spread of renewable energy.

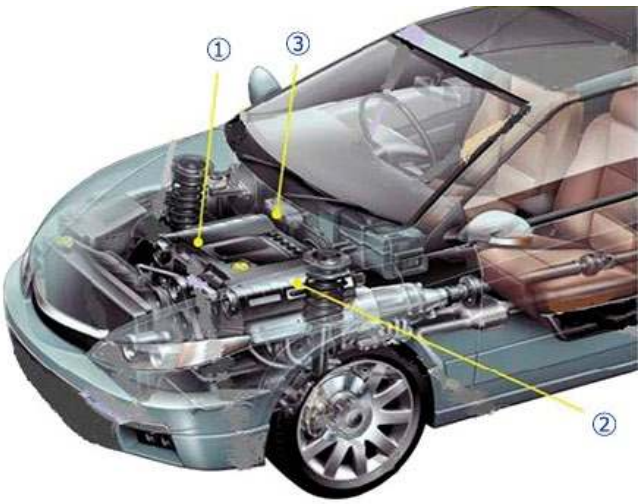
Related Information

- Shin-Etsu Rare-Earth Magnets

Column: Shin-Etsu Group's products support Eco-friendly cars

The Company's neodymium magnets*1 are used in drive motors and generators, which are the most important core unit of eco-friendly electric vehicles (EVs) and hybrid vehicles (HVs). The Company's silicon wafers, sealing materials, and heat dissipation materials are also used in power control units for system control.

Compared to gasoline cars, HVs can reduce carbon dioxide emissions when driving by about 40%, while EVs can reduce emissions by 100%*2.



(1) Drive motors and generators(Neodymium magnets)
- Smaller and lighter
- Heat-resistant
- Reduced overcurrent

(2) Starters and generators(Neodymium magnets)
- High-powered
- Heat-resistant

(3) Power control units(Silicon wafers, encapsulant materials, and thermal interface materials)
- Smaller and lighter
- High sealing performance
- Heat-dissipating properties

We also incorporate a carbon neutral perspective into the production of our products. At Shin-Etsu Magnetics Philippines, Inc., which is a production plant for rare earth magnets, solar panels with a generating capacity of approximately 1,200 kW were installed and began operation in June 2023. This will make it possible to reduce CO_2 emissions by 1,026 tons per year. In Japan, Shin-Etsu Chemical's Takefu Plant has installed solar panels with a power generation capacity of 137 kW, which are expected to reduce CO_2 emissions by 62 tons per year. The Company is promoting the stable supply of various products used in eco-friendly cars and the development of new products, and the shipment volume of such products is increasing year by year. The Company' products are making a significant contribution to reducing CO_2 emissions.

*1 Neodymium magnet
A type of rare earth magnet with very strong magnetic force, composed mainly of neodymium, iron, and boron. It contributes to the miniaturization and reduction of energy consumption of motors and other devices with its strong magnetic force.

*2 Source: "Contributing to Lower Emissions through the Global Value Chain" by Keidanren (Japan Business Federation)

Contributions of the Company's neodymium magnet to reducing CO_2 emissions due to its use in eco-friendly car

In response to policies aimed at carbon neutrality in countries around the world, the proportion of eco-friendly vehicles is rapidly increasing. The global proliferation of eco-friendly vehicles is expected to reduce CO_2 emissions by 458.74 million tons per year by 2030*3. The International Energy Agency (IEA) predicts that electric vehicles will account for more than 50% of global sales by 2035*4.

*3 Japan Chemical Industry Association "Case Studies of Carbon-Life Cycle Analysis (cLCA) Looking to 2030 (4th Ed.) No. 05: Next-Generation Automotive Materials"

*4 Source: "Global EV Outlook 2024" by IEA

Future issues and challenges

- Neodymium magnets: Promote a stable supply system by expanding production facilities and recycling technologies, and improve the performance of magnets while reducing their size and weight
- Silicon wafers: Stable supply of high-quality silicon wafers that support miniaturization and other requirements
- Encapsulant materials: High sealing performance and insulation properties
- Heat dissipation materials: High heat dissipation properties

Water Resource Conservation

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Approach to Water Resource Conservation

There are water scarcity areas in the world, and the United Nations Environment Program (UNEP) has predicted that the issue of water scarcity in some regions will become serious by the year 2025.

The Shin-Etsu Group's major manufacturing plants are located where clean water is abundant. However, we recognize that tackling water shortages around the world is an important issue for us to work on. The Group carries out water risk assessments and works proactively study for the technology for the conservation of water resources by reducing water withdrawal, ensuring that water is recycled, and implementing thorough wastewater purification and water quality management.

In addition, we are working to recycle water to the utmost limit, and we also properly treat the water that is finally discharged, comply with regulations concerning water contaminants when discarding water, and check the water quality ourselves for verification.

Initiatives Aimed at Conserving Water Resources

Effective Use of Water Intake and Thorough Water Quality Management (Gunma Complex)

The Shin-Etsu Chemical Gunma Complex manufactures highly functional materials such as silicones. Located inland in the southwest region of Gunma Prefecture, the complex draws almost all of the water required for manufacturing from nearby rivers and purifies the wastewater from the complex before discharging it.

The Gunma complex is situated in a rich natural environment. The Tokyo metropolitan area is downstream from the nearby rivers, which sustain the daily lives of Tokyo residents as well as its industry and agriculture. Although the manufacturing of chemical products requires large quantities of water, the complex strives to conserve valuable water resources by keeping its water intake from these rivers to a minimum. For this reason, the complex reuses as much water as possible in its manufacturing and water cooling processes by recycling and circulating inside the Complex.

Besides purifying the water before returning it to the rivers, rigorous water quality management is also applied. The Complex strives to maintain optimum conditions by continually monitoring the operating status of water treatment facilities and conducts regular water quality analysis of discharged water to verify that it is in strict compliance with high water standards. Furthermore, it separate rainwater to prevent the inflow of rainwater during heavy downpours as a measure to protect their treatment facilities from being damaged by natural disasters. In addition, it have been carrying out seismic strengthening works since 2014 in preparation of large-scale earthquakes.

By effectively utilizing limited water resources, the Gunma complex will continue to fulfill its responsibility as a production base that is located upstream.

For specific examples of initiatives at the Gunma Complex, see Reduction of Environmental Impact in Plants: Gunma Complex.

Rainwater Utilization (Thailand: Asia Silicones Monomer Limited)

Calls are increasing for the protection of the world's water resources, and since its foundation, Asia Silicones Monomer Limited has been making effective use of the abundant rainfall it enjoys in its location in Thailand.

It stores rainwater in storage tanks on-site, using it for industrial water and as coolant for waste gas incinerator. It always maintains a reserve of rainwater for use in firefighting in the event of an emergency. It also supplies Group company Shin-Etsu Silicones (Thailand) and its nearby partners with industrial water using rainwater.

Metrics and Targets

FY2024

Targets: Reduce water withdrawal in terms of intensity at an average annual rate of 1%.
Reduce water pollutant discharge in terms of intensity at an average annual rate of 1%.

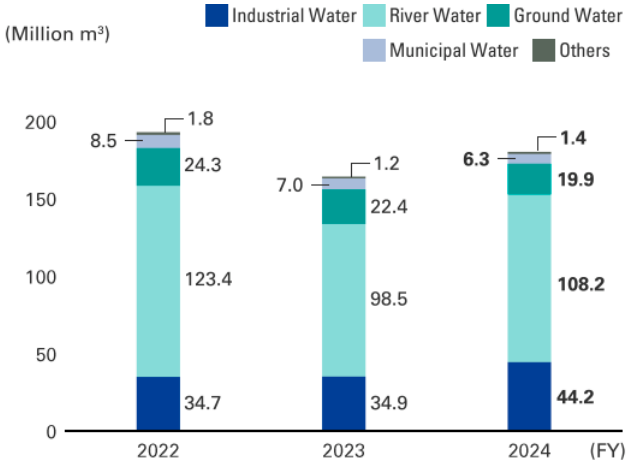
Results: Intensity at the average annual rate from FY2021 to FY2024 was decreased by 7.9% in terms of water withdrawal and decreased by 8% in terms of BOD emission.

Evaluation: The targets were achieved.

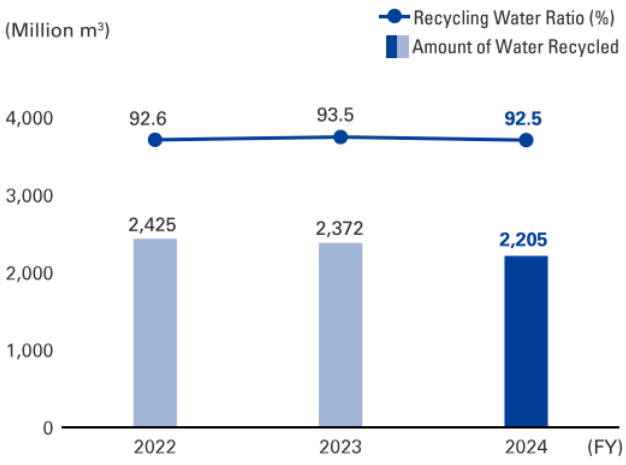
FY2025

Targets: Reduce water withdrawal in terms of intensity at an average annual rate of 1%.
Reduce water pollutant discharge in terms of intensity at an average annual rate of 1%.

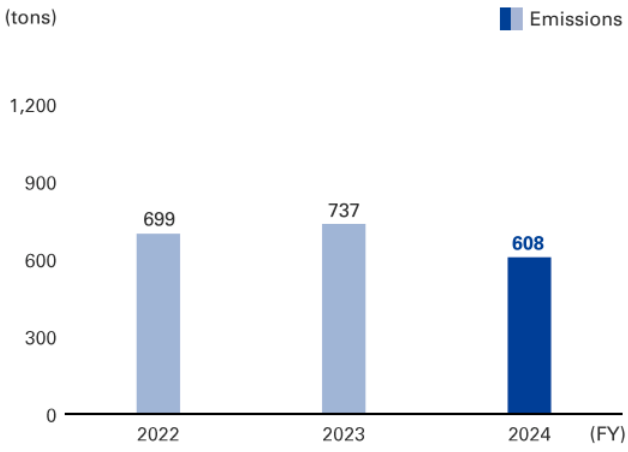
Trend of Amount of Water Withdrawn



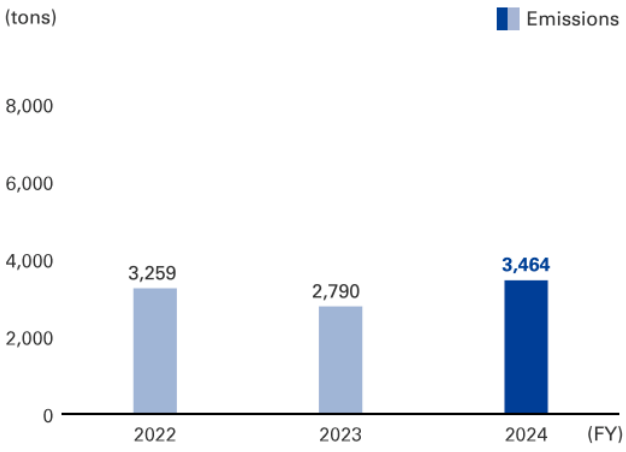
Trend of Amount of Recycled Water



Trend of BOD Emission Volume



Trend of COD Emission Volume



Related Information

Sustainability Data

Resource Saving

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Approach to Resource-saving

The Shin-Etsu Group recognizes that the efficient use of limited resources and a circular economy* are key issues that companies should address. By making effective use of resources, we aim not only to contribute to the global environment, but also to increase our competitiveness and ensure sustainable development.

In terms of resource circulation, the Group collaborates with customers and related industry groups, using cutting-edge technologies to recover used products, extract resources, and reuse them in the Group's products. Through these initiatives, it is possible to reduce the waste output of our customers and the Group itself. We are also contributing to environmental conservation by reusing resources.

In addition, we are promoting waste reduction initiatives at each location with a target of zero waste emissions (landfill waste of 1% or less of the final amount of all waste generated) at our consolidated companies in Japan.

* Circular economy
Economic activities to recycle and circulate existing resources, such as converting waste after use into resources for another business

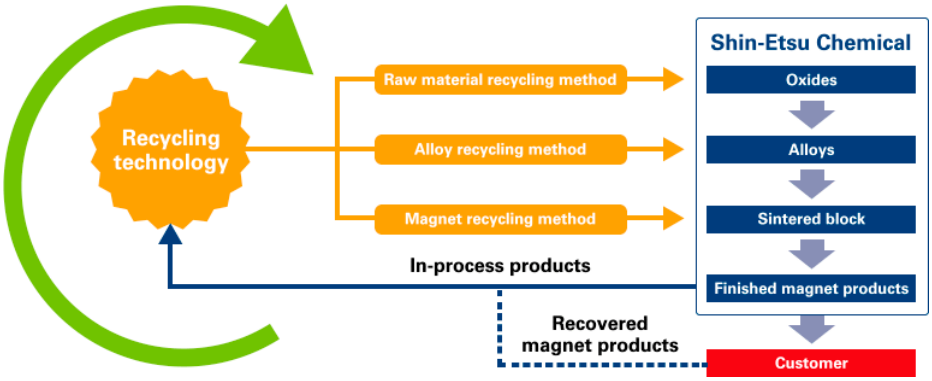
Initiatives for Resource Circulation

Recycling of Waste Materials (rare earth magnets)

The Group manufactures rare earth magnets with our integrated production process using separation and refinement techniques to extract rare earth magnets from rare earth raw materials.

Since 2007, the Group has been recycling the magnet powder generated by our manufacturing processes for rare earth magnets as one of our measures for the stable procurement of raw materials. Furthermore, since March 2013, we have also been developing techniques to recycle the rare earth magnets used in recovered power-saving air conditioners and hybrid cars in order to reuse resources.

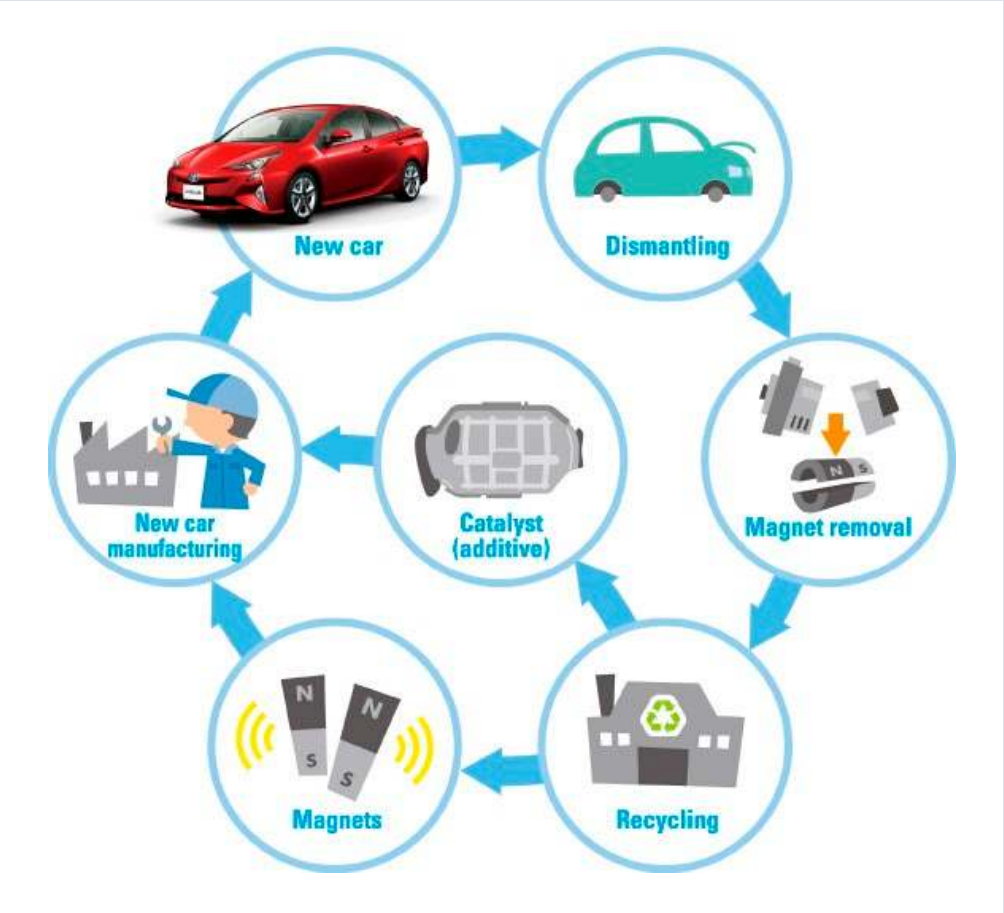
These initiatives have made it possible to reduce the environmental impact that comes along with resource development and to safely and securely protect the valuable resource of rare earth. The Group's rare earth magnets create significant economic and social value as recycled products and also contribute significantly to energy conservation.



Rare Earth Magnet Resource Recycling Process

Case Study　Magnet recycling project with Toyota Motor Corporation

The magnets used in hybrid vehicle motors contain the rare earths neodymium and dysprosium. We are collaborating with Toyota Motor Corporation to recycle the extracted neodymium and dysprosium into new magnets.

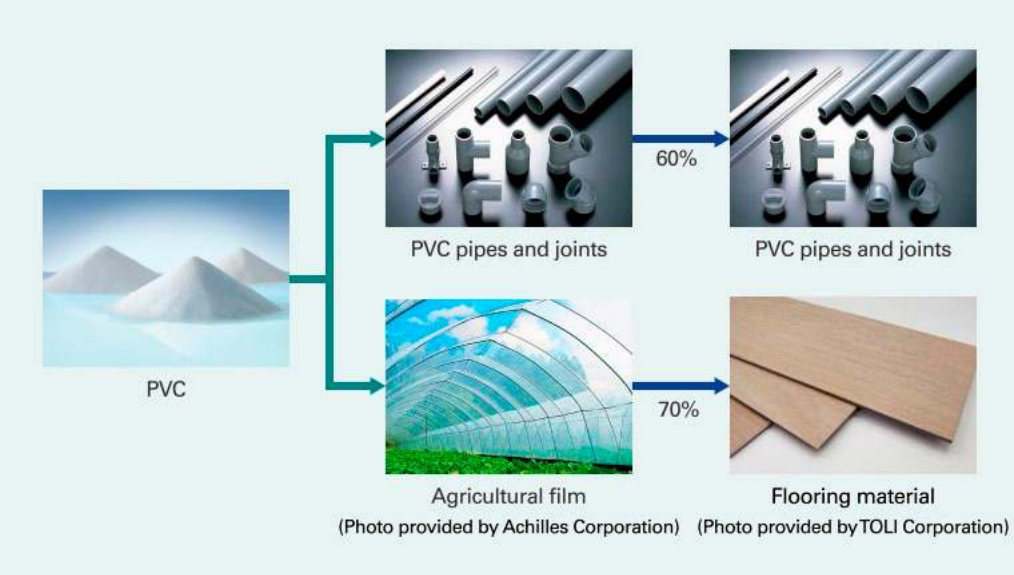


Source: “Vehicle Recycling” Toyota Motor Corporation

Recycling of Used Products (PVC)

Initiatives to recycle products containing PVC are making progress. There are various methods for recycling PVC, the most common of which is material recycling.

Material recycling uses used PVC products as raw materials to create new PVC products. PVC pipes, flooring materials, and other PVC products are not greatly influenced by foreign substance contamination, so various kinds of recycling are conducted for those products. In particular, 60% of used PVC pipes and joints are recycled for reuse in new PVC pipes and joints, and 70% of agricultural film is recycled for use in flooring material.



Examples of Recycling PVC Products

Related Information

› Vinyl Environmental Council

TOPIC **Shintech obtains +Vantage Vinyl® Silver certification**

+Vantage Vinyl® is a voluntary effort by the U.S. vinyl industry to contribute to sustainable growth. It seeks to mobilize the efforts of companies across the U.S. vinyl industry value chain to drive continuous improvement across all three sectors of sustainability—environmental, social and economic performance. Silver certification is awarded to companies that have demonstrated greater than 80% conformance to all applicable guiding principles and have implemented at least one advanced practice. The organization's recycling grant program, called VIABILITY, which is supported by Shintech and other vinyl industry companies, has awarded more than $1.6 million in grants to promote post-consumer PVC recycling. Through these efforts, the vinyl industry is working to expand the recycling and re-use of PVC.

+Vantage Vinyl® Silver certification

Related Information

› Vinyl Sustainability Council

Recycling the Use of Product Shipping Cartons

Shin-Etsu Chemical has started recycling product shipping cartons for heat-dissipating silicone grease.

Heat-dissipating silicone grease must be transported while frozen to stabilize its product quality. Therefore, we used dry ice to cool products in disposable boxes in transit in the past. As a result of extensive research conducted collaboratively with customers, the company has successfully developed the new packaging that can be recycled multiple times while maintaining optimal temperatures. In addition, this new packaging eliminates the need for dry ice. Such customer engagement also contributes to the reduction of CO_2 emissions in the supply chain.

Waste Reduction Initiatives

As part of our efforts to conserve resources, the Shin-Etsu Group is promoting waste reduction initiatives at each location with a target of zero waste emissions (landfill waste of 1% or less of the final amount of all waste generated) at our consolidated companies in Japan.

Shin-Etsu Chemical's Naoetsu Plant is promoting waste reduction through the recycling of waste and reducing the weight of the waste generated in its manufacturing processes as outlined below.

Recycling of Waste Materials

The Naoetsu Plant promotes activities to reduce waste materials generated in manufacturing and processing. For example, we take the paper materials that would otherwise be discarded in the manufacturing process, and we effectively utilize them by making recycled paper. We are also proactively considering ways to recycle the solvents from chemical reaction processes or create formulations that allow them to be reused.

Crushing device for unnecessary paper materials

Reducing the Weight of Waste for Disposal

The plant's wastewater treatment facilities separate and dehydrate the inorganic solids contained in the wastewater to make a solid sludge. This sludge is treated as industrial waste by an external contractor and is put to effective use as roadbed material and the like. At the Naoetsu Plant, we replaced the dehydrator in the wastewater treatment facility with a new model with superior dehydration performance, which reduced the amount of water in the waste sludge, thereby reducing the weight of waste for disposal. This has also reduced the energy required to transport the waste to our external contractor. We are promoting activities that can contribute to reducing environmental impact by considering all processes up to the final treatment process.

Dehydrator installed at Naoetsu Plant

Recycling of Used Organic Solvents

Organic solvents used in chemical reaction processes are usually incinerated as industrial waste, but the Naoetsu Plant is working to reduce the amount of waste solvent that becomes industrial waste by refining and recycling solvents that have already been used. In FY2024 we continued to increase the variety and volume of recovered solvents through process improvements, achieving a further 13-ton reduction in waste solvents compared to the previous fiscal year. Going forward, we will continue to study process improvements to conserve resources and reduce environmental impact.

Metrics and Targets

FY2024

Targets: Achieve zero waste emissions.
Promote the reduction of waste generation in terms of production intensity.
Results: The final waste landfill disposal rate was 0.86% in Japan
Evaluation: The target was achieved in Japan

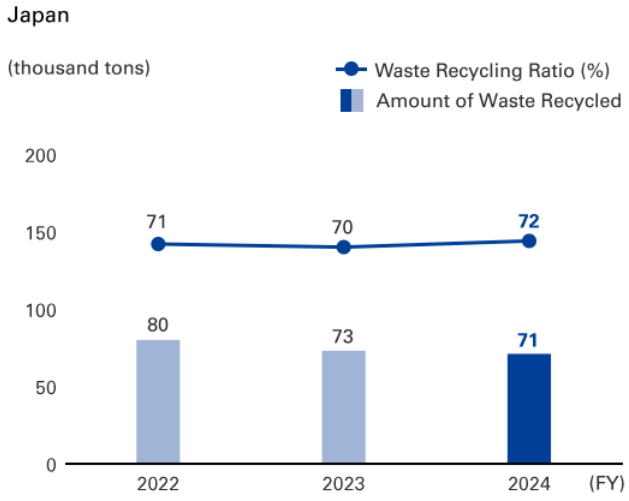
FY2025

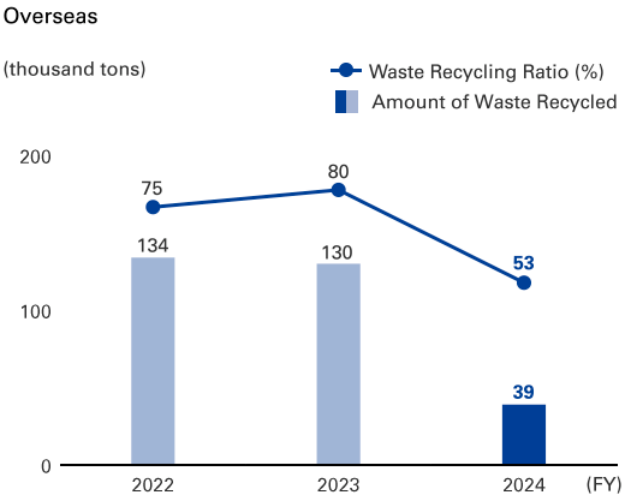
Targets: Achieve zero waste emissions.
Promote the reduction of waste generation in terms of production intensity.

* The scope of target for the waste reduction is Shin-Etsu Chemical Co., Ltd. and consolidated in Japan.

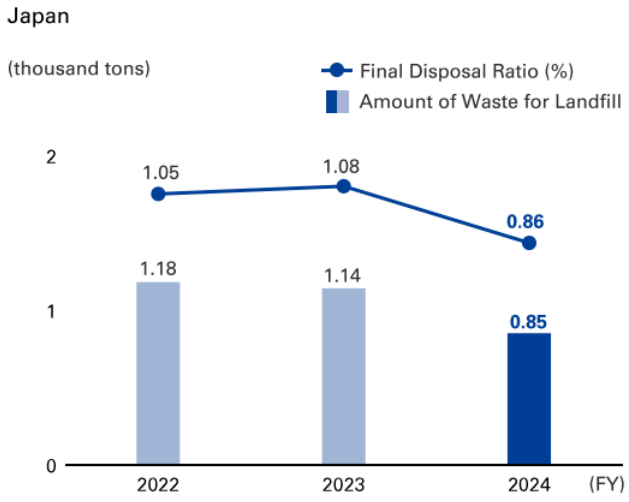
We outsource waste disposal to an external contractor (a company licensed under Japan's Act on Waste Management and Public Cleaning). We check to confirm that they handle disposals properly by regularly inspecting their operations.

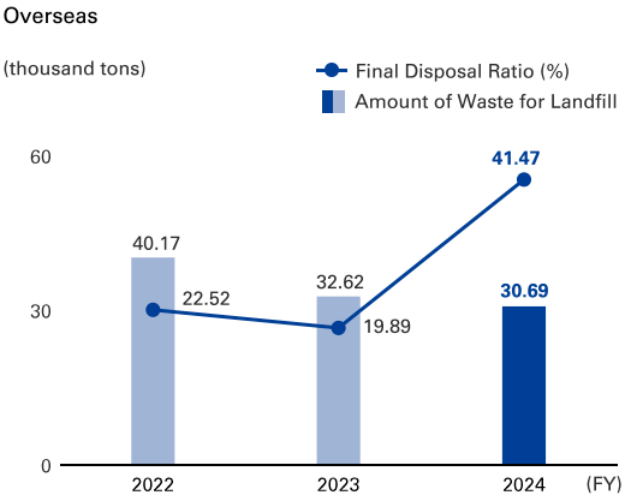
Trend of Amount of Waste Recycled*





Trend of Amount of Waste Sent to Landfills*





* Since the standards of waste differs between Japan and other countries, the graphs are shown separately.

Related Information

› Sustainability Data

Biodiversity and Pollutant Countermeasures

Key sustainability issues relevant to this page

Energy-saving, resource-saving, and reduction of the environmental impacts

Conservation of Biodiversity

The Shin-Etsu Group aims to design environmentally considerate product starting from the product development stage. At the same time, we are also meeting our responsibilities as a chemical company by working actively to ensure the strict control of chemical substances, mitigate global warming, reduce energy consumption, reduce the amount of waste generated, prevent air and water pollution, and make other environmental contributions. We are also engaged in activities such as tree planting at our plant sites in compliance with the Factory Location Act and voluntary river cleaning in areas around our plants. Furthermore, we request our suppliers to implement environmental conservation initiatives in accordance with our CSR procurement guidelines.



Animals and plants that live and grow in the premises of our factories (Shin-Etsu Handotai Shirakawa Plant)

Biodiversity Conservation Efforts of Our Pulp Suppliers

We have purchased pulp derived from wood as the main raw material of cellulose derivatives. When purchasing pulp, we ask all our pulp suppliers to consider the conservation of biodiversity, and we have confirmed that they have all obtained national and/or international forest certifications. In addition, we work hard to learn about our pulp suppliers' biodiversity activities.

Participated in a Meeting of the Roundtable on Sustainable Palm Oil (RSPO)

In February 2021, the Company participated in a meeting of the Roundtable on Sustainable Palm Oil (RSPO) as an associate member. The RSPO is a non-profit organization that promotes sustainable growth and use of palm oil by way of cooperation within the supply chain and open dialogue with interested parties. The Company agreed with the purpose and participated in the RSPO, and obtained mass balance certification in March 2023.

Related Information

› Environmental Accounting

Pollutant Countermeasures

Reduction of Chemical Emissions

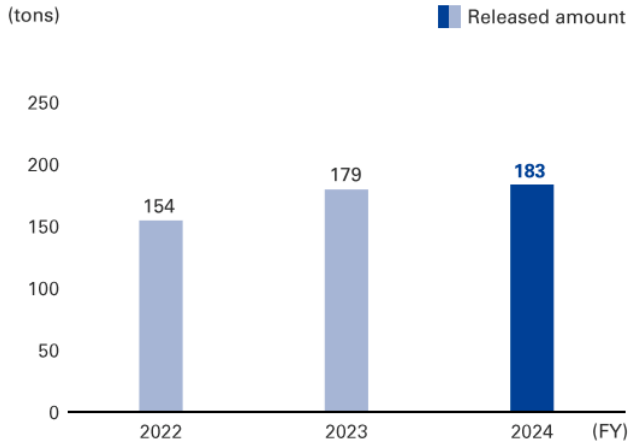
We strives to prevent health hazards and minimize the environmental impact of chemical substances in the processes of development, manufacturing, distribution, use, consumption and disposal. We appropriately design chemical substances in accordance with laws and regulations, evaluate their safety based on the latest information collected in cooperation with government agencies and affiliated organizations, manufacture our products using optimal facilities, and strive to reduce emissions of chemical substances. For example, we are taking measures to reduce the amount of chemical substances we use that are released into the environment and transferred through the Chemical Substances Control Law*1 and the PRTR system*2. Furthermore, in order to minimize the impact of chemical substances on workers, we are promoting the reduction of emissions and the use of safer alternatives by improving processes and equipment through the implementation of risk assessments of chemical substances, as mandated by the revised Industrial Safety and Health Act.

With the enforcement of the revised PRTR Law, silicon carbide and other substances have become a Type 1 designated chemical substance and is now subject to reporting from 2023 onwards, which has resulted in a significant increase in the total transferred volume of PRTR controlled substance.

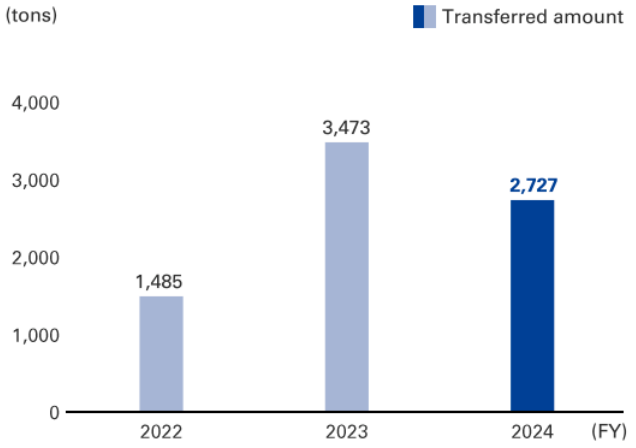
The Group does not use or produce substances that fall under the Stockholm Convention on Persistent Organic Pollutants*3.

*1 PRTR system
Chemical substance release and transfer notification based on the "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof"
*2 PRTR Law
Short for "Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof," it is intended to promote the voluntary control of chemical substances by business operators in order to prevent the risk of damaging the environment.
*3 Stockholm Convention on Persistent Organic Pollutants
It is a convention that prohibits or restricts the production, use, export, or import of designated substances for the purpose of reducing persistent organic pollutants that would require immediate attention. It is also known as the Stockholm Convention or POPs Convention

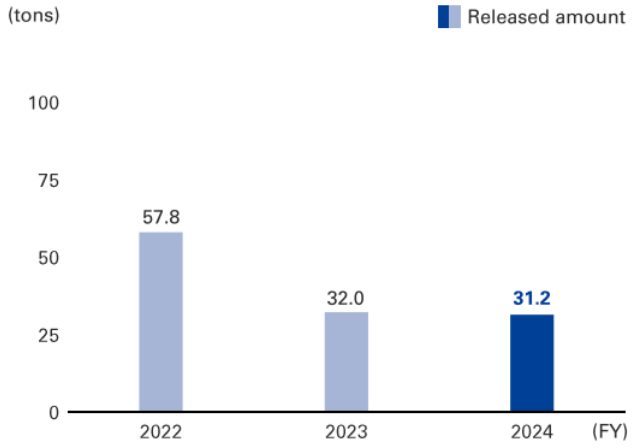
PRTR Controlled Substance: Trend of Total Amount Released



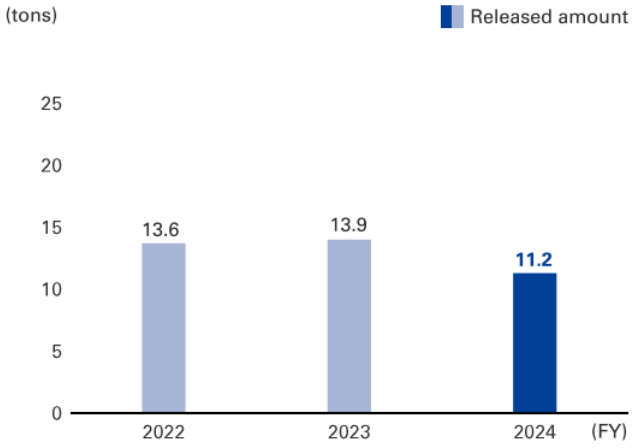
PRTR Controlled Substance: Trend of Total Amount Transferred



PRTR Controlled Substance: Chloromethane Release Trend



PRTR Controlled Substance: Chloroethylene Release Trend



* The figures are aggregated only for Shin-Etsu Chemical and consolidated companies in Japan.
* The amount of emissions of substances designated by the PRTR system changes depending on the production volume.

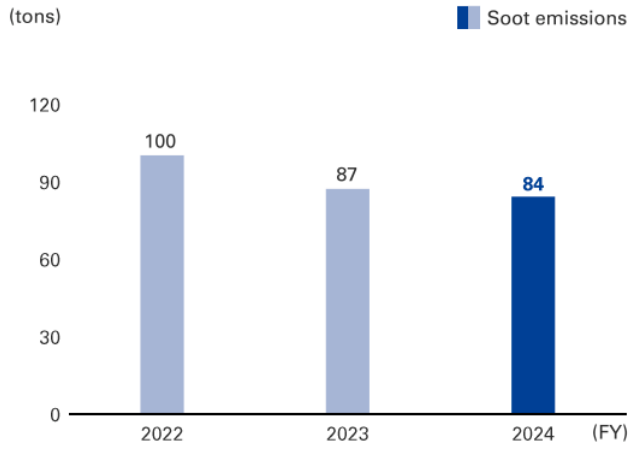
Monitoring of Air and Soil

The Group is working to reduce emissions of air pollutants by setting emission reduction targets at each of our Group companies and by converting to the use of fuel components with less sulfur. Each group company carried out regular investigations on their emitted gas to confirm that they comply with laws and regulations.

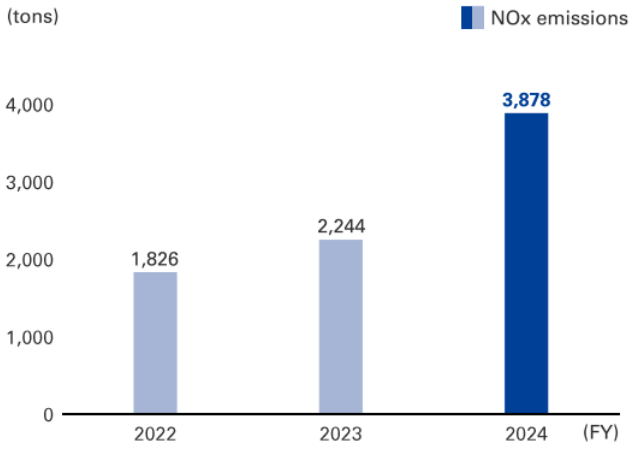
Groundwater and soil monitoring is carried out at each plant in accordance with the Soil Contamination Countermeasures Act, and we make sure that we are in compliance with laws and regulations. In FY2024, the company performed groundwater and soil monitoring 260 times at its plant sites.

FY2024
Target: Reduce emissions of air pollutants in terms of production intensity at an average annual rate of 1%. **Results:** The annual average rate from FY2021 to FY2024 is an increase of 14.1% in Soot in terms of intensity, and an increase of 1.3% in SOx in terms of intensity. **Evaluation:** The targets were not achieved.
FY2025
Target: Reduce emissions of air pollutants in terms of production intensity at an average annual rate of 1%.

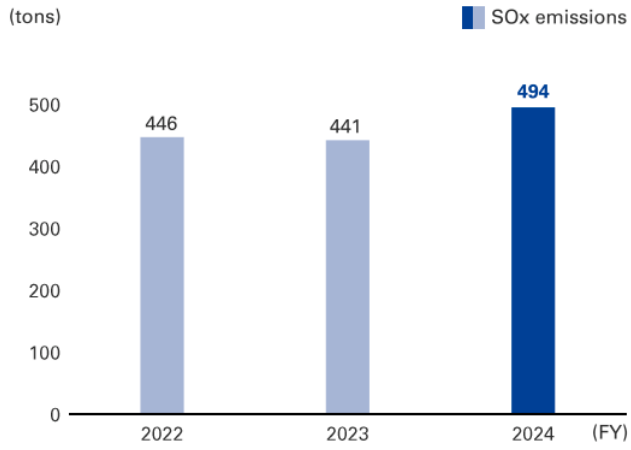
Soot Emissions Trend



NOx Emissions Trend



SOx Emissions Trend



Related Information

Sustainability Data

Occupational Health and Safety / Safety and Disaster Prevention

Key sustainability issues relevant to this page

Health and safety of employees and contractors

Basic Policy

As a manufacturing company, safety is a fundamental prerequisite for our business operations. We have established and comply with operation management regulations, facility management regulations, and environmental safety management regulations with the goal of improving our standards of occupational health and safety and disaster prevention to ensure the safety and health of our employees and stable operations within the Group.

Occupational Health and Safety, Safety and Disaster Prevention Management

Priority Issues and Implementation Items

Shin-Etsu Group is committed to three safety-related code of conduct: (1) strictly complying with “rules and procedures,” (2) identifying and promptly eliminating “risks latent in the workplace,” and (3) enhancing “sensitivity to danger.” We carry out safety management activities in accordance with our code of conduct. During National Safety Week*1, which is held every July, the president delivers a message to all employees working in the Group and thoroughly familiarizes them with the Company’s three codes of conduct related to safety.

We create the “Shin-Etsu Group Environmental Safety Management Plan” every year in accordance with the Responsible Care Codes*2 and set numerical goals in the plan for occupational safety and disaster prevention.

Based on this management plan, the entire Group is working to prevent serious disasters, such as explosions and fires, and to prevent occupational accidents.

*1 National Safety Week
A week to promote activities to prevent occupational accidents and work to further improve awareness of safety and safety activities in the workplace. Advocated by the Ministry of Health, Labor and Welfare and the Central Industrial Accident Prevention Association.

*2 Responsible Care Codes
Responsible Care Codes set the basic conditions for the implementation of Responsible Care. They consist of seven codes, including Management System Code for administration, in areas such as environmental preservation, disaster prevention, occupational health and safety, and distribution safety.

Flow of Environmental Safety Management Initiatives

Environmental Safety Management Plan

Implementation Status, Evaluation, and Planned Implementation Items PDF

Reporting of Incidents and Lost-time Accidents

The Shin-Etsu Group is working to create a comfortable and safe workplace whose goals are the achievement of “zero serious accidents” and “zero lost-time accidents.” Lost-time accidents rate for the Shin-Etsu Group in Japan was significantly lower than the industry average in Japan. In order to achieve our goal of zero lost-time accidents, we have analyzed causes for each accident and promptly implemented measures based on the elimination of hazardous operations and equipment safety protection. Furthermore, we are working on revising the operation manuals to help prevent re-occurrence of occupational accidents. In addition, the occurrence of occupational accidents is reported to directors and department heads at monthly business report meetings.

Lost-time Accidents Rate*3

Scope	FY2022	FY2023	FY2024
Shin-Etsu Chemical and its domestic consolidated companies	0.00	0.15	0.13
Industry average (JCIA)	0.43	0.47	0.47

*3 Calculated on a calendar year basis.

TOPIC

Shin-Etsu Handotai Takefu Plant wins Fukui Labor Bureau’s Director Award of Excellence Breaks previous accident-free record

In 2024, Shin-Etsu Handotai’s Takefu Plant was awarded the Fukui Labor Bureau’s Director Award of Excellence. The award recognizes business establishments that have achieved a zero-accident record for a period of time specified for each industry. The Shin-Etsu Handotai’s Takefu Plant continues to maintain its accident-free record since achieving the Type V Zero-Accident Certificate last year, and since it began operations in 1970, had achieved 17.22 million accident-free hours as of December 2024. The plant received the award for the second time since 1981, in recognition of effective activities such as its active collection of close calls and other incidents of concern, improvement activities carried out by labor and management working together, and patrols conducted by multiple safety committees with different themes.

Receiving Fukui Labor Bureau’s Director Award of Excellence
(July 2024, Shin-Etsu Handotai Takefu Plant)

Occupational Health and Safety Initiatives

Ensuring Worker Safety

At Shin-Etsu Group's plants all over the world, risk assessments are undertaken to comprehensively identify and eliminate risks that could lead to injury or illness. When a risk is identified, the first step is to eliminate or minimize it. In cases where a risk remains, we take various safety measures such as providing workers with individual protective tools, measures to prevent entry into dangerous areas and posting of off-limits signs in dangerous areas, and locking out*1 machines and equipment from the power source that drives them and tagging out*2 machines and equipment. We also take safety measures including attaching safety devices to machines and equipment, and installing fail-safes*3, foolproof mechanisms*4, and interlocks*5 as protective walls. In addition, we practice KY*6 hazard prediction activities and make sure to indicate and name all relevant equipment prior to working in order to reconfirm safety.

*1 Lock out
Blocking the power source by locking the switches of machines and equipment so that they cannot be operated.
*2 Tag out
Attaching tags to areas where machines and equipment have been locked out, which signifies that operating the machines and equipment is prohibited until the tags are removed.
*3 Fail-safe
Controlling equipment and systems so that they always operate safely if a problem occurs due to an error or malfunction.
*4 Foolproof
Taking measures in advance so that safety is ensured even if workers operate machines and equipment incorrectly.
*5 Interlock
A concept for safety devices and mechanisms in which machines and equipment do not work unless certain conditions are met.
*6 KY
Hazard prediction activities in which workers check about safe working methods in order to prevent the occurrence of a disease or injury that could potentially occur during the task, and securely apply the methods.

Basic lifesaving training (guidance from the fire department)
(July 2024, Shin-Etsu Chemical Gunma Complex)

Close-call Incidents and Other Concerns

The workers take measures against unsafe areas by regularly gathering information on close-call incidents from workers who experienced them. At the same time, we share our risk information and prevent similar accidents by disclosing this risk information internally and externally. Furthermore, during National Safety Week8, which is held every July, the president delivers a message to all employees working in the Group and thoroughly familiarizes them with the company's three code of conduct related to safety.

Examples of Close-call Incidents Experienced During Daily Work

2025.01.31 Updated of Close-Call (Hiyari-Hatto) Incidents
2024.07.31 Updated of Close-Call (Hiyari-Hatto) Incidents
2024.01.31 Updated of Close-Call (Hiyari-Hatto) Incidents

Consideration for Employees' Health

The Group is working to create a comfortable and safe workplace based on the idea that each person's physical and mental health improves the overall workplace atmosphere and productivity. We are conducting measures to prevent the development of possible diseases such as encouraging employees to take health checks, offering health counseling on lifestyle diseases, and promoting measures on mental health and activities for health promotion and fitness. In addition, we are implementing measures for infectious diseases, including COVID-19. In 2024, Shin-Etsu Silicones Europe organized a health event aimed at promoting employee health and fostering a healthier work environment.

Our head office and branch offices have a Health Committee, and each plant has a Safety and Health Committee. The committees work to improve the workplace environment and promote the workers' health with advice and information from industrial physicians. We also have special programs such as physical fitness checks and seminars to help workers maintain and improve their physical condition. Furthermore, we offer an outside Family Health Consultation Service, which can be used by our workers and their families, with our health insurance union and an insurance company. It is available 24 hours a day.

Occupational health and safety campaign
(July 2023, Shin-Etsu Polymer Malaysia)

Company health day
(September 2024, Shin-Etsu Silicones Europe)

Safety and Disaster Prevention Initiatives

Facility and Process Safety Improvement

The prevention of serious accidents is a top priority in the Group, and we continue to work on a variety of safety and disaster prevention activities. Safety countermeasures are taken for dangerous areas identified through process risk assessments, and pipes and equipment are maintained and managed, mainly through scheduled maintenance. Since FY2014, we have been working to strengthen safety management by implementing measures and studies to localize and minimize damage, assuming serious disasters such as major earthquakes and worst-case plant accidents.

The company has joined the Japan Industrial Safety Competency Center since its inauguration in FY2012. Each plant uses the Safety Evaluation System of the center to further improve the situation and works even harder on the Process Safety and Disaster Prevention Plan.

Improvement of Facilities and Maintenance Management

To improve facilities and maintenance management of its plants, the Group conducts regular voluntary inspections of machinery and other equipment as stipulated in Japan's Industrial Safety and Health Act, the Fire Service Act, and the High-Pressure Gas Safety Act. We have also put in place management methods for maintaining the functions of safety devices and systems such as interlocks, emergency shutdown systems, and leak detection systems, as well as for early detection of failures. Safety education programs are provided to employees and contractors, and safety procedures are clearly defined. We use HAZOP* to identify potential hazards and continuously improve our facilities. In the future, we will also consider advanced preventive maintenance incorporating AI and IoT/DX technologies.

* HAZOP
Hazard and Operability Study. Standard process hazard analysis methods in the chemical process industry.

Training and Drills

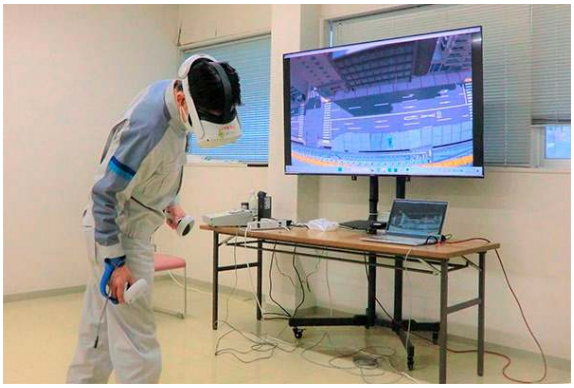
Safety Education

In 2024, as part of its enhanced safety education program, the Kashima Plant conducted a safety education session using VR technology, with 72 Kashima Group employees participating. The participants experienced simulations of accidents that frequently occur in relation to their department or job description, reflected on the causes of the accident and countermeasures from a third-party perspective, and identified the factors lurking around them that contribute to accidents. In addition, 123 younger employees participated in the training to learn the magnitude of the impact of accidents and the power of the machinery using safety simulation equipment. We will continue to conduct training from various angles to help prevent workplace accidents.

To keep Group plants operating in safety, it is important for everyone working on the premises to constantly improve his/her skills and knowledge and be aware of danger. To this end, we provide safety education programs to employees and contractors to enable them to understand the hazards of the substances and processes they handle, to experience simulated hazards, and to properly use equipment and safety devices.

We also work on passing down the skills to operate manufacturing equipment to the next generation of employees. We work to give each employee thorough safety awareness by creating a workplace culture in which operation processes and rules are observed.

In addition to factory employees, we also provide safety education to people working in the plant premises involved in construction, delivery, and people outside the company who participate in business negotiations. During the training, we explained the dangerous areas in the plant and the substances handled, and made them understand the importance of strictly observing the safety rules stipulated in the plant. And also, in the event of an emergency at the plant, we ask everyone to prioritize actions to ensure their own safety. We will continue to provide regular training and continue to put human life first.



Safety education using VR
(February 2024, Shin-Etsu Chemical Kashima Plant)

Training using safety simulation equipment
(April 2024, Shin-Etsu Chemical Kashima Plant)

Emergency Drill

Every year, we conduct scheduled disaster prevention drills that assume abnormal situations such as large earthquakes and fires, as well as “blind drills” based on basic actions without creating scenarios. The drills include firefighting activities, rescue activities for the injured, transmission of information to the disaster response headquarters, public relations activities in the community, and correspondence with the media. In addition, we conduct disaster prevention drills in dormitories and company housing, confirming evacuation routes, training in reporting to the fire department, and training in how to use a fire extinguisher.

We will continue to raise awareness of disaster prevention and strive to respond quickly to emergencies so that the plant can be a safe place for the local community.

Blind emergency drill
(May 2024, Shin-Etsu Handotai Shirakawa Plant)

Blind emergency drill
(June 2024, Shin-Etsu Chemical Naoetsu Plant)

Environmental Control and Safety Audits

To verify and confirm that environmental safety management activities related to occupational health and safety and disaster prevention are being implemented as planned at each plant, the Group conducts internal audits in Japan and overseas in accordance with its “Standards for Environmental Control and Safety Audits.” The audit results are reported to the top management.

Audit Status for FY2024

In FY2024, we conducted a total of 57 on-site audits for 30 production bases of Group companies in Japan and conducted an on-site audit for one overseas Group company. We audited the implementation status, along with implementation case studies, of the following priority issues, among others: improvement of the effectiveness of the occupational health and safety management system, establishment and strict implementation of change management, improvement of facility and process safety, status of PDCA implementation of activities to prevent accidents and disasters, and introduction of simulated hands-on training using audiovisual equipment, VR, CG, etc.

Comprehensive environmental and safety audit
(September 2024, Shinano Electric Refining)

Comprehensive environmental and safety audit
(October 2024, Shin-Etsu Chemical Takefu Plant)

Related Information

› Sustainability Data

Key Sustainability Issue: Health and safety of employees and contractors Targets and Results

The safety targets and results for FY2024 and safety targets for FY2025 are as listed below.

Item	Priority Issues (Target)	Implementation Status for FY2024	Evaluation	Planned Implementation Items for FY2025
Management System	1.Legal compliance	• Strengthening the Legal Checking System • Proper operation management based on relevant laws and regulations	◎	• Strengthening the Legal Checking (ongoing) • Proper operation management based on relevant laws and regulations (ongoing)
	2. Development and revision of Plant Environment Control and Safety Regulations and Standards	• Development and revision of Plant Environment Control and Safety Regulations and Standards	○	• Development and revision of Plant Environment Control and Safety Regulations and Standards (ongoing) • Thorough awareness, appropriate response, and compliance with plant environment safety regulations and standards.
	3. Continuous improvement of the safety and health management system and improvement of the effectiveness of activities	• Communication by the president, the plant manager and division heads of their commitment and active involvement • Development of good PDCA[1] cycles for the health and safety management system and promotion of effective activities • Cooperation between the three departments of health and safety and the environmental management system (Environmental Safety, Facility Management, and Manufacturing) and strong leadership from the Environmental Safety Department	◎	• Communication by the president, the plant manager and division heads of their commitment and active involvement (ongoing) • Development of good PDCA1 cycles for the health and safety management system and promotion of effective activities (ongoing) • Cooperation between the three departments of health and safety and the environmental management system (Environmental Safety, Facility Management, and Manufacturing) and strong leadership from the Environmental Safety Department(ongoing)
	4. Qualitative improvement of environmental safety audits	• Implementation of appropriate follow-up to the findings of the head office's environmental safety audits • Effective and proper implementation of environmental safety audits at affiliated companies in the plant area	○	• Implementation of appropriate follow-up to the findings of the head office's environmental safety audits (ongoing) • Effective and proper implementation of environmental safety audits at affiliated companies in the plant area (ongoing)
	5. Establishment and rigorous implementation of change management	• Establishment of regulations and standards for MOC[2] rules. • Strict appreciation of MOC[2] rules at the plants and thorough compliance with them	○	• Establishment of regulations and standards for MOC[2] rules and continuous review (brushing up). (ongoing) • Strict appreciation of MOC[2] rules at the plants and thorough compliance with them (ongoing)
	6. Establishment of management infrastructure and fostering of a culture of safety	• Understanding of the Safety Competency Evaluation System (evaluation table and explanatory notes) • Formulate and implement a plant utilization plan based on the Safety Competency Evaluation System	○	• Understanding of the Safety Competency Evaluation System (evaluation table and explanatory notes) (ongoing) • Formulate and implement a plant utilization plan based on the Safety Competency Evaluation System (ongoing)
Process Safety and Prevention Plan	1. Zero serious accident[3]	• Zero serious accident	×	• Zero serious accident
	2. Facility and process safety improvement	• Continue the process risk assessment (Targeting to operations, facilities and chemical plants where accidents due to explosion fires, or chemical reactions are anticipated) • Review of safety measures for non-routine work and unsafe operations • Safety general inspections of open-system operations that may lead to serious accidents such as fires in operations that handle flammable liquids and flammable powder • Reviewing and utilization of safety basic information	○	• Continue the ongoing process risk assessment and actively utilize methods such as LOPA[4] for evaluating the effectiveness of safety measures.(ongoing) (Targeting to operations, facilities and chemical plants where accidents due to explosion fires, or chemical reactions are anticipated) • Review of safety measures for non-routine work and unsafe operations (ongoing) • Safety general inspections of open-system operations that may lead to serious accidents such as fires in operations that handle flammable liquids and flammable powder (ongoing) • Reviewing and utilization of safety basic information(ongoing)
	3. Improvement of facilities and maintenance management	• Thorough investigation of equipment trouble causes, recurrence prevention and design technology improvement • Improvement of equipment maintenance	○	• Thorough investigation of equipment trouble causes, recurrence prevention and design technology improvement (ongoing) • Improvement of equipment maintenance (ongoing)
	4. Predictions and reliable responses to emergencies	• Consider estimating and minimizing damage if the worst situations such as serious accidents and massive earthquakes occur • Preparation of plant emergency-response standards and on-site manuals for major accidents and disasters, and implementation of anticipated drills	○	• Consider estimating and minimizing damage if the worst situations such as serious accidents, flood, and massive earthquakes occur(ongoing) • Preparation of plant emergency-response standards and on-site manuals for major accidents and disasters, and implementation of anticipated drills (ongoing)
	5. Safe and stable operation management	• Appropriate daily, monthly, and annual inspections, implementation of operation management, and effective use of data • Reviewing and strengthen of response to process abnormal conditions • Make sure safety assurance and implementation of reviews during startups (SU) and shutdowns (SD)	○	• Appropriate daily, monthly, and annual inspections, implementation of operation management, and effective use of data (ongoing) • Reviewing and strengthen of response to process abnormal conditions (ongoing) • Make sure safety assurance and implementation of reviews during startups (SU) and shutdowns (SD) (ongoing)
Occupational Safety	1. Achieve zero labor accidents requiring an absence of a day or more	• Consolidated in Japan: 3 people • Shin-Etsu Chemical: 0 people	△	• Achieve zero labor accidents requiring an absence of a day or more
	2. Rate of labor accidents not accompanied by an of absence a day or more: 0.5 or less	• Consolidated in Japan: 0.26 • Shin-Etsu Chemical: 0.00	○	• Rate of labor accidents not accompanied by an absence of a day or more: 0.5 or less
	3. Human error reduction	• Prevention of accidents and disasters due to human errors	○	• Prevention of accidents and disasters due to human errors (ongoing)
	4. Improve work safety	• Promoting of safety activities (practiced Hazard prediction activities, pointing and calling, and 5S[5] activities) • Active improvement of work methods and work environment • Implement application of similar process and examination of accident in the Group and other companies • Preventing Accidents and Disasters among Middle-Aged and Elderly People • Promote measures to prevent dangerous area of equipment, contacting dangerous areas and equioment, exposure, falling, etc. • Implementation of reliable hazard prevention measures during maintenance, inspection, repair work, and troubleshooting (principle of isolation and shutdown) • Review of factory standards for protective equipment and protective clothing for dangerous or harmful work • Improvement of risk sensitivity of managers in the workplace and their active involvement and awareness in "work safety improvement" activities.	○	• Promoting of safety activities (practiced Hazard prediction activities, pointing and calling, and 5S[5] activities) (ongoing) • Active improvement of work methods and work environment (ongoing) • Implement application of similar process and examination of accident in the Group and other companies (ongoing) • Preventing Accidents and Disasters among Middle-Aged and Elderly People (ongoing) • Promote measures to prevent dangerous area of equipment, contacting dangerous areas and equioment, exposure, falling, etc.(ongoing) • Implementation of reliable hazard prevention measures during maintenance, inspection, repair work, and troubleshooting (principle of isolation and shutdown)(ongoing) • Review of factory standards for protective equipment and protective clothing for dangerous or harmful work (ongoing) • Improvement of risk sensitivity of managers in the workplace and their active involvement and awareness in "work safety improvement" activities.(ongoing)
	5. Review and reorganize work manuals and ensure strict compliance	• Implement of planned review and content enhancement of work manual maintenance • Confirm the compliance of work manuals • Creation of a safe culture that complies with rules and manuals	○	• Implement of planned review and content enhancement of work manual maintenance (ongoing) • Confirm the compliance of work manuals (ongoing) • Creation of a safe culture that complies with rules and manuals (ongoing)
	6. Work risk assessment	• Implement work risk assessment based on plans / Review of past risk assessments (Central Labor Accident Prevention Association[6] method or procedure HAZOP[7]) Risk assessment as stipulated in the Industrial Safety and Health Act Risk assessment for dangerous and non-routine work at one's workplace	○	• Implement work risk assessment based on plans / Review of past risk assessments (ongoing) (Central Labor Accident Prevention Association[6] method or procedure HAZOP[7]) (ongoing) Risk assessment as stipulated in the Industrial Safety and Health Act (ongoing) Risk assessment for dangerous and non-routine work at one's workplace (ongoing)
	7. Safety measures of construction and non-routine work	• Clarification of implementation matters such as construction start permission, safety management during construction, delivery, completion confirmation, etc., and reliable fulfillment of roles and responsibilities of construction orderers and construction contractors • Thorough compliance with laws and regulations by the construction orderer and the construction contractor, and ensuring construction safety • Clarify work instructions and procedures and implement hazard prediction activities for non-routine work • Preparation of procedures for releasing residual energy, shutting off pressure, checking that power is shut off by operating switches or voltage testing, lockout, tagout, etc.	○	• Clarification of implementation matters such as construction start permission, safety management during construction, delivery, completion confirmation, etc., and reliable fulfillment of roles and responsibilities of construction orderers and construction contractors • Thorough compliance with laws and regulations by the construction orderer and the construction contractor, and ensuring construction safety • Clarify work instructions and procedures and implement hazard prediction activities for non-routine work (ongoing) • Development and thorough dissemination of safety preparation work regulations before construction for tasks such as 'canned work,' 'isolating and blocking hazardous substances and piping, and restoring them,' and 'disconnecting and restoring power sources for electrical equipment.' (Compliance with factory regulations based on the Industrial Safety and Health Law 'Regulations for Preventing Oxygen Deficiency, etc.,' strengthening oxygen deficiency prevention education, and carrying portable oxygen concentration meters.
	8. Training and drill promotion	• Plan promotion of education and training • Active participation in various safety seminars • Promote acquisition of qualifications • Active introduction of awards and prize systems for voluntary safety activities • Implementation of planned training to acquire and improve important safety skills • Planned implementation of experience-based education to improve risk sensitivity for the prevention of behavioral accidents • Ensure that new or revised matters are fully communicated to employees, and ensure that they are being implemented appropriately and that follow-up follow-ups are carried out	○	• Plan promotion of education and training (ongoing) • Active participation in various safety seminars (ongoing) • Promote acquisition of qualifications (ongoing) • Active introduction of awards and prize systems for voluntary safety activities (ongoing) • Implementation of planned training to acquire and improve important safety skills(ongoing) • Planned implementation of experience-based education to improve risk sensitivity for the prevention of behavioral accidents(ongoing) • Promote the proper implementation and utilization of analytical methods for new or revised safety activities.
	9. Ensuring subcontracting safety	• Active involvement in safety management at companies to which, as a manufacturer, the Company outsources its operations • Implementation of sufficient safety education	○	• Active involvement in safety management at companies to which, as a manufacturer, the Company outsources its operations (ongoing) • Implementation of sufficient safety education for temporary and contract employees (ongoing)
Occupational health	1. Create and maintain a comfortable workplace environment	• Realization of confortable working environment • Ensuring an appropriate and safe working environment • Implementation of appropriate health management • Appropriate reporting, communication, and consultation, as well as promotion of good communication	○	• Realization of confortable working environment (ongoing) • Ensuring an appropriate and safe working environment (ongoing) • Implementation of appropriate health management (ongoing) • Appropriate reporting, communication, and consultation, as well as promotion of good communication(ongoing)
	2. Promote physical and mental health wellbeing	• Implement concrete guidance, etc. and effective utilization of health check results • Appropriate compliance with additional inspection criteria due to regulatory amendments • Promotion of specific activities to build mental and physical health • Aggressive promotion and thorough implementation of preventive measures for COVID-19, etc.	○	• Implement concrete guidance, etc. and effective utilization of health check results (ongoing) • Appropriate compliance with additional inspection criteria due to regulatory amendments of Industrial Safety and Health Law, etc. (ongoing) • Promotion of specific activities to build mental and physical health (ongoing) • Aggressive promotion and thorough implementation of preventive measures for COVID-19, etc.(ongoing)

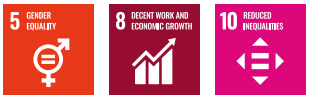
1 PDCA cycle
One of the method to smoothly carry out management tasks such as production control and quality control in business activities. To improve business operating continually by repeating the four steps such as Plan (P) → Do (D) → Check (C) → Act (A).
2 MOC
Management of change
3 Serious accident
Large-scale explosions and fires, environmental pollution accidents that have had a significant impact on public areas, and fatal workplace accidents, etc.
4 LOPA
Abbreviation for Layer of Protection Analysis. A semi-quantitative risk assessment method that assesses risk using the concept of independent layers of protection.
5 5S activities
It is the first letter "S" of five Japanese words for seiri seiton (organize and order things), seiso (cleaning), seiketsu (cleanliness), and shitsuke (bringing-up).
6 Central Labor Accident Prevention Association
A corporation for the purpose of public interest established in 1979 with the approval of the Minister of Labor (currently: Minister of Health, Labor and Welfare) under the Labor Accident Prevention Group Act. It aims to improve safety and health and to eliminate occupational accidents through promotion of voluntary occupational accident prevention activities by business owners.
7 HAZOP
Hazard and Operability Study. Standard process hazard analysis methods in the chemical process industry.
* Evaluation standards ◎: Goal achieved ○: Goal basically achieved △: 50% achieved ×: Far from achieved

Respect for Human Rights

Key sustainability issues relevant to this page

Respect for human rights, the development of human resources, and the promotion of diversity

Respect for Human Rights



The Shin-Etsu Chemical Group supports the Universal Declaration of Human Rights. At the same time, we respect basic human rights in accordance with the core labor standards of the International Labour Organization (ILO). We conduct our business based on the constant respect for human rights at our locations around the world. In May 2019, we compiled this policy into the "Human Rights Policy," thoroughly implemented it within the Group, and disseminated it to public. In May 2024, in light of changes in the social environment surrounding human rights and with the approval of the Managing Directors' Meeting attended by all directors, audit & supervisory board members and corporate officers, we reviewed and revised the Human Rights Policy based on the UN Guiding Principles on Business and Human Rights. The revised Human Rights Policy has been communicated throughout the Group and is also available on our website.

In addition, in order to confirm the status of compliance with our Human Rights Policy, we conduct an annual survey of our consolidated companies regarding items related to respecting human rights*, labor management, and whether employment is properly implemented in accordance with the laws and regulations of each country and region. Furthermore, we consider human rights impacts on local communities when building new plants.

* Items related to respecting human rights
Prohibition of child labor, proper working hours, decent wages, proper employment contract in writing, prohibition of inhuman treatment, prohibition of discrimination, freedom of association

The Shin-Etsu Group Human Rights Policy

Shin-Etsu Group (the "Group") engages in business based on its Business Principle, "The Group actively conducts in sustainable business practices and creates the value sought by society and industry through the provision of unrivaled key materials technologies." The foundation of this is respect for human rights. The Group respects the human rights of all individuals. To ensure respect for human rights perpetually, the Group commits to observe the laws and regulations applicable in the countries and regions where it does business, respect international codes of conduct*, and vigorously promote the activities listed below. In the event that a contradiction arises between the laws and regulations of a particular country or region and international codes of conduct, we will deal with the matter appropriately based on our Group principles for respecting human rights.

* "International codes of conduct" follows:
The Universal Declaration of Human Rights, ILO International Labour Standards, UN Guiding Principles on Business and Human Rights, UN Global Compact's 10 Principles, etc.

Respect for Human Rights

1. Prohibition of discrimination
   The Group does not discriminate at all on the basis of nationality, race, ethnicity, sex, religion, personal views, beliefs, age, social status, disability, sexual orientation, gender identification, labor union participation, health, marital status, political opinion, or any other status.
2. Prohibition of damaging human dignity
   The Group does not in any case conduct sexual harassment, power harassment, maternity harassment or any other acts that damage human dignity.
3. Protection of privacy
   The Group protects the privacy of individuals and handles personal information properly in accordance with the applicable laws and regulations of each country and region.
4. Respect for basic labor rights
   The Group respects the workers' right to organize, the right of collective bargaining, and further rights given to workers to establish, maintain, and improve trust and good cooperative relationships through dialogue between labor and management.

5. Prohibition of child labor and forced labor
   The Group prohibits our operations in all countries and regions from using child labor in accordance with the applicable laws and regulations of each country and region. We also prohibit the use of forced labor.
6. Working hours and wages
   The Group complies with the working hours, breaks, holidays, and minimum wages stipulated by the applicable laws and regulations of each country.
7. Health and safety
   For the Group, safety is a fundamental prerequisite for business operations. We prioritize safety above all else and strive to further improve the work environment so that employees can work with peace of mind.

Activities for Respecting Human Rights

1. Human rights awareness
   The people responsible for human resources in each business site and company of the Group will strive to develop the proper understanding of human rights and awareness of respect for human rights through activities including education for employees on human rights.
2. Human resources development
   The Group will create an environment in which diverse individuals can work at their full capacity and equally give all employees opportunities aligned with their aptitudes to develop and utilize their abilities.
3. Working environment
   The Group will make efforts to create a sound and comfortable working environment and to ensure safety.
4. Prevention of human rights infringement
   The Group will make efforts to prevent the infringement of human rights in the course of business activities by conducting human rights due diligence* in accordance with the UN Guiding Principles on Business and Human Rights.
5. Measures for handling issues
   If there are concerns regarding human rights infringement in our business activities, the Group will take appropriate measures promptly to resolve them.
6. Remedies
   If an incident occurs in the course of our corporate activities that is deemed to have had a negative impact on human rights, we will respond appropriately in accordance with the applicable laws and regulations of each country as well as international codes of conduct. For this reason, we have established a whistleblowing hotlines that can be used by officers and employees of the Group, their families and business partners.
7. Promotion of respect for human rights
   The Group will encourage all people associated with the Group to respect international codes of conduct for human rights.
8. Information disclosure
   We will regularly disclose information on the Group's efforts to respect human rights.

* "Human rights due diligence" means:
To regularly implement the identification, evaluation, preventative/corrective measures, investigation, monitoring, and information disclosure of human rights risks in accordance with the Group's human rights policy.

Shin-Etsu Chemical Co., Ltd.
Yasuhiko Saitoh, President
Established on May 21, 2019
Revised on May 17, 2024

Human Rights Due Diligence

Human Rights Promotion Structure

The Human Rights Due Diligence Subcommittee established within the Sustainability Committee and the Shin-Etsu Chemical's Human Rights Enlightenment Promotion Committee play a central role in promoting overall human rights due diligence based on the UN Guiding Principles on Business and Human Rights. The subcommittee formulates human rights policies, conducts human rights risk surveys for the Group, identifies priority human rights risk issues, and the establishment and maintenance of a system for consulting and reporting on human rights in cooperation with relevant departments.

Furthermore, the company is a member of both the Industrial Federation for Human Rights, Tokyo and the Corporate Federation for Dowa and Human Rights Issue, Osaka. We discover human rights developments and obtain latest information through federation activities and training sessions held by administrative organizations to promote awareness of human rights.

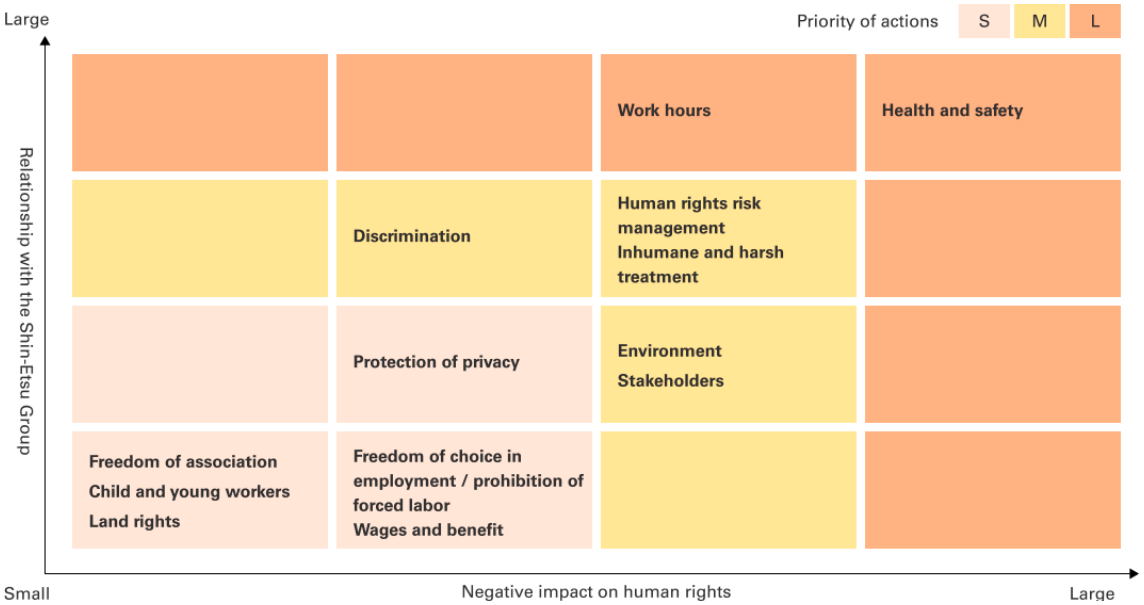
Conducting Human Rights Risk Surveys

In December 2019, we began conducting human rights risk surveys with all Group companies to identify human rights risks in the Group's value chain. As a result, we were able to confirm that no serious violations of human rights had occurred that conflicted with our human rights policy. Furthermore, starting in May 2025, we began conducting the second human rights risk survey with all Group companies based on our revised human rights policy. The Group will continue to conduct corporate activities based on respect for human rights.

Identification of Priority Issues for Human Rights Risks

In FY2021, we evaluated the priority of human rights issues based on the risks assumed for the Group from the two axes of "severity of potential impact on human rights" and "relationship between human rights risk and the company." As a result, the Group identified potential risks related to health and safety and working hours as high. In addition, in an analysis of the responses to the human rights risk survey, approximately 40% of Group companies responded that human rights management in the supply chain is important, indicating the need to promote efforts to respect human rights throughout the supply chain. The results of the evaluation were reported to the outside directors and outside audit & supervisory board members. The received comments and the survey results were disseminated throughout the Group as the priority risks for human rights risks of the Group. We will continue to address priority issues step by step.

Shin-Etsu Group Human Rights Priorities



Initiatives for FY2024

Working hours

The Shin-Etsu Group is actively working to ensure that employees' working hours are correctly recorded, for example by introducing a system to accurately track working hours based on computer logs and other data. Furthermore, in line with regulatory caps on overtime work in the construction industry that took effect in FY2024, we support the efforts of applicable Group companies in Japan to reduce overtime work. We are also promoting the development of systems and working environments that enable flexible and highly productive work styles, such as the flextime system and telecommuting.

Health and safety

We create the "Shin-Etsu Group Environmental Safety Management Plan," and are working to set specific numerical targets for occupational safety.

› Implementation Status, Evaluation, and Planned Implementation Items PDF

Supply chain management

Starting in 2022, we sent the "Shin-Etsu Group Human Rights Policy," "Basic Procurement Policy," and "CSR Procurement Guidelines" to our major business partners, and we shared our policies regarding sustainability activities, including respect for human rights. In addition, approximately 70% of the Group's primary business partners cooperated in responding to a survey on sustainability initiatives, including human rights, allowing us to assess the status of these initiatives. As a result, we confirmed that there were no high-risk business partners who were in conflict with the human rights issues that we consider serious and who scored significantly below the evaluation benchmark.

Related Information

› Initiatives for Work-life Balance
› Occupational Health and Safety / Safety and Disaster Prevention
› Sustainable Procurement

Implementation of Human Rights Awareness Education

The subcommittee works with the Shin-Etsu Chemical's Human Rights Enlightenment Promotion Committee to promote awareness and education of human rights. This committee holds regular human rights awareness training for directors and employees. The committee asks people to submit human rights awareness slogans to coincide with our annual human rights week in December. The training aims to deepen the participants' understanding of respect for human rights. In addition to familiar human rights themes such as harassment, LGBTQ, and people with disabilities, the training also covers the Shin-Etsu Group Human Rights Policy and other initiatives based on the UN Guiding Principles on Business and Human Rights.

In FY2024, an e-learning program was conducted for Shin-Etsu Chemical officers and Group employees* on the topic of gaining a deeper understanding of harassment. The attendance rate was 95.7%.

* Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.

Human rights awareness training
(December 2024, Shin-Etsu Chemical Takefu Plant)

Consulting and Reporting on Human Rights

Our group has the following three contact points. The confidentiality of consulters and whistleblowers will be protected, and they will not be treated unfavorably for consulting or reporting.

- Compliance consultation office
  Officers, employees, advisors, contract employees, part-time employees, and temporary employees, whether active or former, can report by email or phone.
- Dial Shin-Etsu
  Domestic employees, advisors, contract employees, part-time employees, and temporary employees can consult anonymously by phone.
- Supplier hotline
  Our Group's suppliers can report anonymously from our website.

Related Information

› Sustainability Data

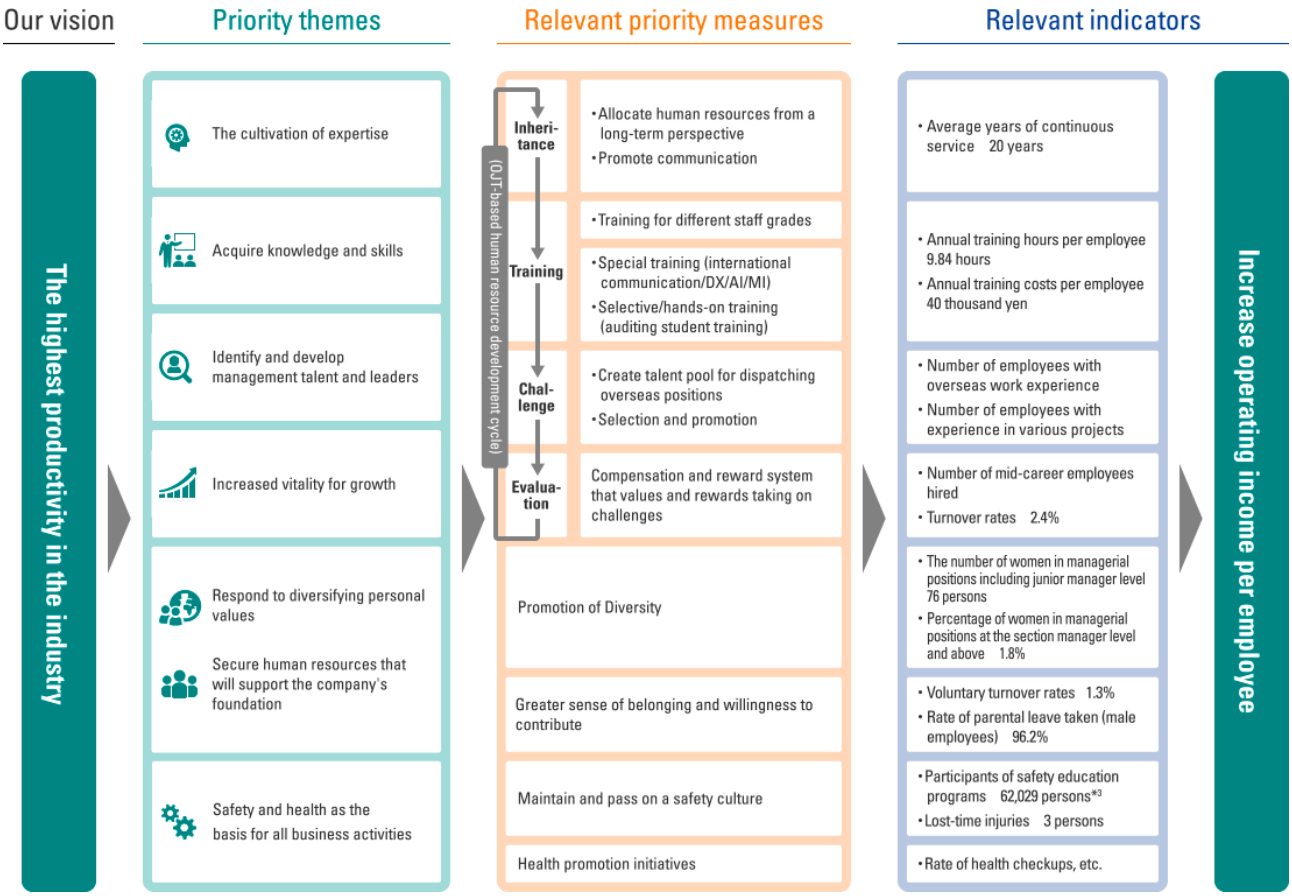
Human Resources Strategy

Key sustainability issues relevant to this page

Respect for human rights, the development of human resources, and the promotion of diversity

Basic Policy on Human Resources Strategy

Human Capital Investment*1,2



*1 Scope: The employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.
*2 Figures listed under "Relevant indicators" are actual results for FY2024.
*3 Shin-Etsu Chemical (Non-consolidated)

We aim to further improve labor productivity. To this end, we have set operating income per employee as a key indicator and are focusing on developing "T-shaped human resources" who can achieve high productivity. A "T-shaped human resource" is someone who is an expert in a certain task or field, but also has a wide range of work skills that allow them to excel in other fields. The average growth rate of operating income in recent years has exceeded the average growth rate of the number of employees, therefore the productivity per employee has also increased.

On-the-job training (OJT) is the cornerstone of our efforts to develop T-shaped human resources. We place employees into jobs with a sense of respect for their aptitude and professional aspirations, and we support each employee to become a true expert in their assigned job. For this reason, the Company does not implement one-size-fits-all personnel transfers or so-called routine reassignments. By having employees thoroughly study the work they are responsible for, we focus on developing employees with high levels of work ability.

Our Group companies overseas also follow the same approach to human resource development described here, and strive to respect the diversity of each country's laws, regulations, customs, human resources and culture. In addition to sending young employees to overseas operation bases, employees working in Japan also acquire an international mindset through working with overseas business partners.

Education/Training and Personal Development

In addition to on-the-job training, the Shin-Etsu Group offers a variety of training programs to employees for different stages of their growth. The Group supports employees' growth through various training systems, which include training for different staff classification, global communication training, an auditing student system, environmental education, safety education, mental health education, and AI training.

Training for Different Staff Grades

We provide various level-specific training programs to learn management, leadership, communication, and problem-solving skills that are essential for improving performance and are required at each level of the organization.

- General manager training (Advanced management training, S staff group/M staff group training)
- Section manager training (Middle management training)
- Junior manager training (Line management training/Staff management training)
- Regular employees (Mid-career employees training, Women employee training, Junior leader training, Third-year training)

Global Communication Training

The Group's business partners are spread around the world, with overseas sales now accounting for approximately 80% of consolidated sales. Competency in a foreign language is therefore an essential skill for smooth operations. Therefore, the company offers the following kinds of training:

- English language training (meeting skills course and presentation skills course)
- Cross-cultural communication training
- Chinese conversation classes

AI Training

To discover and develop human resources capable of utilizing AI and to improve the overall level of AI in the Company, we offer, at our own expense, the AI training listed below. In FY2024, 194 employees participated, and in the four years since FY2021, a total of 994 employees have participated.

- New employee training: e-learning for new and young employees
- AI Training
  1) Basic training: Learning programming in Python
  2) PBL (Problem Based Learning): Problem-based learning for mid-career employees to solve practical problems (5 months)
- DX management training: E-learning for general managers and section managers involved in projects

MI Education

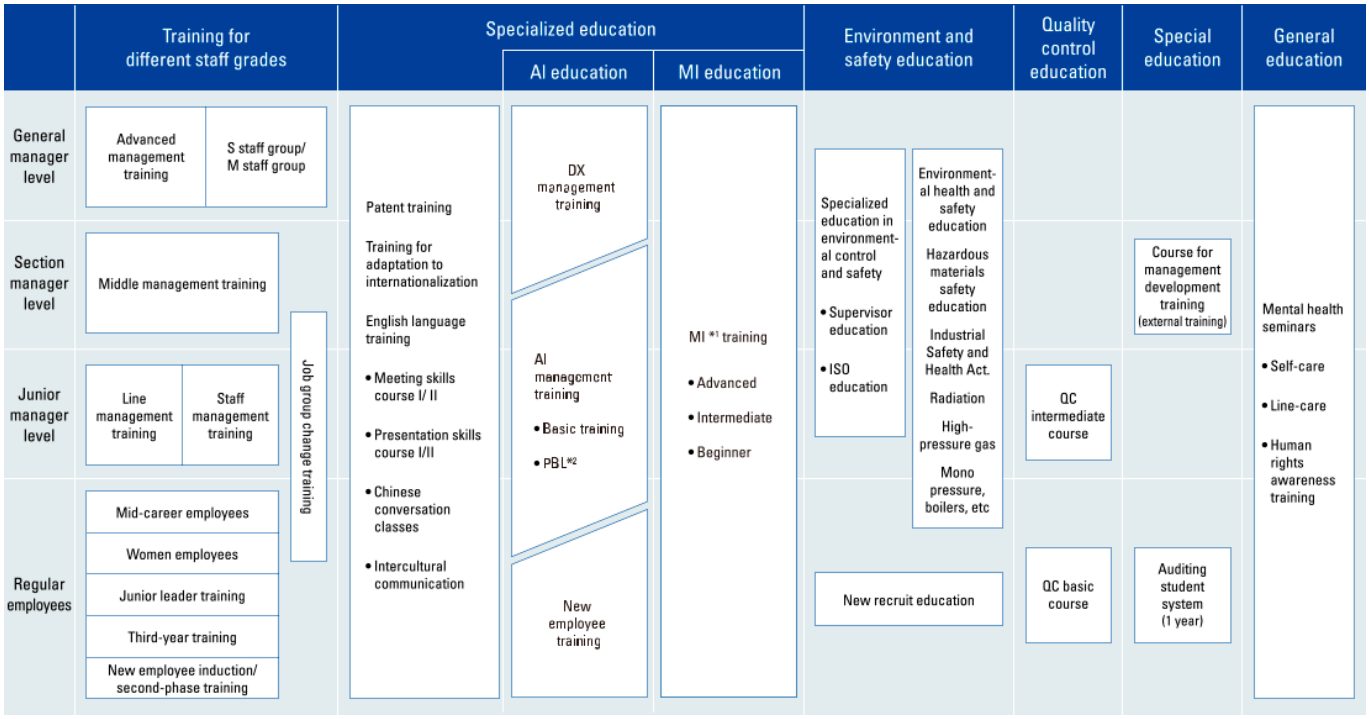
We offer the training described below with the goals of developing personnel capable of utilizing machine learning for material exploration and shortening R&D time. In FY2024, 49 employees participated, and in the four years since FY2021, a total of 185 employees have participated.

- MI (materials informatics) practical training: Practical training mainly for researchers at research centers. Conducted based on our own proprietary materials. Three courses are available (beginner, intermediate, and advanced) depending on the student's level of proficiency.

University Auditing Student System for Employees

In 1962, Shin-Etsu Chemical established a system for sending employees to universities as auditing students with the goal of improving on-site capabilities at each workplace. Under the system, up to about ten operators each year are chosen from the Group's plant manufacturing sites and sent to study at universities for one year. The program is similar to a study abroad program, except that the students stay in Japan. During the training period, students not only learn specialized knowledge by auditing university classes, but also network with people from other businesses, plants, and corporate divisions that they otherwise may not have much contact within their daily work, which is also important. In the 63 years since the system was introduced, a total of 557 employees have completed the program, and many of the graduates go on to play key roles in their workplaces.

Training System List



*1 Material Informatics
*2 Problem-based Learning

Performance-based Personnel Evaluation Systems

The Group has introduced an employee evaluation system that emphasizes their ability and work performance. This system aims to increase employees' motivation by reflecting their performance and attitude in the benefits that they will receive, and evaluates how they meet their challenges to achieve higher goals. Employees' set ambitious work goals and improvement targets at the beginning of each fiscal year, and are then encouraged to grow by challenging themselves to achieve these goals. Supervisors provide advice and guidance to help employees achieve their goals. At the end of the fiscal year, employees are evaluated on the degree to which they have achieved their goals. At the same time, employees' abilities, potential for growth, and attitude toward their work are taken into consideration to motivate employees and encourage them to grow. To manage the personnel system in a fair and appropriate manner, evaluation training is provided for all managers who conduct performance review, so that they can carry out personnel evaluations fairly. Transparency is increased by informing evaluation standards to employees. In addition, there is a system of interviews between an evaluator and a direct report to ensure that they can communicate successfully. During interviews, each staff member and their immediate supervisor use Communication Sheets to ensure mutual awareness of expectations and set half-year goals. Furthermore, feedback on progress is given for further development of skills.

Related Information

› Multi-Stakeholder Policy (Only Japanese Available) PDF
› Sustainability Data

* Personnel subject to human resource development in the Group are the employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.

Promotion of Diversity

Key sustainability issues relevant to this page

Respect for human rights, the development of human resources, and the promotion of diversity

Promotion of Diversity

Japan has a declining birthrate and an aging population, and the working-age population is decreasing year by year. In order to sustain corporate activities, it has become essential to utilize a diverse workforce, regardless of age or gender. The Group also employs people of a wide range of nationalities and backgrounds, which is essential from the perspective of expansion of global business domains, diversification of business operations, and innovation in digital technology. The Group places the highest priority on respect for the individual and aims to create a workplace where diverse human resources, regardless of gender, nationality, disability, or age, can contribute to the best of their abilities.

To learn more about how members of our diverse workforce are taking on new challenges, please read our “Shin-Etsu Challengers” series of employee interviews.

Promotion of Women’s Participation and Advancement

In order to promote women’s participation and advancement, the Group set a five-year goals in FY2016. From FY2021, we set new five-year goals and started to work on them.

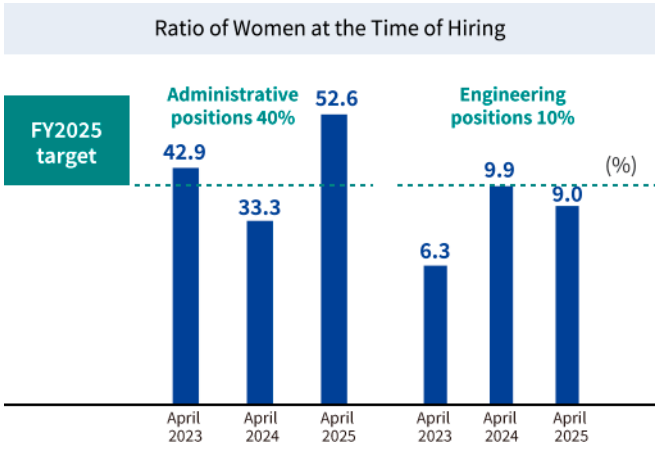
Goals to promote women’s participation and advancement in the next five years from FY2021, the company aims to achieve the following:

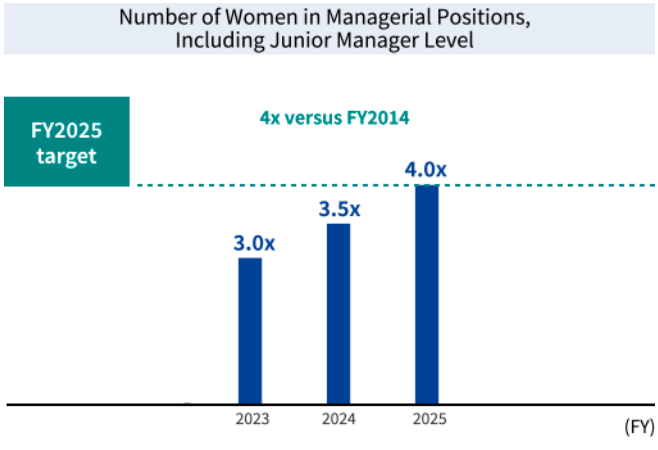
1. The rate of hiring women will be 40% for administrative positions and 10% for engineering positions.
2. The number of women in managerial positions, including junior manager level, will be quadruple compared to the number in FY2014.

Ratio of women in managerial positions (section manager level and above)

	FY2023	FY2024
Consolidated	12.7%	12.7%
Shin-Etsu Chemical	2.0%	2.7%

Five-year Targets and Progress (Starting in FY2021) in the Action Plan Based on the Act on Promotion of Women's Participation and Advancement in the Workplace





Scope: Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.

Initiatives to promote women's participation and advancement

1. Promoting the development of a working environment to support a balance between childcare and work
   - Enhancement of information provision to support work-life balance
   - Continue and expand measures to enable employees to continue working
2. Promote the operation of a fair personnel evaluation system for the appointment of women to managerial positions
   - Promotion of understanding of the system by holding regular evaluator training
3. Providing learning opportunities to encourage employees to change their mindsets
   - Plan and hold trainings to change employees' awareness of women's participation and advancement

Creating a Better Workplace for People with Disabilities

We are working to create a workplace where people with or without disabilities can play an active role. Our employment rate of persons with disabilities was 2.35% as of March 2025. Although this is below the legally mandated level, we are continuously striving to improve it. At the head office, we are working to maximize employment opportunities by flexibly setting working hours and working locations according to the degree of disability and situation. At our plants, we are improving the environment from both a hardware perspective, such as facilities and equipment, and a software perspective, such as disaster drills, so that people with disabilities can work safely.

Wheelchair ramps(Shin-Etsu Chemical Gunma Complex)

Creating an Environment in Which Employees Can Contribute Regardless of Age

In April 2019, the company raised the retirement age from 60 to 65 after continuing discussions with the Shin-Etsu Chemical Labor Union. It is the first time that such a system was implemented at a major Japanese chemical company. We will also raise salaries and promote people based on personnel evaluation. By adjusting the employment environment after the age of 60, skilled workers at manufacturing sites will be able to pass on the technology and their experience to the next generation.

Related Information

› Sustainability Data

* Personnel subject to promotion of diversity in the Group are the employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.

Initiatives for Work-life Balance

The Shin-Etsu Group places the highest priority on ensuring the stable employment of its employees. We believe we can grow when employees feel secure in their jobs, do good work, and achieve good results. Based on this idea, in addition to properly managing working hours and creating an environment where it is easy to take paid vacation, we have put in place systems that allow employees to deal flexibly with various matters that occur in their lives, such as marriage, childbirth, childcare, treatment of illness, and nursing care. These company initiatives have inspired a greater sense of belonging among employees and a greater willingness for employees to voluntarily contribute to the growth of the Company.

Proper Management of Working Hours

The Group aims to raise awareness about managing working hours, eliminate excessive working hours, and create highly productive workplaces. To this end, we are proactively introducing a system to accurately track working hours through systems such as smart cards for the security gate at the plant entrance and employee PC logs. In addition, we are promoting the development of systems and working environments that enable flexible and highly productive work styles, such as the flextime system and telecommuting.

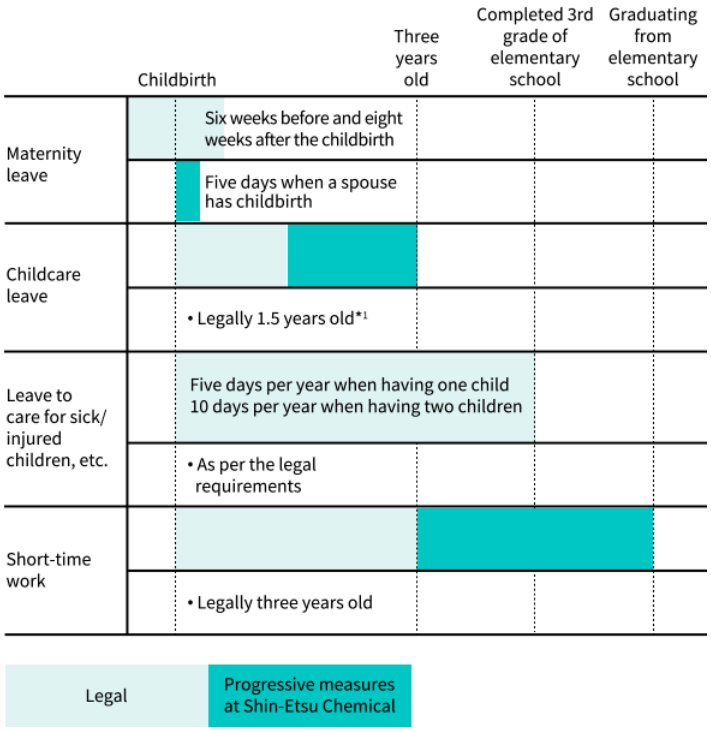
Annual Paid Vacation

We encourage employees to take paid vacation, and meticulously monitor whether they take it, through site- and workplace-specific initiatives, such as maintaining schedules of planned leave and offering incentives to take it. Currently, the rate of paid vacation taken is approximately 80%. As a company involved in chemical manufacturing, where continuous operation is essential, we have shift workers who support the plant 365 days a year, including the year-end and New Year holidays. Nevertheless, we have been able to maintain a high rate of paid vacation taken by fostering a culture of mutual cooperation. Employees work together with a strong commitment to support the plant and maintain safe, stable operations.

Childcare Support

The Group supports employees' childbirth and childcare. The Company has published the "Childbirth and Childcare Guidebook," which summarizes systems and procedures related to childbirth and childcare, in an effort to create an environment that encourages employees to take advantage of our childcare support systems. As a result, many employees have utilized the childcare leave system, which allows employees to take childcare leave until their child turns three years old, and for two consecutive years, the average take-up rate for male employees has exceeded 80%. In addition, we grant a paid leave of five days to an employee whose spouse gives birth. Employees are allowed to use the short-time work system, which shortens their working hours for a maximum of two hours a day. This system can be used until their children graduate from elementary school. We also encourage use of the teleworking system. Childcare is supported according to local laws and regulations in overseas Group companies.

Main System for Childcare Support (Shin-Etsu Chemical)



*1 From October 2017 onwards, employees can take childcare leave until their child reaches the age of two, provided they meet certain conditions.

Number of Employees Who Have Taken Parental Leave System*2

(people)

	FY2022		FY2023		FY2024	
	Male	Female	Male	Female	Male	Female
Consolidated	156	151	283	196	351	217
Japan	66	27	114	29	160	29
Overseas	90	124	169	167	191	188

*2 The length of parental leave differs from country to country, because the program is based on local laws.

Rate of Childcare Leave Taken

(%)

	FY2022		FY2023		FY2024	
	Male	Female	Male	Female	Male	Female
Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies	87.2	100	87.7	100	96.2	100

Related Information

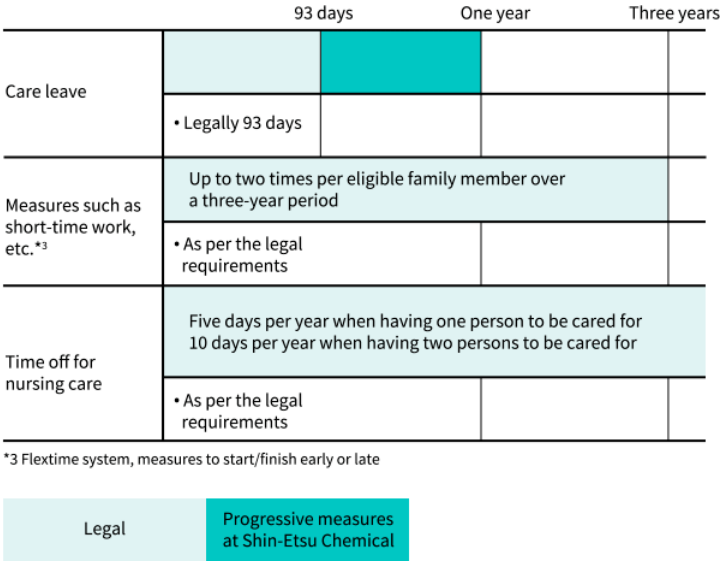
Shin-Etsu Challengers 2024 No. 7: Comment from an Employee Who Took Childcare Leave PDF

Nursing Care Support

The Group has a nursing care leave system as shown in the chart below. The system enables employees to work in the company while caring for the elderly. In addition to the system documented in the chart below, we support caregiver employees through systems and operations that are as tailored as possible to each employee's individual circumstances. For example, employees who are separated from their families due to caring for their parents are provided with travel expenses to temporarily return home once a month.

The Company publishes a Nursing Care Guidebook in which all of the necessary information on our nursing care system and care insurance is provided. Furthermore, we started health care and nursing support services in FY2014 to provide counseling by external experts.

Main System for the Nursing Care System (Shin-Etsu Chemical)



Number of Employees Who Have Taken Nursing Care Leave

(people)

	FY2022	FY2023	FY2024
Consolidated in Japan	3	2	4

Career Support

Shinkansen commuting system

Our Shinkansen commuting system, introduced in 1989 to allow employees to commute long distances by Shinkansen at company expense, was expanded in 2023 to allow employees to use the Shinkansen to commute to districts where our plants are located. Previously, the use of the Shinkansen was only permitted for commuting from the plant districts to the head office. Now, the system's expanded coverage makes it possible for more couples to continue their careers without living separately or quitting their jobs, which is important as the number of dual-income households increases.

Leave of absence for accompanying spouse on overseas assignment

Starting in 2023, the Group introduced a leave of absence system for employees to accompany their spouses on overseas assignments. This system allows employees to take a leave of absence for up to three years to accompany their spouse on an overseas assignment. This will allow employees to not only continue the careers they have built at the Group upon returning home, but also further enhancing their careers by incorporating the various new experiences, perspectives, and values gained while living abroad with their spouse.

Resigned employee registration system (return employment system)

In addition to the leave of absence for accompanying a spouse on an overseas assignment, in 2023 we also introduced a resigned employee registration system (return employment system) as another initiative to enable us to respond to a variety of "career design" needs. Our return employment system is a system for rehiring employees who were forced to leave the company due to childbirth, childcare, nursing care, spouse's transfer, illness, injury, or other family reasons. Employees can be rehired within 10 years after leaving the Company.

Welfare and Benefits

Saved holidays system

If the annual paid leave granted in accordance with labor regulations has expired without being taken, a certain number of days can be treated as saved holidays. Employees may use these saved holidays for nursing care, for injury or illness, for volunteer work for regional disasters, or for donating organs or bone marrow transplants.

Counseling hotline for employees

As a counseling service for troubles at work or other issues, we have set up Dial Shin-Etsu, which is staffed by external counselors, who are specialists from outside of the company. Consultations are received anonymously and treated with strict confidentiality, but if requested by the consulter, the counselor will contact the Personnel and Labor Relations Department to discuss possible solutions.

Employee shareholding system

The employee shareholding system was established in 1979 with the aim of helping employees build financial assets over the medium to long term. Employees contribute funds in the form of payroll deductions from their salary and bonuses to be applied to the purchase of shares of the Company, which the system then purchases on a regular, ongoing, and systematic basis. Dividends on the shares are reinvested into more stock purchases. The system increases the sense of participation in management among employees, encouraging them to identify with shareholders in the shared goal of improving corporate value over the medium to long term.

Other systems

In addition, we have established asset-building schemes and mutual aid groups to provide support for weddings, childbirths, and sudden hospitalizations of family members.

Welfare facilities

Dormitories and company housing

We have dormitories and company housing near the head office and plants for employees who live outside the commutable area.

Recreational facilities

We have directly operated recreational facilities in Kanagawa, Shizuoka, Fukushima, and Niigata Prefectures. The Group's employees can use these facilities with family and friends. Furthermore, we have partnerships with external recreational facilities, and subsidies are given to the users.

Shin-Etsu Chemical Hakone Shinsensou (Kanagawa Prefecture)

Related Information

› Sustainability Data

* Eligibility for the programs described under "Initiatives for Work-life Balance" is limited to employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies.

Quality Control

Key sustainability issues relevant to this page

Product quality improvements and product safety control

Approach to Quality Control

The Group focuses on stably supplying the high-quality products that customers demand. In quality control, we are committed to “defensive quality control” that does not produce or ship irregular products, and “aggressive quality control” that minimizes variations in quality and creates quality that cannot be followed by other companies. We have established a robust internal quality management system and are continuously working to improve quality and reduce deviations and waste.

Quality Control Organization

In each of our business divisions and group companies, Sales Department, R&D Department, Production Department, and Quality Assurance Department cooperate in the following roles to respond customer requests.

Sales department

Understands the customer’s requests, and promptly and accurately shares the information with our R&D Department and Production Departments.

Research and development department and production department

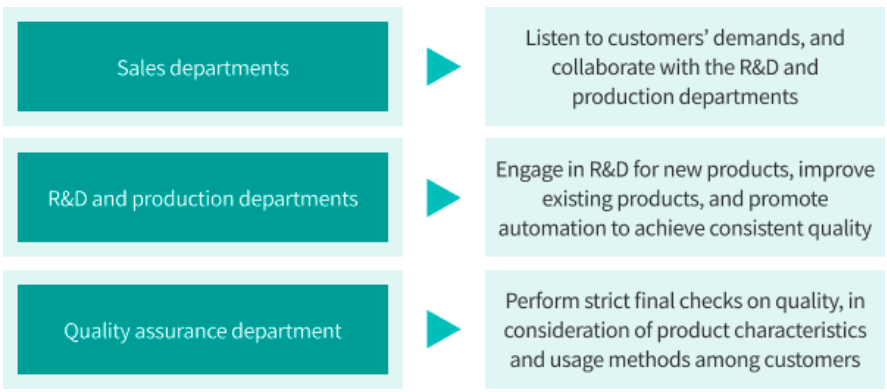
Research and develop new products and improve existing products based on the customer’s requests.

Also promote the automation of the manufacturing process to achieve consistent quality.

Quality assurance department

Makes the final quality confirmation on the product while taking into account product characteristics and customer usage.

Quality Control Structure



Quality Improvement Initiatives

Enhances the accuracy of quality measurement by pursuing the automation of measurement processes to eliminate variations due to quality measurement personnel, sample preparation, and measurement procedures. In addition, converts measurement results into data and uses the data to prevent to prevent typing errors when creating inspection tables and labels.

Holds quality assurance department meetings three times a year, bringing together the quality assurance department managers of each plant to organize the issues at each plant, determine quality targets for each term, and check progress. Similarly, holds quality analysis technical meetings where the details of each plant's initiatives are reported in order to promote DX in quality assurance and share new inspection and analysis technologies.

Almost all of the Group's manufacturing bases, both domestic and overseas, have obtained certifications for their quality control systems, such as ISO 9001. Even at those bases that have not obtained ISO 9001 certification, we control the quality of our products by conducting inspections at the time of receiving raw materials, maintenance of inspection equipment, and quality audits based on ISO 9001. In addition, some Shin-Etsu Chemical plants and group companies have acquired quality management system certifications such as IATF16949*.

The Shin-Etsu Group has also established a strict rule to respond to all inquiries of product quality from customers within two business days.

* IATF16949
A quality management system for the automotive industry

Undergoing ISO 9001 renewal examination
(July 2024, Shin- Etsu Chemical Naoetsu Plant)

Related Information

› ISO 9001 Certification of the Shin-Etsu Group PDF

Quality Audits and Support

Since 2000, we have conducted quality audits annually to improve quality and customer service at each plant, and we confirm the status of quality and report on the efforts to meet quality targets. We also confirm measures to deal with important customer complaints and work to improve quality levels.

Quality audits evaluate quality from two different viewpoints: customer and quality cost. Through this, we work to identify the root cause of quality issues to prevent re-occurrence. We have also designated November as Quality Month, and work to strengthen our quality management throughout the Group.

Audit Status for FY2024

In the quality audit in FY2024, the following items were audited as priority items:

(1) "Efforts to reduce variations in manufacturing processes": In addition to improving the conventional manufacturing variations, we confirmed the improvement status of quality through the introduction of DX and AI.
(2) "Examples of countermeasures and status of horizontal deployment": Since many past quality problems were caused by inadequate process management, this year we conducted a logical analysis of quality problems caused by inadequate process management, and then checked whether permanent countermeasures against past quality problems were implemented and continued, and whether they were deployed horizontally to other production processes.
(3) "Division audits": The sales, production, and quality assurance departments select quality issues that they consider important for their business or product, and the sales department reports on and confirms the status of quality improvement plans and their implementation.

We are also implementing six sigma activities* throughout the Company to improve quality standards.

Quality audit
(September 2024, Shin-Etsu Chemical Gunma Complex)

The 25th debrief session of the results of Shin-Etsu Six Sigma
(February 2025, Shin-Etsu Chemical Head Office)

* Six Sigma programs
Quality improvement method developed by Motorola in the 1980s. Focusing on processes with quality variation, it is designed to minimize variations within the processes, thereby reducing the incidence of quality defects. This approach has been adopted across the Group.

Related Information

› Sustainability Data

Product Safety Control

Key sustainability issues relevant to this page

Product quality improvements and product safety control

Product Safety Control

The Shin-Etsu Group strictly manages product safety, from product development to product shipment, based on internal regulations.

The Group appropriately designs and manages chemical substances in accordance with laws and regulations and evaluates their safety based on the latest information collected in cooperation with administrative bodies and affiliated organizations. Additionally, we evaluate the safety of facilities handling chemical substances, their handling methods, the use of protective equipment, and the response to potential accidents, and when necessary, take corrective action. These evaluations are performed on a regular basis and whenever changes are made. We also obtain or prepare Safety Data Sheets (SDSs*1) to provide employees, customers and business partners with the latest information on the effects of chemical substances.

*1 Safety Data Sheet (SDS)
SDS lists the physical and chemical properties of chemical substances, together with their harmfulness and emergency response procedures. Designed to promote safer use of chemical substances and prevent accidents and incidents, SDS are supplied by manufacturers, importers, and distributors to customers during sales or shipment.

Minimizing Safety Risks of Chemical Substances

Seeking to prevent health hazards and minimize environmental impacts throughout the processes of development, manufacturing, distribution, usage, consumption, and disposal of chemical substances, the Shin-Etsu Group is reducing usage of these substances through process improvements and other measures. We are also rapidly developing and switching to safer alternatives.

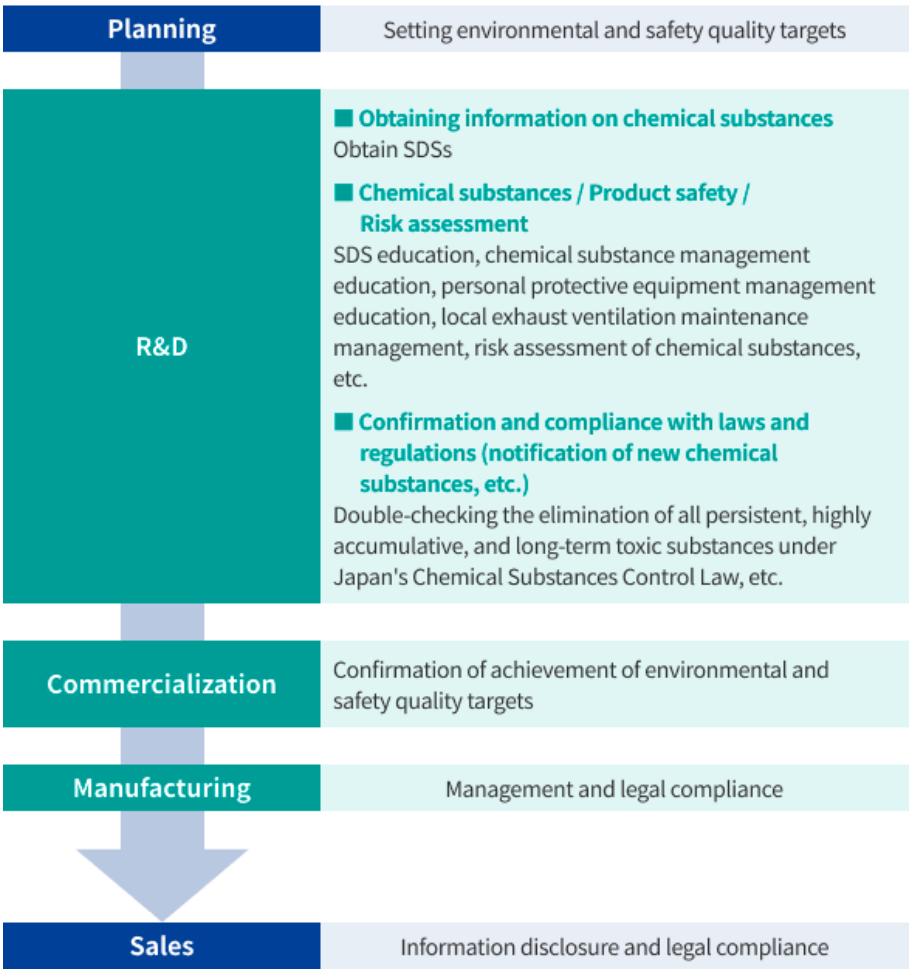
For example, in response to the POPs Convention, PFOS and PFOA were designated as specified chemical substances of Class I (prohibited to manufacture and use) under the Chemical Substances Control Law*2. PFOA, which had been used as a product raw material, has already been replaced with an alternative raw material. In addition, although the use of foam extinguishing agents containing PFOS is permitted, we have completed the switch to foam extinguishing agents that do not use PFOS, with some exceptions. We have also developed alternatives to PFAS products that are being used by our customers, including a silicone oil for refrigerants, silicone resin aqueous dispersion for highly weather-resistant paint, a water-based coating agent for oil-resistant food packing paper, and a coating agent for baked-on cooking ware.

In addition, we are investigating the use of substances that are scheduled to be regulated in Japan and overseas, and are taking steps to change them. We are taking measures to comply with the regulations stipulated in the revised Industrial Safety and Health Act to minimize the impact on workers when manufacturing and handling chemical substances.

To ensure the safety of new chemical substances, we assess environmental and health risks at the development stage in accordance with quality management implementation standards and in compliance with various laws and regulations. For example, we perform risk assessment of chemical substances under Japan's Industrial Safety and Health Law, and we double-check the elimination of all persistent, highly accumulative, and long-term toxic substances under Japan's Chemical Substances Control Law. When developing new chemical substances, we focus on products and manufacturing technologies that do not use hazardous substances that have been designated by the Industrial Health and Safety Act and Chemical Substances Control Law, as well as the EU RoHS Directive*3 and other regulations. Furthermore, we make sure that the necessary notifications and reports are submitted according to laws and regulations.

Chemical Substance/Product Management Flow

Environmental safety management regulations
Operation management regulations
Quality management implementation standards
Quality assurance implementation standards, etc.



*2 Chemical Substances Control Law
Short for "Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc.," it is intended to prevent environmental pollution by chemical substances that can be harmful to human health or to ecosystems.
*3 Restriction of Hazardous Substances (RoHS)
An EU directive that restricts the use of certain hazardous substances in electrical and electronic equipment.

Providing Safety Information

We offer customers information such as on product hazards and harms in the form of SDS in order to ensure the proper transmission of information to customers and transportation firms. In addition, we request customers to handle products safely by complying with laws and regulations, installing abatement equipment, wearing protective equipment and so on through SDS. As a product transportation safety measure, we issue yellow cards*4 and container yellow cards*5 that are affixed to containers. In accordance with the Industrial Safety and Health Act, we also attached symbols to indicate hazardous and harmful substances in accordance with GHS*6 on product containers and packaging.

*4 Yellow cards
Yellow cards are cards that describe all relevant information on the treatment required in case of an accident during the transportation of chemical substances. The cards are handed to the transport contractor, who carries them when transporting the chemical substances in tanker lorries, etc.
*5 Container yellow cards
The standard yellow card system is not suitable for use with mixed cargoes and small-lot deliveries; instead, each container carries a label displaying the safety information such as the UN number of a chemical name and the ERG guide number.
*6 Globally Harmonized System of Classification and Labeling of Chemicals (GHS)
An internationally standardized system of classification and labeling of chemicals.

Product Safety Training

The Group actively educates employees on product safety based on quality management implementation standards and environmental safety management regulations. In particular, in line with the phased amendments to Japan's Industrial Safety and Health Law starting from 2022, we provide a comprehensive educational environment in each workplace, including the handling of raw materials, intermediates, and finished products (covering training on SDSs, chemical substance management, personal protective equipment management, etc.) and the selection of appropriate protective equipment. Additionally, to safely manage the products, we encourage employees to obtain qualifications related to handling high-pressure gas, hazardous materials, and toxic substances, and we conduct training sessions aimed at acquiring these qualifications. We also provide information related to environmental safety, such as SDSs and plant regulations, to contractors, temporary employees, and subcontractors. After providing them with easy-to-understand education on work-related safety information, we follow up to confirm their level of understanding and compliance.

Related Information

› Sustainability Data

Sustainable Procurement

Key sustainability issues relevant to this page

Promoting CSR procurement and the diversification of supply sources

Approach to CSR Procurement

The Shin-Etsu Group is working on CSR procurement, and we have created the Basic Procurement Policy, which serves as the basis for the CSR procurement, and have made it known throughout the Group and posted on our website. In addition, believing that it is important to share awareness and promote activities throughout the entire supply chain, we have prepared CSR Procurement Guidelines which are published on our website and distributed to the Group's business partners. We ask our business partners to understand the Group's sustainability initiatives and to promote them even in their upstream supply chains.

In January 2018, we established the Supplier Hotline to ensure the transparency and fairness of transactions between the Group and suppliers. Our Group's suppliers can report anonymously from our website.

Shin-Etsu Group's Basic Procurement Policy

1. Legal compliance

As the most important of its management objectives, the Company conducts all of its business activities in a law-abiding spirit. Each and every staff member is made fully aware of corporate social responsibilities and they carry out their business activities in strict conformity with the law, business ethics and the various rules and regulations of the Company. In its purchase and procurement activities, the Company acts in good faith and in a fair manner, and does not practice favoritism, nor make improper demands.

In addition, based on mutual trust, not only between the Company and the suppliers that the Company directly procures from, but also with vendors in the linked supply chain, all those companies involved carry out their business activities in strict accordance with the principal labor standards of International Labor Organization (ILO), any laws and regulations related to protection of the environment and business transactions including those of small- and medium-size enterprises.

2. Promotion of corporate social responsibility

The Company places primary importance on corporate social responsibility (CSR) activities. For the promotion of CSR, the cooperation of all the Company's suppliers is essential, and we ask you to comply with the Company's policies in the areas listed below. At the same time, we will strive to maintain mutual trust and close, friendly relationships.

(1) Strive to strengthen and promote conformance with social norms, business ethics and laws.
(2) Place first priority on assuring safety, protection against disasters and effective environmental preservation (Cooperate in "Green" environmentally friendly purchasing and procurement activities, and at the same time, each person should have a consciousness of the importance of these issues.
(3) Conduct risk management activities such as paying attention for accurate and fair disclosure of information on assuring the delivery of safe and reliable products and taking speedy measures to deal with various contingencies.
(4) Respect for human rights and promote anti-discriminatory practice. Comply with the labor standards of the International Labor Organization (ILO) and prohibit unfair labor practices.
(5) Protect against the disclosure of classified information, personal confidentiality and respect the rights of the third party's intellectual property.
(6) Pay attention to biodiversity preservation.
(7) Avoid the purchase of Minerals that are clearly involved in conflicts and human rights infringement in conflict-affected and high-risk areas (CAHRAs).

3. Supplier selection

The Company follows an open-door policy regarding its purchasing activities and globally seeks suppliers based on open, fair, impartial and equal-opportunity principles. The company selects suppliers in a rational and comprehensive manner, taking into consideration the following core considerations: 1. Globally competitive in product quality, price, delivery time and supply stability. 2. Objective standards such as suppliers' management stability, reliability and technological superiority. 3. Matters as mentioned in "2. Promotion of corporate social responsibility" above.

4. Development and review of the suppliers

The Company provides suppliers with the essential information necessary for transactions and also cooperates with suppliers' VA and VE* improvement activities as well as in activities related to the maintenance and improvement of product and service quality. The Company also routinely or as necessary promotes evaluation and review of suppliers' performance.

* VA: Value Analysis, VE: Value Engineering
Method for developing high value new products satisfying customers and improving existing products

Related Information

- Shin-Etsu Group CSR Procurement Guidelines (Revised January 2025) PDF
- Supplier Hotline

Initiatives toward CSR Procurement

Compliance with the Subcontract Act

Staff members in charge of purchasing and procurement attend seminars on the Subcontract Act to gain an understanding of it. We also conduct regular internal audits of subcontracting transactions to ensure full compliance with the Subcontract Act. In addition, we make sure that all subcontractors that are subject to the Subcontract Act are in full compliance by periodically checking the details of existing transactions and reports on new transactions. In November 2024, we conducted a self-inspection of our compliance with the Subcontract Act.

Announcing the "Declaration of Partnership Building"

We announced the "Declaration of Partnership Building" in December 2020, agreeing with its concept "Building the mutually beneficial relationships among entirety of the supply chain." In particular, during a negotiation of the pricing of a deal, we agree to include the appropriate profits of suppliers in the pricing and make sure that we do not make unreasonable cost reduction requests.

The declaration was revised in May 2025 to reflect changes in the development standards of Japan's Act on the Promotion of Subcontracting Small and Medium-sized Enterprises and changes in the guidance standards of the Subcontract Act.

Related Information

- Multi-stakeholder Policy (Only Japanese Available) PDF
- Declaration of Partnership Building

Sustainable Procurement

In our “Basic Procurement Policy,” the Group has declared our dedication to eliminating minerals from conflict-affected and high-risk areas (CAHRAs) that are clearly involved in conflicts and human rights infringement in all product procurement. We require our suppliers to comply with this policy and regularly trace relevant minerals including tin, tungsten, tantalum, and gold back to the smelter using the Conflict Minerals Reporting Template (CMRT) issued by the Responsible Minerals Initiative (RMI). In FY2020, we investigated 22 companies in 43 product categories. In the future, we will also consider complying with the Extended Minerals Reporting Template (EMRT), which adds cobalt and natural mica.

Furthermore, in February 2021 Shin-Etsu Chemical participated in the Roundtable on Sustainable Palm Oil (RSPO) and is promoting sustainable palm oil procurement through RSPO certification with the goal of preventing deforestation, preserving biodiversity, and addressing human rights and labor issues. The RSPO is a non-profit organization that promotes sustainable growth and use of palm oil by way of cooperation within the supply chain and open dialogue with interested parties. The Company agreed with the purpose and participated in the RSPO, and obtained mass balance certification in March 2023. We are currently assisting our affiliates in obtaining the certification.

For wood pulp, which is a key raw material, we are confirming through certification that all of our suppliers are processing pulp in a sustainable manner. We are also focusing on packing materials, and have started several projects to partially replace virgin materials with recycled materials and are exploring ways to reuse them. Some Group companies are also considering purchasing caustic soda made with green energy.

Procurement Audit

By asking suppliers to complete a supplier CSR procurement questionnaire, we confirm whether they conduct business activities in accordance with the Group’s CSR Procurement Guidelines. Additionally, we visit suppliers in Japan and overseas whenever necessary to carry out audits.

Furthermore, in 2024, following on from 2023, we confirmed that Materials Management Regulations were in place at Group companies in Japan, conducted internal audits on their compliance with the rules, and ascertained their compliance with the Subcontract Act, a Japanese law, with the goal of improving Group governance.

Procurement Conferences

The Purchasing Department holds a company-wide meeting every six months with all purchasing department personnel to discuss material procurement. In this meeting, we do not only report material procurement, but we also train purchasing department personnel according to the “CSR Procurement Guidelines,” check the status of CSR procurement, and learn the latest examples of CSR procurement inside and outside the Company.

Control of Chemical Substances Used as Raw Materials

The Group checks the ISO 14001 acquisition status of business partners and considers prioritizing suppliers that have an ISO certification so as to purchase materials with smaller environmental impact. When signing contracts on specifications for the supply of raw materials, we work to confirm the following:

- Compliance with relevant laws and regulations regarding the use of chemical substances that affect the environment in products and packaging materials
- Compliance with the RoHS Directive
- Substance management using SDS or chemSHERPA

Related Information

› Product Safety Control

Intellectual Property Management

Key sustainability issues relevant to this page
Respect for and protection of intellectual property

Intellectual Property Strategy

The Group has established “Basic Regulations for Intellectual Properties,” based on the policy of “applying for and acquiring valid patents to protect our business and increase business value, and not to infringe on the patents of other companies.” In accordance with these regulations, we are working to acquire, manage, and utilize intellectual property assets. We acquire useful and highly original intellectual property assets based on these regulations and we protect them from infringement by third parties. These regulations also require us to respect the intellectual property rights of third parties. Other concrete activities include focusing on continuous patent watching (SDI: selective dissemination of information) in the area of interest, which is utilized for intellectual property management.

At each research center, members of the Patent Department discuss their research themes on a monthly basis, either in person or via online web conference, hold patent review meetings with the persons in charge of patents and key researchers, and examine whether there is any infringement of other companies’ patents. In addition, the President and other senior management team members stay in frequent communication with the corporate officer in charge of intellectual property. As a result, there were no cases in which business progress was impeded due to patents in FY2024, and no litigation has occurred.

The Patent Department is also leading the effort to educate each researcher so that they can prepare specifications for patent applications, as well as the effort to create a system that allows them to conduct research while keeping patents in mind.

Furthermore, employees who have devised useful inventions, improvements, and devices at work have been awarded under the following systems:

Actual Compensation Awards

A system to recognize and award employees who have created an invention or idea which greatly contributed to the company in the form of patents

FY2024: 35 awards (Shin-Etsu Chemical)

Multiple Inventor Awards

A system to recognize employees who have made a large number of inventions and acquired a large number of patent rights in the company

FY2024: 21 awards (Shin-Etsu Chemical)

Interview with the General Manager of the Patent Department

The goal is to build stronger barriers to entry

Okmi Park
General Manager, Patent Department
Shin-Etsu Chemical

Q1 How would you characterize Shin-Etsu Chemical's intellectual property strategy and the role of the Patent Department?

Since the Company provides a wide variety of material products that support industry and daily life, and the business environment of each business division varies greatly, each division formulates its own intellectual property strategy based on the Company's management policies. Furthermore, to ensure we can quickly respond to rapid market changes, the R&D department has also formulated an intellectual property strategy to promote new research that will lead to new business ventures across divisions.

The Patent Department is responsible for advancing these intellectual property strategies and helping to secure a competitive advantage of our businesses in the marketplace through the acquisition, management, and utilization of intellectual property. Specifically, we aim to secure a competitive advantage that contributes to the Company's profitability by working closely with the R&D department to quickly and reliably acquire the rights to the results of R&D activities that create unrivaled value.

Q2 Shin-Etsu Chemical has received the Clarivate Top 100 Global Innovators™ award for 14 consecutive years. What accounts for the success of our intellectual property strategy?

Companies and institutions eligible for this award are selected based on the number of patents filed and held over the past five years, and are then evaluated based on a combination of "Influence," "Investment," "Success," and "Rarity." Shin-Etsu Chemical scored particularly high in the areas of "Influence" (assessed through the frequency of citations by downstream patent applications) and "Rarity" (an index for measuring the distinctiveness of an invention in terms of how diverse a combination of technologies it contains compared to existing similar inventions). Our high "Rarity" score in particular is evidence to me that we are carrying out highly original, cutting-edge R&D.

Q3 How has Shin-Etsu Chemical's intellectual property strategy evolved over the past 10 to 20 years?

Traditionally, the Company has engaged in mainly "defensive" intellectual property activities from the perspective of ensuring business continuity and flexibility. Over the past 10 to 20 years, however, while continuing these "defensive" activities, we have begun to move toward "offensive" intellectual property activities. These are exclusionary activities focused on securing our competitive advantage over other companies and building barriers to entry.

Traditionally, we protected our products primarily through patent rights and trademark rights. For our products with distinctive product forms, however, we have begun to actively acquire design rights to provide another layer of protection. One example is our insect pest control delivery device that diffuses insect pheromone components into agricultural fields. Another example is our stamp component for transferring microstructures, which is used to transfer microstructures such as semiconductor elements for micro LED displays.

Q4 How would you develop the intellectual property strategy going forward?

I would like to utilize new tools such as generative AI to improve the efficiency of various intellectual property-related tasks. In particular, I would like to work closely with the R&D department to strengthen our efforts to search for and acquire the rights to solutions that meet customer needs starting from the idea generation stage in a way that transcends the boundaries between departments.

Furthermore, with regard to the intellectual property that is generated though our R&D activities, I would like to pursue a strategic combination of acquiring rights by filing applications and keeping it secret in the form of know-how, with the goal of building stronger barriers to entry for other companies.

TOPIC Selected as a Clarivate Top 100 Global Innovators™ for the 14 consecutive year

For the 14 consecutive year, the company has been selected the Top 100 Global Innovators™.

The award is granted by Clarivate (United Kingdom), a leading provider of global transformative intelligence, to the most influential companies and institutions shaping the global innovation landscape, based on an evaluation made using its proprietary database. Nine Japanese companies, including our company, have been selected for the 14 consecutive year, and we are the only chemical company among them.

Related Information

› Sustainability Data

Communication with Stakeholders

Key sustainability issues relevant to this page

Accurate and timely information disclosure and communication with stakeholders

Communication with Stakeholders

The Group communicates with stakeholders actively through a variety of methods and opportunities. We believe that this effort contributes to the sustainable growth of the Group and increases corporate value.

Approach to Communication with Stakeholders and Main Achievements

Stakeholders	Communication Policy	FY2024 Results
Shareholders and Investors	We disclose information on our business performance and management policies and strategies in a timely and appropriate manner and host a wide range of briefings to cultivate a deeper understanding of the Group. In this way, we strive to build a relationship of trust with our shareholders and investors, establish an appropriate market valuation, and improve our corporate value.	• General Shareholders' Meeting • Financial results briefings and conference calls for analysts and institutional investors (4 times in 2024) • Business briefings and plant tours for securities analysts and investors (once in 2024) • One-on-one meetings with analysts (about 380 times in 2024) • Small meetings for investors hosted by securities companies (6 times in 2024) • Information provided on the company website, Annual Report, etc.
Customers	The sales, development, and production departments work together to improve customer satisfaction by communicating closely with customers, identifying customer issues and needs, and responding quickly to them.	• Day-to-day communications by sales representatives • Information provided on the company website, exhibitions, etc.
Suppliers	By publishing our Basic Procurement Policy and CSR Procurement Guidelines, and through fair, impartial, and transparent transactions, we will build sound, mutually beneficial relationships with our business partners and strive for mutual prosperity.	• Day-to-day communications by the Purchasing Department • Supplier hotline
Local communities	We value communication with local residents, governments, and municipalities, and are actively involved in social contribution activities in the community, striving to build a relationship of trust with the local community.	• Communication with organizations such as local governments • Participation in local events
Employees	In addition to disseminating information via the company magazine and intranet and conducting employee satisfaction surveys, we place importance on two-way communication between management and employees, such as by having the president visit each location to provide opportunities for the exchange of opinions.	• Communication and consultation with labor unions • Information provided on the company magazine and intranet

Example of Communication with Shareholders and Investors:
Business briefings for securities analysts and investors

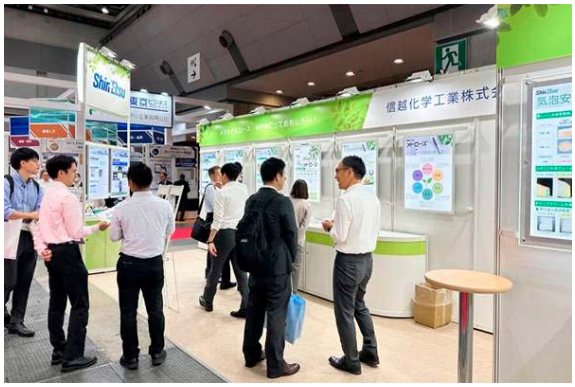
In December 2024, we held a new business briefing for securities analysts and investors to deepen their understanding of our new businesses. The general managers of the Business Promotion Offices and Public Relations Department attended the briefing to introduce the GaN business and the package substrate manufacturing equipment business, and this was followed by a Q&A session. More than 100 securities analysts and investors attended the event.

New business briefing
(December 2024, Shin-Etsu Chemical Head Office)

Example of Communication with Customers:
Exhibit at Health Ingredients Japan 2024

Shin-Etsu Chemical exhibited at the Health Ingredients Japan 2024 held at Tokyo Big Sight in October 2024. The Expo is targeted at R&D, quality assurance, and manufacturing engineers in the food sector.

At our exhibition booth, we showcased the properties of METOLOSE, our cellulose derivatives product that gels when heated, and offered various solutions to address the challenges of the attendees. In addition, since growing health consciousness is increasing interest in supplements, we also introduced HPMC, our coating agent for supplements, which has excellent solubility and coating properties. It was a good opportunity to show how our products are making a significant contribution to a sustainable society in the areas of food and health.



Health Ingredients Japan 2024
(October 2024, Shin-Etsu Chemical Head Office)

Related Information

› Shin-Etsu Cellulose derivatives Product Site

Example of Communication with Local Communities: Exhibit at Echizen Manufacturing Festival 2024

A group from Shin-Etsu Chemical's Takefu Plant exhibited at the Echizen Manufacturing Festival 2024 held at Sun Dome Fukui over two days on September 13 and 14, 2024. This exhibition, which began in 1982 and is now in its 41st year, is sponsored by the Takefu Chamber of Commerce and Industry, the Echizen City Chamber of Commerce and Industry, and the Echizen City and Others Executive Committee. Approximately 130 companies and organizations set up booths to promote both traditional industries and cutting-edge technologies.

At the Shin-Etsu Chemical booth, the Takefu Plant group displayed the products they manufacture, including rare earths, rare earth magnets, silicone rubber, photomask blanks, semiconductor silicon ingot, and quartz glass. They also set up posters introducing Shin-Etsu Chemical and its products and an apparatus allowing visitors to experience the strength of the magnetic force of rare earth magnets. The visitors included many local residents and students. On the first day, visitors to the booth included many fifth graders from elementary schools across the city, who the Echizen City Board of Education had invited to help guide their future career paths.

Echizen Manufacturing Festival 2024
(September 2024, Takefu Plant)

Examples of Communication with Employees:

To achieve high productivity and sustainably improve corporate value, it is important to create a personnel system and workplace environment where all employees can feel motivated and maximize their individual capabilities. Shin-Etsu Chemical therefore aims to improve engagement so that more employees can feel motivated in their work.

Employee opinion survey

The Company aims at creating its personnel system and work environment based on communication with its employees. In 2022, to help create a more rewarding workplace, we conducted an employee opinion survey of employees working at Shin-Etsu Chemical. The survey asked about a range of topics including compliance, customer orientation, penetration of management principles, Company's future prospects, personnel system, career outlook, workload, work environment, and relationships with superiors.

The response rate was 86.5%. Analysis of the results revealed that the employees have a high level of compliance awareness. On the other hand, intergenerational differences were observed on questions such as personnel system, career outlook, and relationships with superiors, reaffirming the change in values and the importance of intergenerational communication. Based on the survey's findings and after consultation with the labor union, we expanded and revised our personnel system, including the subsidization of rent and commuting by Shinkansen bullet trains. In 2025, we launched a new initiative that utilizes organizational analysis of employee stress checks to further improve the workplace environment. In this way, we will continue our efforts to make more employees feel fulfilled in their jobs, while further developing the areas where we excel and improving areas that need improvement.

Labor-management relations

The Company engages in various dialogues with the Shin-Etsu Chemical Labor Union to promote mutual understanding between employees and management. The Central Labor Council is held once a month at the head office attended by top management. They engage in thorough discussions with the labor union regarding subjects such as management policy, overviews of individual businesses, and the personnel system. Also, each business site holds a monthly Local Labor Council with the local branch of the Shin-Etsu Chemical Labor Union.

Repeated dialogues and discussions between employees and management deepen mutual understanding and trust and ensure that staff and management can come together to carry out speedy responses to the expansion of business operations and the changing business environment.

Contribution to Industry and Social Initiatives

Key sustainability issues relevant to this page

Contribution to industry and social initiatives

Initiatives of Shin-Etsu Chemical and its Group Companies in Japan

Fundraising for the U.N. World Refugee Day

Since 2006, the Group have donated the money to the Office of the United Nations High Commissioner for Refugees (UNHCR) for the World Refugee Day (June 20), which was established by the United Nations. We have supported world refugees who have been driven out of their homes due to conflict, persecution, and disaster by donating the money to the UNHCR. Since 2012, we have continued to make matching donations in which the company contributes the same amount as donations from employees.

(Available only in Japanese)

Cleaning Activities Around the Plant (Shirakawa Plant, Naoetsu Plant)

At Shin-Etsu Handotai's Shirakawa Plant, cleaning activities around the plant are carried out as part of new employee training. New employees collect trash while exchanging greetings with local residents and learn about the importance of coexistence between the company and the local community and the importance of community contribution activities. Similarly, Shin-Etsu Chemical's Naoetsu Plant holds an annual event at which employees clean up the area around JR Kuroi Station, which they use on a daily basis, as well as the perimeter of the plant, in an effort to beautify the community. Going forward, the Company will continue to carry out such cleaning activities to protect the beauty of the local environment.

Participation in Pine Forest Restoration Project (Kashima Plant)

Employees of Shin-Etsu Chemical's Kashima Plant and their families participated in the Hakusaseisyo (white sand and green pine) Restoration Project led by the Kamisu-bisuiren (beautification promotion coordination council of Kamisu City), Ibaraki Prefecture. Participants planted trees on Toyogahama Beach as part of this restoration project that aims to revive pine forests lost to pine weevils and tsunami damage from the Great East Japan Earthquake in order to protect the landscape and mitigate future disasters.

Shin-Etsu Chemical Youth Sports Award Ceremony (Takefu Plant)

To promote sports and support the healthy growth of children, employees at Shin-Etsu Chemical's Takefu Plant donate sports equipment to elementary schools in Echizen City, Fukui Prefecture, and present awards to students who have achieved outstanding results in sports. This initiative is part of Shin-Etsu Chemical's Youth Sports Promotion Fund Project, which was established in 1986 to commemorate the 60th anniversary of Shin-Etsu Chemical's founding. Going forward, the Company will continue to support children's dreams and achievements.

Traffic Safety Activities (Shirakawa Plant, Naoetsu Electronics)

Shin-Etsu Chemical's Shirakawa Plant and Naoetsu Electronics conduct traffic safety activities in conjunction with local traffic safety campaigns. Employees stand at roads and intersections around the plant and remind people commuting to work and school to be safe on the road. Drivers are also urged to slow down and keep an eye out for pedestrians who may unexpectedly cross the road. We will continue to aim to prevent traffic accidents in local communities and at the same time raise the awareness of traffic safety among our employees.

Summer School for Local Elementary School Students (Naoetsu Plant)

The Shin-Etsu Chemical Naoetsu Plant holds a summer school for 4th to 6th graders at local elementary schools, with employees in their first year at the Company serving as teachers. This initiative has been held continuously since 1975 for the purpose of regional exchange and contribution to the local community. In addition to helping children with their summer homework, the summer school helps promote better communication with the children through recreational activities. Teaching children is also a good experience for the employees, since it allows them to figure out what the students do not understand and think of how to explain it more clearly.

Support for the International Friendship Exchange Special Concert

Shin-Etsu Chemical sponsored the 37th International Friendship Exchange Special Concert, which was held on October 25, 2024. The concert aimed to promote international cultural exchange through music, and musicians from Poland and Bulgaria were invited to perform. In order to ensure that everyone could enjoy music equally, the concert invited people with disabilities and others who do not usually have the opportunity to attend concerts. Additionally, it was also held as a charity concert to support emergency humanitarian aid in Ukraine and refugees in Poland.

Initiatives at Overseas Group Companies

Participation in Local School Maintenance Week (Philippines)

Shin-Etsu Magnetics Philippines, Inc. participated in Brigada Eskwela 2024 at Ganado Elementary School. The Brigada Eskwela program brings together students, parents, teachers, alumni, neighborhood businesses, civic associations, non-government organizations (NGOs), and others to clean and repair public elementary and secondary school classrooms as part of Local School Maintenance Week, which is compulsory at all schools across the Philippines. The initiative not only ensures that students are motivated to learn in a pleasant school environment, but also contributes to the development of the spirit of bayanihan (communal togetherness), a fundamental tenet of Filipino culture.

Removing Waste from the River Rhine (Germany)

SE Tylose participated in the “Rhine Cleanup” initiative, which focuses on cleaning the River Rhine, and collected over 750 kilograms of waste along approximately two kilometers of the Rhine riverbank. The River Rhine is not only an important waterway for trade, but also a source of drinking water and is used by hydroelectric power plants to generate energy, and the habitat for marine life. Since the production site of the company is located in the immediate vicinity of the Rhine, we understand the importance of taking responsibility for our environment and neighboring communities. The company plans to continue this initiative in the future.

Related Information

› Sustainability Data

Sustainability Data

Corporate governance

Aspect	Classification	Scope	Unit	End of June 2023	End of June 2024	End of June 2025
Number of Board Directors	Directors	Shin-Etsu Chemical	Persons	9	9	9
	Outside directors	Shin-Etsu Chemical	Persons	5	5	5
	Women on the board	Shin-Etsu Chemical	Persons	1	1	1
Number of Audit & Supervisory Boards	Audit & Supervisory Boards	Shin-Etsu Chemical	Persons	4	4	5
	Outside Audit & Supervisory Boards	Shin-Etsu Chemical	Persons	3	3	3
	Women on the Audit & Supervisory Boards	Shin-Etsu Chemical	Persons	2	2	2
Structure of Officers' Remuneration Committee	Independent outside directors ratio	Shin-Etsu Chemical	%	75	75	75
Aspect	**Classification**	**Scope**	**Unit**	**FY2022**	**FY2023**	**FY2024**
Remuneration of directors	Excluding outside directors	Shin-Etsu Chemical	Millions of yen	1,269	917	964
Remuneration of Audit & Supervisory Boards	Excluding the Audit & Supervisory Boards	Shin-Etsu Chemical	Millions of yen	38	24	19
Remuneration of Outside directors and the Audit & Supervisory Boards		Shin-Etsu Chemical	Millions of yen	185	187	181
Payments of income taxes		Japan	Billions of yen	128.6	110.9	127.0
		United States	Billions of yen	126.1	78.3	47.9
		Europe	Billions of yen	5.0	7.4	4.5
		Asia/Oceania	Billions of yen	7.1	12.1	7.4
Amount of political contributions		Shin-Etsu Chemical	Millions of yen	0.3	0.7	0.3

* Please refer to IR information for details on financial information.

The foundation of all activities: legal compliance, fair corporate activities

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Number of violators of the Anti-Bribery Regulations		Consolidated	Persons	0	0	0
Total costs of penalties regarding corruption		Consolidated	Yen	0	0	0
Number of reports to Compliance Consultation Office		Shin-Etsu Group	Number of reports	8	11	13

Health and safety of employees and contractors

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Management	ISO45001 certification ratio*1 (Employees)	Consolidated manufacturing companies	%	34	33	31
Occupational health and safety	Number participants in safety training (Total number of persons)	Consolidated	Persons	75,406	87,349	78,887
	Lost-time accidents rate*2	Japan		0.00	0.15	0.13
		Overseas*3		1.15	0.75	0.08
		Industry average (JCIA)		0.43	0.47	0.47
	Rate of accidents not accompanied by an of absence a day*2	Japan		0.37	0.25	0.26
		Overseas*3		3.18	1.60	0.11
	Lost-time accidents severity rate*2	Japan		0.00	0.01	0.00
		Overseas*3		0.03	0.03	0.00
		Industry average (JCIA)		0.07	0.04	0.05
	Number of work-related employee fatalities	Consolidated	Persons	0	0	0

*1 ISO45001 certification ratio
The plants which does not have certification has a occupational health and safety management system the same level as ISO45001.
*2 Lost-time accidents rate and Rate of accidents not accompanied by an of absence a day and Lost-time accidents severity rate
These were calculated in calender year.
*3 The calculation method was adapted to Japan starting in FY2024.

Energy-saving, resource-saving, and reduction of the environmental impacts

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Management	ISO14001 certification ratio*1 (Based on the number of plants)	Shin-Etsu Chemical	%	100	100	100
		Consolidated plants	%	73	73	74
	Total costs of environmental fines and penalties	Japan	Yen	0	0	0
Response to climate change	Energy Consumption (Crude Oil Equivalent)	Consolidated	Million ℓ	3,428	3,098	3,154
	GHG Emissions (Scope1+Scope2)*2	Consolidated	Thousand tons of CO_2e	6,613	6,545	6,770
	GHG Scope1 emissions	Consolidated	Thousand tons of CO_2e	2,246	2,242	2,326
	GHG Scope2 emissions*2	Consolidated	Thousand tons of CO_2e	4,367	4,303	4,443
	GHG Scope3 emissions	Consolidated	Thousand tons of CO_2e	11,139	10,866	12,096
	Emissions intensity index of production volume relative to 1990	Shin-Etsu Chemical	%	46.8	53.4	48.6
		Shin-Etsu Group	%	54.2	57.0	56.9
Water resource conservation	Water use*3	Consolidated	Million m^3	2,618	2,536	2,385
	Water withdrawals	Consolidated	Million m^3	193	164	180
	Water recycle	Consolidated	Million m^3	2,425	2,372	2,205
	Water recycle ratio	Consolidated	%	92.6	93.5	92.5
	Water discharge	Consolidated	Million m^3	183	161	161
	BOD emission	Consolidated	t	699	737	608
	COD emission	Consolidated	t	3,259	2,790	3,464

Waste reduction	Waste generated	Japan	Thousand tons	112	105	98
		Overseas	Thousand tons	178	164	74
	Waste recycled	Japan	Thousand tons	80	73	71
		Overseas	Thousand tons	134	130	39
	Waste recycling ratio	Japan	%	71	70	72
		Overseas	%	75	80	53
	Waste for landfill	Japan	Thousand tons	1.18	1.14	0.85
		Overseas	Thousand tons	40.17	32.62	30.69
	Disposal ratio	Japan	%	1.05	1.08	0.86
		Overseas	%	22.52	19.89	41.47
Reduction of chemical emissions	PRTR Controlled Substance: Trend of Total Amount Released	Japan	t	154	179	183
	PRTR Controlled Substance: Trend of Total Amount Transferred	Japan	t	1,485	3,473	2,727
	PRTR Controlled Substance: Chloromethane Release Trend	Japan	t	57.8	32.0	31.2
	PRTR Controlled Substance: 1,2-Dichloroethane Released Amounts	Japan	t	11.2	13.7	10.6
	PRTR Controlled Substance: Chloroethylene Release Trend	Japan	t	13.6	13.9	11.2
Prevention of Air Pollution	Soot	Consolidated	t	100	87	84
	NOx	Consolidated	t	1,826	2,244	3,878
	SOx	Consolidated	t	446	441	494
	VOC	Shin-Etsu Chemical	t	280	226	260

*1 ISO14001 certification ratio
The plants which does not have ISO14001 certification has a occupational health and safety management system the same level as ISO14001.
*2 GHG Scope2 emissions
We have refined our calculation of greenhouse gas emissions and revised the Scope 2 emissions for FY2023, which were disclosed in July 2024.
*3 Water use
Amount of water withdrawals and water recycle.

Product quality improvements and product safety control

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Management	ISO9001 / IATF16949 certification ratio* (Based on the number of plants)	Consolidated plants	%	86	86	90
Product safety training	Number participants (Total number of persons)	Consolidated	Persons	71,142	82,735	75,916

* ISO9001 / IATF16949 certification ratio
The plants that do not have ISO9001 / IATF16949 certification have a quality management system at the same level as ISO 9001.

Respect for human rights, the development of human resources, and the promotion of diversity

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Employees	Number of employees by region	Japan	Persons	9,401	9,718	11,165
		Asia/Oceania	Persons	10,935	10,736	10,230
		Latin America	Persons	0	0	0
		United States	Persons	3,745	3,887	4,164
		Europe	Persons	1,636	1,663	1,715
		Consolidated	Persons	25,717	26,004	27,274
	Number of employees (male)	Consolidated	Persons	18,120	18,461	19,676
		Japan	Persons	8,345	8,583	9,866
		Overseas	Persons	9,775	9,878	9,810
	Number of employees (female)	Consolidated	Persons	7,597	7,543	7,598
		Japan	Persons	1,056	1,135	1,299
		Overseas	Persons	6,541	6,408	6,299
	Turnover rates	Shin-Etsu Chemical	%	1.4	1.2	1.8
		Consolidated	%	15.0	12.7	11.4
	Voluntary turnover rates	Shin-Etsu Chemical	%	1.2	1.0	1.2
		Consolidated	%	13.8	11.0	9.1
Human rights	Number of child labour	Consolidated	Persons	0	0	0
	Number of forced labour	Consolidated	Persons	0	0	0
Diversity	Employment rate of persons with disabilities	Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies	%	2.35	2.42	2.35
	The number of women in managerial positions including junior manager level	Shin-Etsu Chemical	Persons	19	23	32
		Consolidated	Persons	576	557	572
	Percentage of women in managerial positions at the section manager level and above	Shin-Etsu Chemical	%	1.7	2.0	2.7
		Consolidated	%	12.6	12.7	12.7
Work-life balance	Annual paid leave acquisition rate	Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies	%	71.2	77.4	75.3
	Number of employees who have taken childcare leave*1 (female)	Consolidated	Persons	151	196	217
		Japan	Persons	27	29	29
		Overseas	Persons	124	167	188
	Number of employees who have taken childcare leave*1 (male)	Consolidated	Persons	156	283	351
		Japan	Persons	66	114	160
		Overseas	Persons	90	169	191
	Childcare leave acquisition rate (female)	Shin-Etsu Chemical	%	100	100	100
		Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies	%	100	100	100
	Childcare leave acquisition rate (male)	Shin-Etsu Chemical	%	87.3	87.5	95.8
		Employees hired by Shin-Etsu Chemical and working in Shin-Etsu Group companies	%	87.2	87.7	96.2
	Number of people obtaining nursing care leave	Japan	Persons	3	2	4

*1 Number of employees who have taken childcare leave
The length of childcare leave differs from country to country, as the program is based on local law.

Respect for and protection of intellectual property

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Patents acquired	Japan	Main consolidated manufacturing companies	Number of patents	601	656	621
	Overseas	Main consolidated manufacturing companies	Number of patents	1,113	1,325	1,243
	Asia/Oceania	Main consolidated manufacturing companies	Number of patents	672	773	774
	North America	Main consolidated manufacturing companies	Number of patents	189	189	199
	Europe	Main consolidated manufacturing companies	Number of patents	246	359	265
	Other	Main consolidated manufacturing companies	Number of patents	4	4	5
	Total	Main consolidated manufacturing companies	Number of patents	1,714	1,981	1,864
Patents held	Japan	Main consolidated manufacturing companies	Number of patents	7,730	7,921	8,151
	Overseas	Main consolidated manufacturing companies	Number of patents	14,580	15,145	15,723
	Asia/Oceania	Main consolidated manufacturing companies	Number of patents	7,028	7,479	7,964
	North America	Main consolidated manufacturing companies	Number of patents	3,206	3,225	3,278
	Europe	Main consolidated manufacturing companies	Number of patents	4,278	4,381	4,435
	Other	Main consolidated manufacturing companies	Number of patents	68	60	46
	Total	Main consolidated manufacturing companies	Number of patents	22,310	23,066	23,874

Contribution to industry and social initiatives

Aspect	Classification	Scope	Unit	FY2022	FY2023	FY2024
Total Amount of donations		Consolidated	Millions of yen	72	1,980	89

* Sustainability data covers the following
Consolidated: Shin-Etsu Chemical and its domestic and overseas consolidated companies.
Japan: Shin-Etsu Chemical and its domestic consolidated companies.
Overseas: Shin-Etsu Chemical's overseas consolidated companies.
Shin-Etsu Chemical Group: Shin-Etsu Chemical and its domestic and overseas group companies.

レスポンシブル・ケア

「信越化学サステナビリティレポート2025」
第三者検証 意見書

2025 年 6 月 27 日

信越化学工業株式会社
代表取締役社長　斉藤 恭彦　殿

一般社団法人 日本化学工業協会
レスポンシブル・ケア検証センター長
石井 浩

■ 検証の目的

本検証は、信越化学工業株式会社が作成した「信越化学サステナビリティレポート 2025」(以後、報告書と略す)に記載された下記の事項について、レスポンシブル・ケア検証センターが化学業界の専門家としての意見を表明することを目的としています。

1) パフォーマンス指標(数値)の算出・集計方法の合理性および数値の正確性について
2) 数値以外の記載情報の正確性
3) レスポンシブル・ケア活動(以後、RCと略す)およびサステナビリティ活動の内容について
4) 報告書の特徴について

■ 検証の手順

・本社において、各サイト(事業所、工場等)から報告される数値の集計方法の合理性および数値以外の記載情報の正確性について調査を行いました。調査は、報告書の内容について各業務責任者および報告書作成責任者に質問すること、ならびに彼らより資料提示と説明を受けることにより行いました。
・直江津工場の検証は、本社と直江津工場をつないだWeb会議で、本社に報告する数値の算出方法の合理性、数値の正確性、および数値以外の記載情報の正確性の調査を行いました。調査は、各業務責任者および報告書作成責任者に質問すること、証拠となる資料提示・説明を受けることにより行いました。
・数値および記載情報の調査についてはサンプリング手法を適用しました。

■ 意見

1) パフォーマンス指標(数値)の算出・集計方法の合理性および数値の正確性について
・本社および直江津工場では、換算係数等を組込んだ自動集計システム(Eco Track)を昨年から全面採用しています。この集計システム上で、入力データの段階承認、異常値入力時の警告表示、数値変更時の適正な方法と変更を認識させるセルの着色化等を実施し、数値の正確性を確保されており、数値は正確かつ効率的に集計されています。

2) 数値以外の記載情報の正確性について
・報告書に記載された情報は、正確であることを確認しました。原案段階では表現の適切性あるいは表現の分かりやすさに関し、若干の指摘をしましたが、現報告書では修正されており、現在修正すべき重要な事項は認められません。

3) RC活動およびサステナビリティ活動の内容について
・社長をトップとするグループ全体のサステナビリティ委員会で、サステナビリティの基本方針および「信越化学グループのサステナビリティの重要課題」の見直しを逐次行い、課題ごとに「リスクと機会」を明示し、グループを挙げて全ての課題に積極的に取組んでいることを評価します。
・特に 2050 年カーボンニュートラル達成に向けた温室効果ガス削減をグループ全体に展開し、迅速かつ効率的なデータ集計、また今後の計画の公表等、積極的に推進していることを高く評価します。
・安全活動として種々取り組む中で、HHK 提案(ヒヤリハット・気掛かり提案)やリスクアセスメント等の活動は、全工場で幅広く地道に展開し、ハードおよびソフトを合わせ具体的な改善実績に結びつけていること、実績を公表していることを評価します。
・本社による環境保安監査について、通常監査に加え、時機に即したテーマを設けた「特別監査」を実施し、タイムリーに工場での取組み改善を促している実態を確認しました。
・危険作業体験教育に対する VR 教育の高度化として、直江津工場では単なる VR 体験に終わらせず、「過去の事故の復習、VR 疑似体験、グループ討議の実施」を実践し、受講者にワークシートへ実体験を記載させ、自職場作業への落とし込みを考えさせて教育のレベルアップを図っている。この取り組み成果を確認し、他工場でも展開している点を高く評価します。

4) 報告書の特徴について
・今年度の報告書では、特集として「Our Sustainable Products」にて社会のサステナビリティに貢献する製品を判りやすく紹介し、「Our Sustainable Act」にて世界のグループ従業員の取り組みをインタビュー記事で紹介する等、広範囲のステークホルダーに向けて、内容を充実させています。

- 以上 -

Verification Report on the Greenhouse Gas Emissions

June 17, 2025

Responsible Care®
OUR COMMITMENT TO SUSTAINABILITY

To:
Yasuhiko Saitoh
President
Shin-Etsu Chemical Co., Ltd.

■ Objective of Verification

This verification is performed with regard to the greenhouse gas (GHG) emissions in Scopes 1, 2, and 3 (Categories 1, 3 and 12) in fiscal year 2024 reported by the Shin-Etsu Group, including consolidated subsidiaries inside and outside Japan. The objective is to enable the Responsible Care Verification Center to perform the verification and express its opinions as a third party.

■ Outline of Verification

(1) The verification covered Scopes 1, 2, and 3 (Categories 1, 3 and 12) and was undertaken at a limited-warrant level.

(2) The verification was performed using ISO 14064-1:2018 (JISQ 14064-1:2023) and 3:2019 (JISQ 14064-3:2023) as the judging criteria and the GHG Emissions Accounting and Reporting Manual Ver. 5.0 (Ministry of the Environment and Ministry of Economy, Trade and Industry) as a reference for the calculation.

(3) The verification covered Shin-Etsu Chemical Co., Ltd. and its consolidated subsidiaries inside and outside Japan. Furthermore, with regard to the Kashima Plant of Shin-Etsu Chemical Co., Ltd., we conducted a detailed sampling inspection involving the verification of the accuracy, etc. of the following: the total GHG emissions and the scope of data collection related to inventories related to such emissions; the original data; the methods of data collection and calculation based on procedure manuals; and the calculated figures.
"Fiscal year 2024" refers to the period from April 1, 2024 to March 31, 2025 for companies inside Japan and the period from January 1, 2024 to December 31, 2024 for companies outside Japan.

(4) The investigation and confirmation were performed through a question-and-answer process based on the materials presented and explained by the responsible person at the headquarters and by the responsible person and the assigned persons at the Plant of Shin-Etsu Chemical Co., Ltd.

■ Results of Verification

The results of the verification undertaken on June 9, 10, and 11, 2025, were that it was confirmed that the GHG emissions of the Shin-Etsu Group and the procedures for data handling and calculation in the Kashima Plant are appropriate, and that no serious errors were found with regard to the accuracy of the data.

■ Opinions on Verification

Since Shin-Etsu Group has improved its calculation and aggregation processes of GHG emissions and raised the level of its data collectors, the verification team has confirmed that significant progress has been made in improving the efficiency and accuracy of emissions estimation and assessment.

ISHII Hiroshi
Chief Director, Responsible Care Verification Center
Japan Chemical Industry Association

www.shinetsu.co.jp