Excite the Imagination

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N.E. CHEMCAT CORPORATION

N.E. CHEMCAT SUSTAINABILITY REPORT

2024

Corporate Philosophy

We contribute to achieving a sustainable and quality global environment and affluent society through chemistry.

We at all times strive to develop technologies and provide high-quality products to our customers, and bring about the creation of new value.

We respect human rights and fulfill corporate social responsibilities, seek to co-exist with the environment and society around us, and aim to become a company that is trusted by stakeholders.

We promote transparent and sound management, develop the potential of each employee, and foster a culture that maximizes the achievement of the entire company.

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ESG Data Company

The aim of this report is to present N.E. CHEMCAT's approach to sustainability and its efforts to help solve environmental and social issues through its business activities. The company's wide range of initiatives related to sustainability are presented in the ESG categories of environment, social, and governance. We hope this report will help our stakeholders gain a better understanding of our sustainability management.

Reporting period:

Reporting scope: N.E. CHEMCAT CORPORATION

Once a year

Contact:

Note: This report is the English version of the Japanese original.

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Editorial Policy

Fiscal 2023 (April 2023 to March 2024) Some data from before/after the reporting period are included.

Reporting frequency:

Reference guidelines: GRI Standards

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Message from the President



Contributing to a sustainable society by solving social problems with the power of catalysts

Susumu Endo President and Representative Director

Further promoting sustainability management based on our 60-year history

Founded in April 1964, we celebrated our 60th anniversary in 2024. This achievement was possible thanks to the support and cooperation of all our stakeholders. We would like to express our deepest gratitude to all those who have proceeded with us and supported us.

Looking back over the past 60 years, I would like to emphasize that since our founding, we have supported several industries through the development and supply of catalysts. In the 1960s, Japan entered a period of rapid economic growth. This led to a steady increase in the manufacture of chemical products and a surge in demand for precious metal catalysts, which are essential to the manufacturing process. To meet the needs of our customers, we have been providing process catalysts which have been widely supporting society through their use in the manufacturing processes of all kinds of industrial products such as petrochemicals, pharmaceuticals, agrochemicals, electronic materials, and energy.

In the 1970s, as automobiles became more common, air pollution from exhaust gases became a social concern. To

solve this problem, we began manufacturing auto exhaust catalysts that neutralize toxic substances contained in automotive emissions. Each year, as emissions regulations became more stringent, we developed higher performance catalysts to meet the new standards. In this way, we have made a significant contribution to reducing environmental impact. We have also put much effort since our inception to the recovery and recycling of precious metals, a limited resource, from used catalysts.

I am proud to say that our strength lies in our track record of steady progress in supporting a wide range of industrial development while helping to reduce environmental impact. We will continue to contribute to environmental protection and the realization of a circular society by devel-

Contributing to the realization of a decarbonized society by providing new value in catalysts

In Vision 2030, we set a goal of increasing the proportion of business that helps solve social problems to 80% or more of our total business. Catalysis is based on the accumulation of knowledge from so many fields that some have called it an integrated art. Maximizing its potential and using it to solve problems is our main mission. One of the most pressing challenges is the realization of a decarbonized society. Catalysts can make a significant contribution.

One example is the use of hydrogen. In recent years, the infrastructure for a hydrogen society has been rapidly from the atmosphere; technologies related to carbon dioxide developed in Europe and the United States. In Japan, the utilization such as methanation and synthetic fuels; and decarbonization technologies in chemical synthesis processes Basic Hydrogen Strategy was updated in 2023. Hydrogen is attracting attention as a clean energy source that can resuch as flow synthesis reactions. place fossil fuels. We were one of the first companies to focus on the use of hydrogen. For example, we began de-There are a wide range of technological areas in which we can contribute to solving social issues, including the realveloping catalysts for fuel cells in the 1990s. Since then, we have continued to develop products for the realization of ization of a decarbonized society. We will engage in open a hydrogen society. Consequently, in the area of mobility, innovation more than ever and work with our stakeholders we are already working on electrode catalysts that will be to develop new technologies that contribute to the realizaa core component of fuel cell vehicles (FCVs). In addition tion of a sustainable society. I would like to ask you, our stakeholders, for your continto developing next-generation catalysts, we are also working to establish technology to recover and reuse precious ued support and cooperation. metals from used electrode catalysts.

oping auto catalysts that meet increasingly stringent emission standards and improving technologies for recovering and refining precious metals.

Meanwhile, climate change and other environmental issues have become more serious in recent years. I recognize that it is essential for companies to proactively address these global societal issues. Our corporate philosophy is "we contribute to achieving a sustainable and quality global environment and affluent society through chemistry." Based on this philosophy, our Vision 2030 describes the ideal state of our company in 2030. To realize this Vision, we will drive sustainable growth through sustainability management as a company that society continues to need and trust.

Looking at the entire value chain (production, storage/ transport and use), catalysts are expected to be used in hydrogen production and transport using hydrogen compounds such as ammonia. Ammonia is attracting attention not only as a hydrogen carrier but also a fuel itself, and another application of our technologies is the purification of ammonia combustion exhaust gases. Furthermore, I believe we can fully leverage our accumulated knowledge in the following areas: Direct Air Capture (DAC), or technology to extract CO₂ directly from the atmosphere; technologies related to carbon dioxide utilization such as methanation and synthetic fuels; and decarbonization technologies in chemical synthesis processes such as flow synthesis reactions.

History of N.E. CHEMCAT

Sixty-Year with Catalysts

Founded to become a catalyst maker that supports manufacturing, we began producing process catalysts

This company was established in 1964 as a 50-50 joint venture between Sumitomo Metal Mining Co., Ltd. and Engelhard Corporation of the U.S. in response to the growing demand for catalysts produced and developed in Japan as domestic production of petrochemical products increased. The company began manufacturing and selling process catalysts, precious metal plating chemicals, gold liquid, and other products, contributing to the development of Japanese chemical industry during Japan's rapid economic growth.



- Historical events
- 1964 Tokaido Shinkansen opened/Tokyo Olympics were held. 1967 Basic Act for Environmental Pollution Control was enacted.

1964

Our history

- 1970 The U.S. enacted the Clean Air Act.
- 1978 Japan enacted regulations equivalent to the Clean Air Act.

As a catalyst manufacturer, N.E. CHEMCAT contributed to the development of the Japanese chemical industry during the country's period of rapid economic growth

- 1964 The company was established. The Ichikawa Laboratory was set up. Manufacturing and sales of process catalysts, precious metal plating chemicals, gold liquid, etc., and precious metal recycling began.
- 1970 Construction of the Numazu Factory (now Numazu Plant) was completed.

Expanding the exhaust catalyst business along with the motorization of society

Climate Change entered into force.

1994 The United Nations Framework Convention on

1988 The IPCC was established.

1979

1991 The economic bubble burst.

1979 Manufacturing of auto exhaust catalysts began. 1989 Corporate name was changed to N.E. CHEMCAT.



Expanding the production of auto exhaust catalysts, in response to stricter regulations, has contributed to environmental protection

We began manufacturing exhaust catalysts for automobiles in 1979. This business grew as the demand for exhaust catalysts increased due to the tightening of emission regulations year after year as the mobility society developed. Since then, we have contributed to environmental protection by providing catalysts for diesel vehicles, motorcycles, and construction equipment.

First shipment of auto exhaust catalysts

The development of fuel cell catalysts began to support the spread of next-generation energy

Amid growing concern about environmental problems caused by global warming, we focused on hydrogen as a clean energy source and began developing electrode catalysts for fuel cell vehicles in 1997. In 2012, we were selected for the R&D 100 Awards in the U.S. for our development of core-shell catalysts to further reduce precious metals and improve catalytic performance.



- emissions regulations.
- 2008 Financial crisis caused by the bankruptcy of Lehman Brothers
- 2015 Paris Agreement. Sustainable Development Goals (SDGs) were established.
- 2017 The Basic Hydrogen Strategy was created.

Expanded catalyst 1997

applications in response to emissions regulations

- 1997 Engelhard Chemcat (Thailand) was established
- 2002 Construction of the Tsukuba Plant was completed.
- 2003 Mass production of diesel auto exhaust catalysts began.
- 2012 N.E. CHEMCAT was selected for the U.S. R&D 100 Awards.



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Full-fledged sustainability management began with the creation of the Corporate Philosophy and Vision 2030

In 2021, we created the Corporate Philosophy and Vision 2030. We have set a goal to increase the percentage of our business related to environmental protection and the SDGs to at least 80% of our total business. Our goal is to become a company trusted by society by solving social problems while growing our business. To this end, we are committed to sustainability management. To achieve our Vision, we are developing new technologies and strengthening our structure and functions.

Initiatives targeting precious metals recycling to achieve circular society Since our inception, we have been in the recycling business of recovery and refining of scarce precious metals. We have developed a proprietary process to recover precious metals from spent catalysts and refine them to high purity by removing impurities. We have been at the forefront in the efforts to create a circular society and improve recycling technology, which will become increasingly important.



- 2020 Japan declared its goal to achieve carbon neutrality.
- 2023 The Basic Hydrogen Strategy was updated.

Management focused on building a sustainable society

2021 The Corporate Philosophy and the Vision 2030 were created.

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2024 N.E. CHEMCAT celebrated its 60th anniversary



For the Future

Helping to **Build** a **Sustainable Future**



Moved to a new head office in May 2021

N.E. CHEMCAT Business Fields

We contribute to achieving a sustainable and quality global environment and affluent society by providing catalysts. Our catalysts support a wide range of industries, including petrochemicals, pharmaceuticals and agrochemicals. They are also used to protect the environment by contributing to environment purification and resource recycling.

Process Catalysts

Process catalysts are used for accelerating chemical reactions or selectively producing specific compounds, and are indispensable for industrial manufacturing. We develop and manufacture process catalysts used in a variety of fields, from energy plants to the manufacturing of pharmaceuticals, agrochemicals, fertilizers, and organic electroluminescence. Through these activities, we provide support to many aspects of society, from cutting-edge industries to the everyday lives of citizens.



Products



Fine Chemical Catalysts

Fine chemical catalysts are used in the process of manufacturing high value-added chemicals such as pharmaceuticals and agrochemicals. They are used to produce antidiabetic and antihypertensive medicine, antibiotics, and other medicine, and improve agricultural productivity, thereby supporting the lives of everyone. Fine chemicals also require a high degree of purity and are manufactured through production processes that involve many stages and which generate a great deal of waste. There have been demands to reduce waste generation in recent years and fine chemical catalysts possessing high activity and selectivity are contributing to more efficient production with a lower environmental impact.



Gas Purification Catalysts

Gas purification catalysts refine inert gas to an ultra-high degree of purity by removing minute impurities such as oxygen (O₂), carbon dioxide (CO₂), hydrogen (H₂), and moisture. The catalysts are used in the chemical, steel, machine, and many other industries with a high need for ultrapure gas. We are also developing methanation to recycle CO₂ and produce methane, the main raw material in city gas, and other carbon recycling technologies aimed at achieving carbon neutrality.



Petrochemical Catalysts

Catalysts are essential to the petrochemical and petroleum refining processes and have contributed greatly to the development of the industry to where it is today. We support affluent living by providing the catalysts needed to produce basic chemicals used in manufacturing apparel, carpet, plastics, and other petrochemical products, as well as catalysts that serve as the raw material for the gas barrier films widely used in food packaging and for other purposes in recent years.

Providing value to society

Supporting industrial development and flourishing lifestyles

Exhaust Catalysts

Substances emitted from plants and other stationary sources and from the internal combustion engines of vehicles and other machinery are harmful to the environment and to the human body. Exhaust catalysts convert such harmful substances into harmless substances through chemical reactions and thereby make a substantial contribution to solving air pollution and other environmental challenges.



The hydrocarbons (HC) and carbon monoxide (CO) contained in industrial emissions are the main sources of air pollution and are a big problem for society as whole. N.E. CHEMCAT helps to prevent air pollution by providing DASH catalysts that remove volatile organic compounds (VOCs) and other contaminants contained in exhaust gas from plants and recover and reuse the thermal energy emitted from them.



Gas exhaust from gasoline engines contains carbon monoxide (CO), hydrocarbons (HC), and nitrogen oxides (NOx), which are harmful substances. We help to prevent air pollution by providing three-way catalysts that convert these harmful substances into the harmless substances, carbon dioxide (CO₂), water (H₂O), and nitrogen (N₂). Regulations on vehicle emissions and fuel efficiency continue to grow stricter worldwide year after year. We are working to prevent global warming and solve environmental challenges by working together with automotive manufacturers to develop and manufacture high-quality catalysts that have superior durability and good purification performance, and low-temperature and high heat-resistance performance.

Diesel Auto Exhaust Catalysts

Diesel engines emit less CO₂ than gasoline engines, but exhaust higher amounts of sulfuric acid mist, other particulate matter (PM), and nitrogen oxides (NOx), in addition to soluble and insoluble organic compounds. To address these problems, we are developing and manufacturing catalysts that can be adapted to various post-treatment systems such as diesel particulate filters (DPF) to capture particulate matter (PM) and convert into CO₂ and selective catalytic reduction (SCR) catalysts to treat nitrogen oxides (NOx). These catalysts render such substances harmless and help to protect the global environment.

Providing value to society

Promoting a livable planet by eliminating substances that are harmful to humans and nature





Products

Stationary Off-Gas Treatment Catalysts

Catalysts for Fuel Cell Applications

Fuel cells, which generate electrical energy through the reaction of hydrogen and oxygen, are attracting increasing attention as a clean energy technology. We develop and manufacture electrode catalysts for fuel cell vehicles (FCVs), and reforming catalysts and preferential oxidation (PROX) catalysts needed to produce hydrogen gas, and we are working to develop a hydrogen-based society.







Catalysts for FCVs

We develop and manufacture electrode catalysts for FCVs, which are drawing interest as zero-emission vehicles that will help achieve carbon neutrality. We are focusing on improvement of platinum catalysts and development of next-generation catalysts (platinum alloy catalysts and platinum core-shell catalysts) and are contributing to resource recycling up to precious metal recovery from electrode catalysts.



Electrode Catalysts for Stationary Use

Fuel cells use hydrogen to generate heat and electricity, and are an essential system for hydrogen use. For stationary fuel cells, we develop and manufacture reforming catalysts that convert methane to hydrogen, such as catalysts needed to produce hydrogen from city gas, and PROX catalysts that remove carbon monoxide (CO). We will continue our work to provide catalysts offering even high performance and will support the proliferation of clean energy as the demand for it continues to grow in the future.



Catalysts for Hydrogen Value Chain

The use of catalysts is being considered for each step of hydrogen production, storage, transport, and use. Reforming catalysts and PROX catalysts are used in the production process, and the use of catalysts is also promising for the technology to extract hydrogen from hydrogen carriers in the storage and transport steps. Catalysts are also effective at removing nitrogen oxides (NOx), nitrous oxide (N₂O), and other harmful substances generated by mixed combustion of hydrogen and ammonia (NH₃) during use. These hydrogen-related catalysts support the hydrogen value chain and help solve environmental, resource, and other social challenges.

Providing value to society

Facilitating the adoption of clean energy and promoting a sustainable society

Precious Metal Recycling

N.E. CHEMCAT separates and recovers precious metals from spent catalysts, including platinum (Pt), palladium (Pd), rhodium (Rh), ruthenium (Ru), and gold (Au). Our proprietary process allows impurities to be removed and the precious metals to be refined to a high degree of purity.

We also have precious metal reduction technology to formulate catalysts that use fewer precious metals while offering performance that is equal to or better than conventional catalysts. We are helping to conserve scarce precious metal resources by providing integrated services, from the development and manufacture of catalysts to the recovery and refining of precious metals.



waste treatment and high-purity semiconductor encapsulants and raw materials for encapsulants.

Providing value to society

helping to build to a recycling-oriented society





Promoting the effective use of scarce resources and

Helping to Build a Sustainable Future

We are committed to developing the latest technologies to achieve carbon neutrality and pass on a sustainable and affluent society to the next generation.

Building a hydrogen-society

Recently, hydrogen has seen resurging interest as a next-generation energy source that does not emit CO₂. In order to promote a carbon-free hydrogen society, our company is working to develop the catalysts necessary for

more efficient hydrogen production, storage, transport, and use.







Semiconductors are essential for the advancement of the technologies being adopted for the digital transformation of society, including AI, IoT, and 5G. In order to achieve carbon neutrality, energy-saving and other sectors need semiconduc-

tors with higher performance and efficiency. We will continue to contribute to these technological innovations with the power of chemistry.



3 Next generation mobility



A major transformation is underway in the mobility sector as part of the effort to achieve carbon neutrality by 2050. N.E. CHEMCAT is working to develop advanced technologies to meet society's changing mobility needs, including vehicle electrification

and the use of green fuels.





Precious metals are scarce and important resources. This is why N.E. CHEMCAT is helping to recycle these minerals by utilizing advanced technologies to recover them from spent catalysts. We are also promoting more effective re-

source use and waste reduction by developing catalyst technology for the chemical recycling of plastics.



Utilization of 6 captured CO₂

6



Technology for capturing and recycling CO₂ is attracting attention as a contribution to the fight against climate change. We are improving the performance of catalysts used in the production of green fuels synthesized from

CO2 and hydrogen, which will further improve the efficiency of each process stage, from CO2 capture to green fuel production.



7 water

Cleaner air and



Catalysts are indispensable for decomposing and detoxifying harmful substances found in automobile and factory emissions and in industrial wastewater. In order to contribute to a more livable planet, we are advancing

our purification technology to ensure cleaner air and water.



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Our catalysts are also used in the production of pharmaceuticals and fine chemicals. The development of high-performance catalysts enables chemical synthesis with less impact on the environment. By promoting

the development of sterilization and antibacterial applications, we are helping people to lead healthier lives worldwide.

8 Sustainable food supply



We are using the power of chemistry to help solve food shortages, which are becoming more serious due to global climate change and population growth. In order to enhance the diets of people worldwide, we support the production of agricultural

chemicals and fertilizers with catalyst technology while also promoting the development of high-performance catalysts that enable long-term food storage and reduce food loss.



Long-Term Vision Vision 2030

With an eye on the social environment in 2050, we formulated our Vision 2030 to solve social problems in line with the SDGs. We are also working to achieve our Vision by visualizing what we want to be in terms of finance, business, and management infrastructure.

SUSTAINABLE GALS

Vision 2030

To provide new value in catalysts to society and thereby contribute greatly to the development of a sustainable society and protection of the global environment.

Finance

Business

Explore new business domains to contribute to

challenges as those addressed by

Management Infrastructure

Promote ESG management

To practice sound business management, based on the principles of environment, social, and governance (ESG) management, build allows employees to share the joy of working for N.E. CHEMCAT and constantly breed innovation in collaboration with stakeholders, and thereby increase our corporate value.

16 Key Drivers to Achieve Vision 2030

In addition to fulfilling corporate social responsibility (CSR) through its business operation by reducing environmental impact, strengthening social cooperation and promoting transparent, sound and lawful corporate governance, companies are now expected to actively contribute to solving social problems.

Our catalysts are used in a wide range of industries, including petrochemical, automotive and pharmaceutical, supporting industrial development. At the same time, they help improve the environment, for example by detoxifying harmful substances in auto emission. Catalysts are also expected to make a significant contribution to solving social problems that have become increasingly serious in recent years, such as global warming,



ocean pollution, and food problems. Therefore, we have formulated Vision 2030 as our medium- to long-term goal, which visualizes our ideal state from the three perspectives of finance, business, and management infrastructure.

The realization of this Vision 2030 requires the development and transformation of the internal structure. To this end, we have established the 16 Key Drivers as the foundation and structure of the company. By ensuring the implementation of each of these key drivers, we will provide new value in catalysts to realize a sustainable society and further contribute to the protection of the global environment.

Strengthen business management process and financial base focusing on ROIC Restructure the business execution framework to strengthen existing busi-Explore new areas and develop new technologies (products) Strengthen marketing functions and optimize the value chain Streamline the development process and create new technologies by utilizing Establish a lean production process by strengthening the process engineering Improve the overall process through the promotion of Lean Six Sigma (LSS) Strengthen procurement functions and secure a sound supply chain (10) Establish a system to promote corporate-wide digital transformation (DX) (11) Reduce environmental load substances throughout the business activities; (12) Strengthen the management of precious metals and chemical substances at plants (13) Enforce safe & hygiene workplace and environmental management through (14) Strengthen stakeholder engagement through appropriate information (15) Establish an HR system to encourage and support aggressive challenges

Feature Article: Creating New Value for Catalysts to Build a Sustainable Future



Achieving Carbon Neutrality with Catalysts

To achieve carbon neutrality, it is effective not only to reduce carbon dioxide (CO₂) emissions, but also to recycle CO_2 as a raw material. The key to utilizing CO₂ as a raw material is the catalyst. We invited Dr. Jun-Chul Choi to talk with Hiroshi Igarashi, General Manager of our R&D Center. Dr. Choi is the principal research manager at the Interdisciplinary Research Center for Catalytic Chemistry, National Institute of Advanced Industrial Science and Technology. He has been engaged in the development of technologies for the effective utilization of CO₂ through catalysts.



lun-Chul Choi

Managing Exec General Manage

Potential of CO₂ as a raw material

Igarashi: Dr. Choi, you have been very helpful in our joint research. I understand that you first came to Japan in 1994 to enter the doctoral program at the Tokyo Institute of Technology the following year.

Choi: After completing my master's degree at a university in Korea, I decided to enter the Tokyo Institute of Technology to study with one of Japan's top professors in the field of complex and organometallic chemistry. After completing my Ph.D. program, I worked as a special researcher at the Japan Science and Technology Agency (JST) for one year. I was then hired by the National Institute of Advanced Industrial Science and Technology (AIST), where I was assigned to conduct research on the synthesis of basic chemicals using CO₂ as a raw material. Honestly, when I first heard about it, I was confused and

thought it was unrealistic. This is because, as you know, CO₂ is a stable and very unreactive substance. After struggling with the problem, I turned my attention to supercritical CO₂. Since supercritical CO₂ has both gaseous and liquid properties, I thought that the reactivity of supercritical CO₂ would be different from gaseous CO₂. By reacting supercritical CO₂ with alcohol, I successfully developed a technology to synthesize carbonate ester, a raw material for engineering plastics, in a single step. Igarashi: At that time, carbon neutrality was not a social topic. Yet you were among the first to focus on CO₂ utilization. You later studied in the U.S. and returned to Japan to become the head of the research team. Just around that time, you began working with us as well. Another example of your success in CO₂-based manu-



r Catalytic Chemistry strial Science and Technology

facturing is the development of urethane raw materials, an important basic chemical product, from silicon compounds and CO₂.

Choi: The silicon compound you are talking about is formed from silica, which is the main component of sand. Combining this with CO₂ to synthesize basic chemicals would also help reduce CO₂ emissions. This would kill two birds with one stone. As you can see, starting with carbonate esters, I have been consistently pursuing the development of technologies that use

Creating useful materials with CO₂

Igarashi: I think it is wonderful that you came up with the idea of using CO₂ as a raw material more than 20 years ago, when CO₂ was considered waste. Beginning with the effective use of CO₂, you have delved into the creation of compounds using CO₂ as a material. Your world-leading research was truly innovative, judging from what happened thereafter. Although cars are usually considered the main source of CO₂ emissions, the emissions from factories and other industrial sources are also significant. As a large amount of CO₂ continues to be emitted, using it as a raw material in manufacturing is the right direction to go toward carbon neutrality. As a catalyst manufacturer, we recognize that this is an issue we must address. What kind of contribution do you expect from us, a company that deals mainly with precious metal catalysts?

Choi: As I mentioned earlier, CO₂ is extremely stable, so a catalyst is essential to increase its activity. The superiority of N.E. CHEMCAT's precious metal catalysts lies in their high activity. Moreover, your efforts to recover, refine and reuse catalysts after use make a significant contribution to resource conservation. I believe that in addition to the development of new catalysts, the development of recycling technology is an important issue. Igarashi: Because precious metal catalysts are often expensive, we recognize that maximizing the activity of

CO₂ to produce basic chemical products. It was not until 2019 that the government released the Roadmap for Carbon Recycling Technologies, setting a goal of using CO₂ to synthesize urethane and polycarbonate, but I have been working on developing such technologies since the early 2000s.

In 2003, I applied for a patent for the synthesis of urethane (carbamate ester) with CO₂ as "Method for producing carbamate ester."

precious metals and reducing the amount of precious metals used in catalysts is top priority from a resource efficiency perspective. As a specialized manufacturer, we have accumulated a wealth of knowledge and expertise. One such example is our technology for dispersing and arranging precious metals so that each precious metal atom works well. In addition, placing precious metals on only one layer of the catalyst surface in contact with the feedstock can minimize the amount of precious metals used while maintaining high activity.

Choi: In my many years of catalyst research, I have also recognized that reducing the amount of precious metals is an important issue. As an example of my research achievements, I was able to develop a catalyst with very high activity by fixing monoatomic platinum with a ligand on a support such as silica.

Igarashi: When monoatoms can be allocated in a highly dispersed configuration, much higher performance can be achieved than with conventional solid catalysts. Moreover, because it is attached to a ligand, it becomes a "dream catalyst," combining the properties of a solid catalyst with those of a complex catalyst that selectively triggers only the necessary reaction. For realization of this catalyst, we started a joint research project with you.

Striving for carbon neutral with "Dream Catalysts"



Choi: When I started joint research with N.E. CHEMCAT, I was interested in palladium-based catalysts. So we worked on immobilizing palladium complex catalysts using a ligand called carbene, which stabilizes the palladium atom.

Jointly developed palladium complex immobilization catalyst



Igarashi: Palladium complex catalysts bonded to carbene ligands are high performance and have been nominated for the Nobel Prize. If they can be immobilized on a support material, they will be exactly the "dream catalyst" that we are pursuing.

You used silicon alkoxide as a bridging structure to bond the carbene ligand to the support member. The result was a complex catalyst with much higher performance than the original carbene ligand. That was very surprising.

Choi: Actual reaction tests of the complex catalyst prior to immobilization showed that the palladium was activated and the reaction temperature was lowered. So I tried different types of silicon alkoxides through a trial-and-error process. As a result, I achieved high catalytic activity for C-N cross-coupling reactions. It was N.E. CHEMCAT that found a support to immobilize this complex catalyst. When I actually fixed it on the support, I was able to create a unique catalyst that really has the characteristics of both a complex catalyst and a solid catalyst. When the experiment resulted in a faster reaction with improved performance at such a low temperature, I couldn't believe it.

Igarashi: It was really unexpected. It is a very interesting catalyst. This research received the 2021 Japan Petroleum Institute Award for Encouragement of Research and Development (Industry Division). I believe this is a revolutionary technology that not only reduces the amount of precious metals in the catalyst, but also streamlines the process.

Choi: I totally agree. The catalyst we jointly developed has 2.5 times higher activity in the C-N cross-coupling reaction used in fine chemicals. Such higher catalytic activity also increases energy efficiency, leading to a reduction in environmental impact. This can help achieve carbon neutrality in chemical synthesis processes.

Carbon neutrality and catalysis in chemical synthesis processes

Igarashi: This is exactly the technology that society has been waiting for. We are very grateful that we were able to complete this technology in cooperation with your team.

Of course, there are technologies that directly reduce CO₂ emissions, such as clean energy. However, to reduce CO₂ emissions in factories, it is also important to save energy in the chemical synthesis process, for example, by shortening processes and time. In addition, if processes that require high temperatures and high pressures for reactions can be carried out under mild conditions, this will further reduce CO₂ emissions. We are also focused on developing catalysts that allow chemical reactions to occur at near room temperature.

Furthermore, since precious metals are a limited and valuable resource, we believe that the development of recycling technology is also necessary to realize a sustainable society. So we are focusing on the application of catalyst technology, such as scavengers.

We will continue to advance our initiatives to address social issues. We would like to hear your expectations and requests for us.

Choi: What should N.E. CHEMCAT aim for in the future? The most important thing is to identify the goal. The first thing to consider is the development of technologies that will help achieve Japan's stated goal of carbon neutrality by 2050. It is also indispensable to develop value-added catalysts through dialogue with customers. Developing catalysts based on customers' desires and concerns will certainly open up the future. My advice would be, "Make your customer relationships deeper and stronger."

Igarashi: Thank you. That is true. We must keep our antennae up for really good development topics, and when we find one, we need a system that allows us to respond flexibly and quickly. We want to help achieve carbon neutrality through catalysts. This includes establishing production technologies that can contribute to high value-added, low-volume, multi-product manufacturing.

We have also learned from the joint research with you that we need to collaborate with external researchers and research institutions that have expertise. We will continue to engage in open innovation to create new value and develop catalysts that can contribute to society.

Thank you again for your continued support and quidance.



Jun-Chul Choi

Principal research manager at the Interdisciplinary Research Center for Catalytic Chemistry, AIST. He is also a member of the Smart CO_2 Utilization Research Team, Global Zero Emission Research Center, AIST. Professor at the Cooperative Graduate School of the University of Tsukuba.

Sustainability Management

Based on its Corporate Philosophy, N.E. CHEMCAT contributes to achieving a sustainable society through its business activities. We are implementing sustainability management to achieve sustainable growth as a company that is beneficial to society.

Making the Most of Our Strengths to Help Solve Social Issues

Environmental challenges such as climate change, marine pollution, and deforestation have worsened in recent years. Meanwhile, society faces many other issues such as poverty and human rights violations. In order to make society more sustainable going forward, it is important for companies to help achieve the UN Sustainable Development Goals (SDGs). The underlying purpose of companies is being questioned, and the public is asking what they can do to help overcome these challenges.

Since N.E. CHEMCAT's founding in 1964, the company has been focused on catalysts as well as precious metal recovery

and refining. Through these efforts, our company has helped develop the chemical industry, while promoting the prosperity of society. We have also played a major role in reducing environmental impact, including through air pollution control.

With the technology and knowledge we have accumulated over the decades, we are well-positioned to address challenges such as climate change, sustainable energy, food preservation, and healthcare. With this considerable potential to help build a sustainable society, a key mission for N.E. CHEMCAT is to fully demonstrate its strengths by helping society overcome these challenges.

Value Creation at N.E. CHEMCAT

In accordance with our purpose, which is set forth in our Corporate Philosophy, we are working to strengthen relationships of trust with our diverse stakeholders. In addition, we are striving to ensure sustainable operations and create businesses and products based on ESG awareness, thereby helping to solve the social issues identified by the SDGs. In doing all this, we seek to improve corporate value and help to build a sustainable society.

Value Creation Story



Identification of Material Issues

As part of our mission to help build a sustainable society, we have identified important social issues that we can and must prioritize by leveraging our strengths, specifying these as our material issues.

Material Issue Identification Process

To identify our material issues, we set up an ESG & SDGs Promotion Project team made up of employees and held discussions for about five months. Based on our past and present initiatives that are closely related to ESG and SDG issues, and a discussion of the company's vision for the future, we identified the issues N.E. CHEMCAT should address. The issues were categorized into the two areas of economic value and social value, before being prioritized, and the results were mapped.

Through this mapping, initiatives with both high economic value and social value were identified as key candidate issues. After consulting external experts, eight material issues were chosen.

Elements for Practicing Sustainability Management

To ensure the effective practice of sustainability management, we categorized the chosen material issues into three elements and identified the relationship with each one. The elements are: (1) creating products that help solve social issues; (2) establishing sustainable supply chains and operations; and (3) building solid management infrastructure.

Moreover, each material issue has been arranged from the perspective of important ESG issues and the SDGs. Specific individual issues are now incorporated into our Vision 2030, and we are pursuing various initiatives accordingly.

Material Issues (Materiality)

classifi- cation	Material issues	Important ESG issues	Details	SDG-based targets	
	Developing products to help solve social issues	Helping to solve environmental challenges and other social issues through business activities	 Developing eco-friendly products Developing products that enhance health and safety Developing resource-saving products 	2	
E	E	Reducing environmental	Targeting carbon neutrality by 2050, reducing the environmental impact of all business operations	 Continuing to reduce CO₂ emissions, water use and waste in all business activities Practicing high-efficiency energy 	⁶⁼⁼⁼ ♥ ●
	supply chain	Establishing systems to minimize the use of hazardous substances and prevent environmental accidents	 management Implementing Responsible Care (RC) activities 		
		Good communication with stakeholders	 Deepening mutual understanding with customers, suppliers, employees, and shareholders. 		
c	Stakeholder engagement	Continued efforts to earn the trust of society as a fair company	 Enhancing corporate branding Strengthening employees' sense of belonging 		
S	CSR procurement	Building a sound value chain, including the avoidance of conflict minerals	 Establishing procurement policies to avoid conflict minerals and promote green procurement, etc. Examining supplier selection and implementing monitoring 	i∰ (00) (00)	
	Building of stable management infrastructure	Developing management systems and organizations for disclosure of management information in a timely and appropriate way	 Enhancing the compliance promotion system Developing crisis management and 		
		Creating efficient business management systems based on numerical targets	esponse systems (including PR activities and BCM) Improving business efficiency based on		
		Promoting compliance and establishing a comprehensive risk management system	 thorough ROIC management Setting and managing financial targets 		
	Realization of safe and secure workplaces	Constructing a system to comprehen- sively manage environmental protection, as well as health and safety	 Creating a comprehensive system to prevent workplace accidents (RC activities) 		
G		Creating workplace environments where human rights are respected and employees can work with peace of mind	• Eliminating workplace harassment		
	Fostering human resources and a corporate	Clarifying employee roles and targets, and creating of a system that appropriately evaluates their achievements	 Clarifying employee roles and targets as well as required conduct Developing a fair, transparent personnel evaluation system 		
	culture that value challenge-taking	Creating work environments where the individuality and diversity of employees	 Developing human resources who can take on challenges Fostering a corporate culture that welcomes diverse opinions and encourag- es open and frank discussions 	5 11 1-111 1 3 11. Ø M (‡)	
	Workplaces that value diversity		 Increasing the recruitment and promotion of diverse human resources Diversifying work styles (remote work, etc.) 		



N.E. CHEMCAT emphasizes Responsible Care (RC) activities as one of its 16 key drivers for achieving Vision 2030 and is actively practicing them.

RC Activities

RC activities are being promoted by chemical industry associations in more than 70 countries worldwide. RC is a voluntary initiative for members of the chemical industry to implement and improve their environmental safety measures. Participating companies pledge to ensure environmental protection, health and safety throughout the life cycle of their chemical products, from development, manufacturing, and distribution, to use, final consumption and disposal. Since fiscal 2020, we have been participating in meetings of the Responsible Care Committee established by the Japan Chemical Industry

Association (JCIA). Our participation involves presentation of activity results and engaging in dialogue with other members, and the aim is to earn the further confidence of society.



Responsible Care Policy

The company acknowledges that the environment, safety, and health are the most important tasks and will make effort to engage in the following initiatives as our voluntary and continual Responsible Care activities:

- We will make efforts to reduce the environmental loads of our products and to conserve the environment throughout their lifecycles from their development to disposal.
- 2. Based on the principle of "Safety is the highest priority," we will strive to ensure the safety of all persons engaged in our corporate business activities and local communities with the aim for zero accident and zero injuries with upmost efforts in creation of a safe work environment and security management of the facility.
- 3. We will check the safety of chemical substances that are handled in raw materials, intermediate products, and finished products, provide information on their appropriate handling, and give consideration to the safety and health of all related persons, including our employees, logistics personnel, and customers.

We will disclose the efforts of our initiatives to the society and endeavor to engage in appropriate communication with our stakeholders.

RC Promotion System

We have established an RC Committee to carry out RC activities.

In FY2023, we established an RC policy and RC promotion system that encompasses safety, disaster prevention, and logistics safety items to further improve safety, health, and the environment, throughout the entire life cycle of our products. The RC Committee manages the implementation of action plans to achieve goals based on the company's policy priorities.





RC Management System

N.E. CHEMCAT has adopted the Responsible Care Management System (RCMS) to promote the company's RC activities. The RCMS satisfies the requirements of ISO 14001 and OSHMS (ISO 45001), and activities have been clarified for each management practice code.

RC Activities (Six Management Practice Codes)



RC Audit System

Based on the RCMS, RC audits are conducted annually at each plant.

RC Verification

In FY2023, N.E. CHEMCAT underwent verification of actions by JCIA for RC activities at Tsukuba Plant.

Achievement Rates for Each RCMS Code



Every company has a social responsibility to be proactive in its efforts to protect the global environment. N.E. CHEMCAT seeks to minimize environmental impact in all processes of its business activities.

Environmental Management

Guided by our corporate philosophy, which is to "fulfill corporate social responsibilities and seek to coexist with the environment and society around us," we actively engage in environmental protection activities through our business.

Promotion System for Environmental Management

Each plant has established an Environmental Conservation Committees, chaired by the general manager, to carry out initiatives related to certain RC items, namely environmental protection, chemical substance management, and energy.

Company-wide progress with these initiatives is reported to and overseen by the RC Committee, which is chaired by the General Manager of the Production and Technology Div.

Environmental Management System

N.E. CHEMCAT has obtained ISO 14001 environmental management system certification, and the company's system is constantly being enhanced. We have also prepared an environmental manual, and conduct environmental activities as part of daily operations.

Business Sites with Environmental Management System Certification

ISO 14001:2

Numazu Plant, Tsukuba Plant

Environmental Education

In addition to providing employees with our environmental manual, we conduct education and training to improve employee environmental awareness and to comply with relevant environmental laws and regulations.

FY2023 Environmental Training Programs

Environment Month (Message from the President)	Company-wide
Internal auditor course	Numazu/Tsukuba
Environmental safety patrol	Tsukuba
High pressure gas (LNG) leak training	Tsukuba
Chemical leak and emergency shutoff valve training	Numazu/Tsukuba
Chlorine gas leak training	Numazu/Tsukuba

Initiatives to Reduce Environmental Impact

Promote Energy Conservation

Our Energy Management Committee promotes company-wide energy plans, including the adoption of new energy-saving technologies.

We have also positioned dedicated efforts to reduce environmentally hazardous substances and prevent environmental accidents and occupational accidents and injuries in all business activities as one of the 16 key drivers to achieve Vision 2030.

In FY2023, we worked to conserve energy by implementing plans to improve production processes and upgrade deteriorated facilities.



Annual Energy Consumption

Target to Reduce Greenhouse Gas Emission Intensity

We have set a target to achieve a 50% reduction in our greenhouse gas (GHG) emission intensity by 2030, compared to the 2013 level. GHG emissions are considered to be the cause of global warming, and we are pursuing initiatives to reduce them.



Initiatives for Target Achievement

- · Energy conservation and loss reduction measures for electricity and liquefied natural gas (LNG) use (installation of LED lighting and higher-efficiency air conditioning equipment)
- Adoption of highly energy-efficient equipment and technology
- · Improvement in development and production efficiency
- Adoption of renewable energy

Annual GHG Emissions and Emission Intensity*



Effective Water Use

We have our own water supply facilities and strive to minimize water usage. In addition, some wastewater is reused for rooftop sprinkling and other purposes.

Annual Water Use and Industrial Wastewater Discharge



Effective Resource Use

Precious Metal Recycling

Platinum (Pt), palladium (Pd), rhodium (Rh), ruthenium (Ru), and other precious metals can be found in spent catalysts. Since they are important resources, N.E. CHEMCAT has its own facilities for recovery and refining of these metals. High-quality precious metals can be separated, recovered, and refined using appropriate technology. This is true even when the post-use precious metal catalyst contains multiple precious metal types, additives, and/or toxic substances that accumulate during use.

Each metal is recovered with a purity of 99.9% or higher purity as shown below.



*Ruthenium is recovered as ruthenium chloride

We are developing new adsorbents and further improving other recovery technology to enable more efficient precious metal recovery.

Waste Reduction

Wastewater sludge accounts for the largest volume of waste emitted by the company. In order to reduce this waste, we have been enhancing our production processes and updating equipment and machinery.

Annual Industrial Waste Generation



Amount and Percentage of Industrial Waste Reused and Recycled



Management of Chemical Substances

Along with managing chemical substances handled internally, we are promoting chemical substance management for all raw materials and products used in our processes from design to manufacturing and delivery.

Compliance with Chemical Substances Regulations

N.E. CHEMCAT complies with all relevant laws and regulations including Japan's Act on the Regulation of Manufacture and Evaluation of Chemical Substances (Chemical Control Law), Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement (Chemical Management Law), and Industrial Safety and Health Act. The appropriate management procedures are stipulated in our Chemical Substance Management Regulations, and chemicals are being properly managed accordingly.

In addition, as part of our efforts to comply with the REACH regulation, we check the annual quantity of products exported to the EU and complete the necessary registrations.



Management of Chemical Substances Contained in Products

For chemical substances contained in products, we have established control standards for each phase of the supply chain (1. purchasing, 2. manufacturing, and 3. delivery), and are working to ensure appropriate management throughout the supply chain.

To manage chemical substances contained in products throughout the supply chain, it is essential to manage chemical substances contained in products and intermediates converted from chemicals (raw materials).

Starting from the design and development stage of our products, we check for chemical substances contained in our supply chain and consider whether they are subject to legal regulations. Based on our findings, we implement product and process design that allows for managing chemical substance volume and preventing contamination.

Biodiversity Initiatives

Our company, which operates in Numazu City, is working to protect the water environment as a participant of the Kano River System Water Quality Conservation Council, which works to promote water quality and environmental conservation in the Kise River, a tributary of the Kano River, and other rivers that flow into it. In FY2023, the council conducted activities that included aquatic life observation events, cleanup and beautification events, and environmental lectures on biodiversity and invasive species. By belonging to the organization and supporting its activities, we protect the water quality of the Kano River system, which is home to many organisms such as fish and birds, and contribute to biodiversity conservation. (See p. 34)

Since its founding, N.E. CHEMCAT has provided products and services that meet customer expectations and earn their trust. Furthermore, we continually strive to balance high performance and high quality to effectively contribute to solving our customers' challenges.

Quality Assurance Activities

Quality Policy

To deliver products that meet customer satisfaction, we are committed to continuously improving quality through implementation of our Quality Policy.

Quality Policy

1. This is our quality policy:

- (1) We provide quality that satisfies customers and earns their confidence.
- (2) Through the efforts of all employees, we aim for continuous quality improvement.

2. In order to fulfill this quality policy, we implement the following measures:

- (1) Create a quality management system that is ISO 9001 and the other related standards compliant, and strive for continual system improvement.
- (2) Ensure that each department sets and implements its own quality targets, monitors their progress, and reviews them regularly.
- (3) Review the appropriateness of our quality policy during management review activities.
- (4) Inform all members of the organization of our quality policy and enhance their understanding.

Quality Management System

Under the direction of the President, the General Manager of the Production & Technology Div. has been appointed as the responsible person for quality assurance and product accountability and is promoting quality assurance activities aimed at the proactive prevention of quality defects.

In addition, we have obtained certifications such as ISO9001 and IATF16949 as a part of our quality management system, ensuring that we have a framework in place to consistently supply high-quality products that meet customer satisfaction.

Business Sites with Quality Management System Certification

ISO 9001:2015	
IATF16949:2016 (Auto exhaust cataly	

Numazu Plant Head office, Numazu Plant, and Tsukuba Plant

Quality Audits

Commitment to Products

At each plant, we conduct external and internal audits once a year based on our management system.

Commitment to Logistics

We conduct regular guality audits with the aim of preventing product damage due to unforeseen accidents and minimizing the impact on customers caused by operational errors throughout the logistics process. We place a particular emphasis on standardizing operations, setting competency standards, and monitoring adherence to these standards, striving for corrective actions and improvements.

Improving Quality Performance

We are implementing the following items to improve our quality performance.

Internal Committees for Quality Improvement

We are building a framework not only to ensure the prevention of the recurrence of quality defects but also to proactively prevent quality issues by considering risks through collaboration among various departments.

- Audit Reporting Committee
- Ouality Committee
- Quality Manufacturing Liaison Committee
- Quality Near Miss Reporting
- Quality Patrol
- Ouality Risk Reduction

Customer Satisfaction Survey

We often work closely with our customers, from catalyst development to scale-up. With the aim of enhancing customer satisfaction and improving quality, we conduct an annual Customer Satisfaction Survey, and are committed to continuous quality improvement.

Technical Cooperation Framework

We have established a technology transfer system that enables the production of catalysts developed in Japan, such as automotive exhaust catalysts, without compromising their performance at overseas manufacturing plants.

Additionally, we engage in regular technical exchanges with the BASF Group to introduce the latest technologies and further improve quality.

Cooperation with the BASF Group

- N.E. CHEMCAT
- Joint ventures of BASF and N.E. CHEMCAT (exhaust catalysts)
- BASF production and R&D sites (exhaust catalysts)

BASF production sites (process catalysts)

Quality Control Training and Education

We actively conduct training and education aimed at enhancing the capabilities of personnel involved in quality management. This includes understanding the standards of quality management systems and essential concepts behind them, core tools based on IATF 16949, and quality control techniques, as well as maintaining the competency of internal auditors.

To ensure that employees involved in guality control can effectively perform appropriate oversight functions related to quality, we encourage and support them in obtaining external qualifications and participating in external seminars.

<Qualifications>

- IATF16949 Supplier Auditor Certification (SAC)
- · Japan Standards Association Quality Management and Quality Control Examination

<Seminars>

IATF16949 Internal Audit Seminars, etc.

Lean Six Sigma Activities

Black Belt (MBB*³).

at our headquarters, while simultaneously cultivating MBBs.

Four Personal Skill Categories Fostered by LSS



*2 Black Belt (BB): One level higher than GB. BBs provide guidance and advice to GBs and lead LSS projects that span multiple area *3 Master Black Belt (MBB): Qualified to assume responsibility for development and establishment of company-wide LSS activities as routine practices. An MBB manages LSS projects, formulates medium- and long-term plans for LSS activities, supports management, conducts training, coaches projects, and improves the level of recognition of such projects in the company.

Training and Education Programs	Plant
IATF16949 Core Tool Training (APQP)	Head Office/ Numazu/Tsukuba
IATF16949 Core Tool Training (MSA)	Tsukuba
Overview of IATF16949	Tsukuba
Understanding the IATF16949 Standard	Head office
IATF16949 Internal Auditor Training	Head Office/ Numazu/Tsukuba
Internal Auditing in IATF 16949	Head Office/ Numazu/Tsukuba
Process Approach	Head office
PFMEA and Control Plans	Numazu
DRBFM	Numazu
Root cause analysis/Why-Why analysis	Numazu
Statistical Quality Control Techniques	Numazu
Measurement instrument and apparatus management	Numazu/Tsukuba
Supplier Audit Methodology	Tsukuba

Major Training and Education Achievements in FY2023

In order to address CSR throughout its supply chain, N.E. CHEMCAT shares its procurement policy and CSR procurement guidelines with its suppliers and works with them to resolve social issues.

CSR Procurement

Procurement Policy

N.E. CHEMCAT practices CSR procurement based on its Corporate Philosophy. We established a new procurement policy in April 2022, and have shared it with our suppliers and other stakeholders.

We completely avoid the use of conflict minerals and engage in environmentally friendly green procurement.

Procurement Policy

- 1) We will comply with all laws and regulations, and conduct procurement activities based on social ethics.
- 2) We will select our suppliers with fairness and equity, conduct transactions in good faith, and strive to strengthen and develop mutual understanding and trust.
- 3) We will eliminate conflict minerals and will not procure articles that may be associated with human rights violations.
- 4) We will give attention to conserving the global environment and strive to reduce environmental impacts through our procurement activities.

Management Structure

The company practices CSR procurement under the lead of the Corporate Administration Dept., which cooperates with the purchasing sections of plants in this effort.

Establishment of CSR Procurement Guidelines

In order to practice CSR activities throughout the supply chain, we established CSR Procurement Guidelines in April 2022 to define our approach to CSR procurement including environmental, human rights, and legal compliance.

CSR Surveys

Starting in FY2022, N.E. CHEMCAT has been conducting a CSR survey using the CSR/Sustainable Procurement Self-Assessment Questionnaire developed by the Global Compact Network Japan (GCNJ).

In FY2023, we requested survey responses from 30 major business partners and received responses from 26 companies, with the average score of the responding companies being 91%. Compared to the first year of the survey, the number of companies surveyed has increased from 19 to 30. For one supplier that had a low score last year, we shared the survey results with them and developed and implemented improvement measures, which helped them to raise their score this time.

We will continue to conduct an annual CSR survey and work to ensure responsible procurement.

CSR Survey Process



Conflict Minerals

Trade in minerals such as tin, tantalum, tungsten, gold, and cobalt mined in the Democratic Republic of Congo and adjoining countries in Africa has been identified as a source of funding for armed groups.

N.E. CHEMCAT manufactures products using gold and tungsten, and its CSR Procurement Guidelines stipulate that the company avoids the use of conflict minerals.

The guidelines also stipulate that the company does not procure minerals that may be involved in human rights abuses such as child labor, forced labor, and environmental destruction, which are problems not only in the region but also for the international community.

CSR Procurement Guidelines

1. Environment

- Environmental Management System
 Our suppliers establish and operate a general management sys-
- tem for implementing environmental activities. (2) Greenhouse Gas Reduction
- Our suppliers undertake activities to reduce greenhouse gas emissions generated by their business activities.
- (3) Environmental Impact Reduction
 - Our suppliers comply with the laws and regulations concerning the prevention of air, water, and soil pollution in each country and region in which they operate, and they continuously work to reduce environmentally hazardous substances.
- (4) Resource Conservation and Waste Reduction Our suppliers comply with the laws and regulations concerning the proper disposal and recycling of waste in each country and region in which they operate, and they ensure that resources are effectively utilized.
- (5) Chemical Substance Management
 - Our suppliers comply with the laws and regulations concerning chemical substances in each country and region in which they operate.
 - Our suppliers strictly control chemical substances throughout the product life cycle to prevent environmental pollution and adverse effects on the human body.

2. Quality

- (1) Quality Assurance Management System
 - Our suppliers maintain a quality assurance management system to ensure product quality and safety and conduct continuous quality improvement activities.
- (2) Product Safety
 - In the event a defective product is discovered, our suppliers take all appropriate measures to ensure safety, including sharing information in a timely manner, investigating the cause, and thoroughly implementing measures to prevent recurrence.

3. Human Rights

(1) Prohibition of Discrimination

Our suppliers do not discriminate in recruitment, hiring, or treatment on the basis of race, creed, gender, social status, family origin, sexual orientation, gender identity, or disability.

(2) Prohibition of Inhumane Treatment

Our suppliers respect the human rights of their employees and do not tolerate sexual harassment, power harassment, bullying, or any other conduct that may degrade the work environment. (3) Prohibition of Forced and Child Labor

Our suppliers hire only employees who work of their own free will, ensuring that they are not forced to work and are free to leave their jobs as desired.

Our suppliers do not use the labor of children who have not reached the legal working age under the laws and regulations of each country and region.

(4) Compliance with Work Hours and Wage Payment

Our suppliers comply with the maximum working hours set by the laws and regulations of each country and region, as well as with those regarding salaries and wages, including minimum wage, overtime pay, and piece-rate wages.



- (5) Freedom of Association Our suppliers recognize the right of employees to freely associate with, and choose not to associate with, groups of their choice in accordance with the laws and regulations of each country and region in which they operate.
- (6) Safe and Healthy Working Environment Our suppliers ensure health and safety in the workplace and strive to prevent accident and injury.

4. Raw Material Procurement

(1) Conflict Minerals

Our suppliers do not procure minerals that may be associated with child labor, forced labor, or other violations of human rights, or that may cause environmental destruction, or that may provide a source of funding for armed groups.

Raw Materials Associated with Human Rights Violations
 Our suppliers do not conduct business with companies suspected of committing human rights abuses such as forced labor (or those with business ties to such companies).

5. Legal Compliance

- (1) Legal Compliance System
- Our suppliers comply with the laws and regulations of each country and region in which they operate and maintain a system to promote compliance.
- (2) Compliance with Competition Laws

Our suppliers comply with the competition laws of each country and region in which they operate and do not engage in unfair restraint of trade (cartels, bid rigging, or other practices), unfair trade practices, or abuse of superior bargaining position.

(3) Prevention of Corruption

Any political contributions and donations our suppliers make are made in accordance with the laws and regulations of each country and region in which they operate, and they maintain fair relationships with political parties and governments.

Our suppliers do not provide entertainment, present gifts, or give money to, or receive money from, business partners for the purpose of obtaining or maintaining unfair advantage or preferential treatment.

- (4) Respect for Intellectual Property Our suppliers protect intellectual property rights owned by or belonging to their company and do not infringe on intellectual property rights owned by third parties.
- (5) Confidential Information Management and Protection Our suppliers maintain a system for managing the confidential and personal information of customers and third parties in accordance with the laws and regulations of each country and region in which they operate. Our suppliers do not illegally acquire, use, or leak this information.
- (6) Exclude Antisocial Forces
 Our suppliers do not maintain relationships with such antisocial forces as organized crime groups or corporate blackmailers, or make payments to these groups, under any circumstances.
- (7) Export Transaction Management Our suppliers follow appropriate export procedures and controls for the export of technology and goods as regulated by the laws and regulations of each country and region in which they operate.

To foster a culture that enables employees to demonstrate their potential and maximize results for the entire company, we are working to create systems that encourage employees to take on challenges and promote diversity.

Human Resource Development

Human Resource System That Encourages Employees to Be Proactive about Taking on Challenges

As a foundation to support these challenges, we have implemented a human resource system whereby every employee is made aware of well-defined roles and goals, is properly evaluated, and is able to take on professional challenges with a sense of fulfillment.

Five Components of the Human Resource System



Human Resource Development System

Officers Off-site meeting М3 Senior nanageme program M2 manageme program M1 manager trair ated to Lean Six Sigma (LSS) New superviso S4 training 53 ē training E S2 ٦, skills S1

Human Resource Management Promotion System

N.E. CHEMCAT formulates and implements various human resource policies based on the human resource strategy in its medium-term management plan.

Personnel evaluations and changes in role grades, personnel transfers and annual hiring plans, succession plans for key posts, and the selection of candidates for the next management level are discussed by the Personnel Committee, which is chaired by the president. This ensures a medium- to longterm perspective in the management of human resources.

Human Resource Development

Our human resource development is mainly based on on-thejob training, which involves communication with supervisors and senior employees in daily work as well as guidance and advice provided via regular interviews.

We also provide training for new employees and coaching training, as well as off-the-job training for each employee grade. The goal is to help them acquire the skills required to fulfill their roles and to develop and improve their competencies.

N.E. CHEMCAT actively supports independent learning for each employee, including support for obtaining a doctoral degree and English language training, and e-learning courses that can be selected at will by interested employees.

Promoting Diverse Work Styles

Flexible Work Styles

N.E. CHEMCAT operates systems that allows employees to work flexibly. Such systems include the flex systems and the telecommuting system.

We also strive to maintain a balance between work and life through appropriate management aimed at preventing long working hours and encouraging employees to take annual paid leave.

Support Systems for Childcare, Elderly Care, Nursing, Etc.

In order to support employees who are giving birth, raising children, or caring for the elderly, we have introduced various support systems that go above and beyond legal standards. In FY2023, the percentage of women taking childcare leave reached 100%, and that percentage for men hit 70%, indicating that the practice of men taking childcare leave has gained more acceptance in the workplace.

Childcare Leave	Extension to 2 years old is possible depending on the situation of the childcare center. *The rate of employees who have returned to work after taking childcare leave is 100%.
Shortened Work Hours for Childcare	Available until the child graduates from elementary school
Nursing Care Leave	Can be taken up to three times for a period of up to 93 days for a family member in need of nursing care
Family Support Leave	Available for up to 40 days per year for nursing care of family members who are injured or ill or in need of nursing care *Can be taken even if not in need of nursing care
Job Return System	Employees who have left the company due to marriage, childbirth, childcare, nursing care, or a spouse's transfer are eligible to return to work if they so desire.

Creating a Positive Workplace That Is Easy to Work in

Along with working to create a system to appropriately manage work hours, we are striving to improve the work environment based on the results of stress checks and feedback from our labor union.

We also provide insurance coverage for illness and injury and a group life insurance program so our employees can work with peace of mind.

Diversity and Inclusion

Believing that acceptance of diversity leads to the creation of innovation and enhancement of corporate value, the company is working to create a work environment in which the individuality of employees and the abilities of diverse human resources can be fully realized.

The percentage of mid-career hires in FY2023 was 70.4%. Additionally, the disabled employment rate was 2.6%, which exceeds the statutory minimum.

Women in Management Positions

N.E. CHEMCAT has approximately 650 employees, of which 11.3% are women, and the percentage of women in management positions stood at 5.0% in FY2023.

				(%)
	FY2020	FY2021	FY2022	FY2023
Percentage of regular employees who are women	10.9	10.8	11.0	11.3
Percentage of women in management positions	4.6	4.3	4.9	5.0

General Business Owner Action Plan based on the Act on Advancement of Measures to Support Raising Next-Generation Children

At N.E. CHEMCAT, we aim to create an employment environment in which employees can balance work and parenting, achieving a fulfilling work-life balance while also exercising their capabilities. To this end, we have set the following goals and are working to achieve them.

1. Create a culture where it is easy to take childcare leave

- (1) We post the following information on the company intranet to foster a corporate culture that makes it easy for employees to take childcare leave.
- Information on childcare leave, childcare leave benefits, and other systems
- Cases of people taking childcare leave and the rate at which they take childcare leave
- Information about the consultation service for childcare and family care leave
- (2) Provide employees with training at least once a year on the importance of the childcare leave system, details about the system, how to apply, etc.
- 2. Implement measures to encourage employees to take paid annual leave
 - Encourage employees to take annual paid leave through the company intranet or other means three times a year.

At N.E. CHEMCAT, we are working to create a workplace environment where employees can work safely and in good health by establishing specific systems and carrying out various activities.

Occupational Health & Safety

Safety Code of Conduct

Based on our Responsible Care policy of "Safety is the highest priority," we have established a Safety Code of Conduct and are working to ensure safety and health with the goal of eliminating accidents and occupational injuries.

Safety Action Rules

1. Follow the rules

All company employees shall comply with laws, regulations, and other internal rules.

2. Implement thorough safety precaution

In order to prevent injury, supervisors shall give due consideration to safety (pre-screening, education and training) before utilizing new employees or introducing new equipment, new substances, or new tasks.

3. Standardize operational procedures

Workplace supervisors shall standardize operational procedures in order to ensure safety.

4. Wear protective gear

Personnel working on site shall wear appropriate protective gear.

5. Patrol the workplace

Supervisors shall patrol the workplace in a timely manner to identify any on-site issues. Identified problems shall be corrected in a timely manner without leaving dangerous locations or dangerous tasks unattended.

6. Report obligations

If an accident, injury, or emergency should occur, work shall be stopped immediately, and the situation shall be reported to a supervisor as quickly as possible.

7. Prevent recurrence thoroughness

Following an accident or injury, all workplace employees shall reflect seriously on the circumstances, determine the cause, and take steps to prevent recurrence.

Health & Safety Promotion System

N.E. CHEMCAT has established health & safety committees at each of its plants. These committees include safety managers, health managers, industrial physicians, and work supervisors, and a system is in place to reflect the opinions of employees at workplace and safety meetings.

Health & Safety Management System

We have obtained JISHA OSHMS Standards certification for our safety and health management system.

Business Sites with Health and Safety Management System Certification

JISHA OSHMS Standards

Numazu Plant, Tsukuba Plant

Implementation of Risk Assessment

We conduct risk assessments with priority given to preventing serious accidents, while also taking measures to ensure intrinsic safety that include developing and managing the necessary equipment. In addition, we are working to improve work that involves heavy labor or working in hot weather to create a workplace that is easy to work in, even for elderly workers.

Risk Assessment Procedures



Safety Targets

With the aim of achieving zero lost-worktime injuries and injuries without lost worktime, we are working to create a safe and healthy work environment for all employees. In FY2023, we conducted RC activities and achieved zero accidents.

Occupational Accidents (Number of accident				
	FY2020	FY2021	FY2022	FY2023
Lost-worktime injuries	1	2	2	0
Injuries without lost worktime	2	0	0	0
Fatal accidents	0	0	0	0

Safety Training

We provide safety training and make educational materials available on our intranet.

Safety Training (Examples)

- Safety principles
- Disaster preparedness education (BCP for major earthquakes and wind, flood, and earthquake disaster prevention)
- Education on chemical substance management
- Training for employees who work with chemical substances
- Education on management system of chemical substances in products
- Education on basic knowledge of protective equipment (for new and mid-career employees)
- Education on prevention of exposure to liquids (chemical hazards)
- Education on full body harness fall arrest equipment
- Training for high-pressure gas handlers
- Education on compliance with relevant laws and regulations
- Traffic safety training
- Heatstroke prevention education
- Risk assessment of chemical substances
- Foreman skill improvement training
- New safety manager training

Hazard Simulation Training

The Sumitomo Metal Mining Group's on-site hazard training course was also conducted in FY2023, with 105 employees taking part. Trainees gained firsthand experience with hazards such as blind spots for forklifts, slipping hazards, getting caught in cylinders and rotating objects, working at heights, and handling heavy objects.

Four new instructors have been appointed to run the course. Acting as local instructors, they lead by example in safety activities at each worksite and support trainees in their efforts.



Hazard simulation training course

Workplace Accident Prevention Activities

To prevent occupational accidents, we conduct regular facility safety inspections and health and safety patrols, as well as workplace patrols by management, and shareholder audits.

Health

Supporting Employees' Mental and Physical Health

Employee Health Management through Health Checkups

Regular health checkups are conducted once a year to maintain and promote employees' health. We also help to maintain the health of employees by providing thorough physical examinations.

Specific health checkups	Specific health checkups are conducted for all insured employees and dependents between the ages of 40 and 65. For those who are selected for "motivational support" or "active support" in the specified health checkup, an action plan is prepared under the guidance of a doctor, public health nurse, etc., and health guidance is provided to improve their lifestyles.
Thorough physical examination	Insured persons and their dependents can undergo physical examinations without age limitation.

📕 Mental Health

The company conducts annual stress checks to not only address mental health issues but also promote mental health in a broader sense, including the revitalization of workplace communication.

In FY2023, 98.0% of employees underwent stress checks. We are following up with those who are highly stressed through interviews.

Health Consultations

N.E. CHEMCAT partnered with an outside organization and introduced a system to provide mental and physical health consultations 24 hours a day. In addition to daily health counseling, we also provide services such as referrals to medical institutions where consultations are available during the yearend and New Year holidays.

Employees who request health counseling meet with an industrial physician or receive health counseling from a healthcare provider at least once a month at our head office and plants. We seek to achieve sustainable growth and a prosperous society through stronger relationships with stakeholders by providing them with appropriate information and engaging them in dialogue, and by creating new technologies and value in collaboration with stakeholders.

Communication with Stakeholders

To share our philosophy and objective of promoting sustainability management, we place immense importance on opportunities for diverse dialogue with stakeholders.

Through dialogue, we seek to build relationships of mutual cooperation between the company and its stakeholders and among stakeholders, and to grow and develop together.



Opportunities for Dialogue with Stakeholders

Stakeholders	Objectives	Main communication
Customers	 Collaborating to solve social issues through business Improving customer satisfaction by maintaining the supply of high-quality products Building and strengthening relationships of trust through appropriate disclosure of sustainability and other initiatives 	Sales and technical support, customer satisfac- tion surveys, acceptance of plant inspections, CSR survey responses, information disclosure on website, sustainability reports
Shareholders (Sumitomo Metal Mining and BASF)	Be accountable to shareholders for business strategies and performance, and strengthen Group cooperation	General shareholders' meeting, acceptance of audits, and technical exchanges
Suppliers	 Maintaining sound business relationships through fair and equitable transactions Sharing procurement policies and CSR procurement guidelines, and promoting CSR procurement throughout the supply chain 	Communication through purchasing activities and conduct CSR surveys
Business Partners	 Strengthening collaboration with various companies to develop prod- ucts and new technologies that contribute to a sustainable society 	Communication through projects, cooperative research
Employees	 Creating opportunities for direct dialogue between officers and employees Strengthening mutual trust through labor-management dialogue Strengthening employee engagement Fostering a lively work environment 	Employee Forum (held twice a year), labor-management council, executive blog, intranet
Schools (Universities)	$\boldsymbol{\cdot}$ Creating new technologies and values that support a sustainable society	Acceptance of internships, cooperative research
Industry Groups	 Exchanging views and sharing information with chemical and catalyst- related industry groups, and with organizations working to solve social issues 	Membership in industry groups (JCIA, Cata- lyst Manufacturers Association JAPAN, Japan Hydrogen Association, and others.)
Local Communities	 Contributing to local development through youth development, local environmental protection, and other social activities Coexisting and co-prospering with local communities 	Providing extracurricular classes at technical colleges and high schools, regularly engaging in dialogue with resident associations and land-owners, participating in community cleanup activities, in regional chambers of commerce and environment-related councils, and in district sports competitions, and supporting AED advertising for local government community facilities

Local Contribution Activities

Environmental Protection Activities

We participate in environmental protection programs in the areas surrounding our plants ("Clean Numazu" in Numazu, Shizuoka Prefecture, as well as "Clean Bando" in Bando, Ibaraki Prefecture) and regularly conduct cleanup activities.

We also conduct environmental protection activities through our participation in the Kano River System Water Quality Conservation Council, which works to promote water quality conservation in the Kano River water system in Numazu and ensure a pleasant living environment.



Community Cleanup Activities

Support for Installing AEDs in Public Facilities

N.E. CHEMCAT sponsors AED advertising to support efforts to install automatic external defibrillators (AEDs) in public facilities in Bando City, Ibaraki Prefecture.

In FY2023, we supported the installation of AEDs in five locations in four facilities: Bando City Hall, Iwai Wellness Center, Bando General Gymnasium, and Bando Civic Concert Hall.

Support of Culture and Sports

In FY2023, we cosponsored the Shizuoka Ekiden (a long-distance relay road race) for municipalities in Shizuoka Prefecture, donated towels to cheer on the team from Numazu where our plant is located, and deepened engagement with local residents.

At the Tsukuba Plant, several of our employees took part in the Bando City Masakado Half Marathon as part of efforts to revitalize the local community.



The Numazu Team holding up the towels we donated to cheer them on

Educational Support

As part of our educational support activities for the students who will lead the future of the region, we help create elementary school newsletters and participate in extracurricular classes at high schools.

Elementary Schools

• Support for producing newsletters: Bando municipal Kamiomi Elementary School, Numazu municipal Hara Elementary School

High Schools/Technical High Schools

• Future Shizuoka*:

Support for extracurricular activities at Izu Sogo High School and Yoshiwara Technical High School

* Future Shizuoka: A project run by Shizuoka Shimbun (newspaper) that communicates the appeal of living in the community by having high school students work in local companies.



Extracurricular classes at Yoshiwara Technical High School

Industry-Academia-Government Collaborative Activities

Participation in Food Waste Reduction Organizations

As a member of the No Food Waste Consortium, which aims to reduce food loss through the use of catalysts, we engage in activities that include providing products and holding discussions aimed at developing practical applications for these catalysts.

In March 2024, we cosponsored the No Food Waste Contest for high school students, which is hosted by the consortium. We gave our corporate award to the National Institute of Technology Tomakomai College team, who presented an idea for a technology to preserve food freshness using platinum catalysts.



National Institute of Technology Tomakomai College team wins the N.E. CHEMCAT Award

N.E. CHEMCAT is working to build a transparent and sound governance system and strengthening internal controls in order to increase stakeholder trust and enhance corporate value. We have also positioned compliance as our top priority in corporate activities.

Governance System

To conduct transparent and sound corporate management, we need to establish corporate governance that is in line with the true state of the company. The company has put in place a general shareholders' meeting, a board of directors, corporate auditors, and an accounting auditor to ensure appropriate corporate governance.

Activities of the Board of Directors and Corporate Auditors

In accordance with the Companies Act and internal regulations, we held seven board of directors' meetings (two of which were held in writing) in FY2023 to discuss important matters and report on the state of business execution.

Corporate auditors also attended the general shareholders' meeting, the board of directors' meetings, and other important meetings to monitor and verify whether resolutions and reports have been made in accordance with laws, the Articles of Incorporation, and internal regulations, and whether appropriate business judgment was exercised in making decisions.

Overview of Directors and Corporate Auditors

Number of directors	6
Number of corporate auditors	3
Number of board of directors' meetings held	7
Number of corporate auditors' liaison meetings held	6

Corporate Governance System Chart



Internal Controls

The company has formulated the Policy on Internal Controls as an effort to establish a system necessary to ensure the appropriateness of business operations as stipulated in the Companies Act. Based on this policy, the company has established a system for appropriate operational controls in terms of business processes, risk management, and compliance.

The company also conducts internal audits on business processes and compliance. Regarding internal audits, the Internal Audit Committee reviews and evaluates the status of the system's development and operation in terms of the appropriateness of the company's important business processes and compliance status.

When conducting internal audits, the company cooperates with external organizations as appropriate, and reports the existence of deficiencies and their causes to the Internal Audit Committee. If deficiencies are found, an issue log is released, and the General Manager of the Corporate Administration Dept. investigates and confirms the implementation of improvements in a timely manner and releases the summarized report to the Internal Audit Committee.

Compliance

We believe that compliance must be addressed to fulfill our required social responsibilities and achieve sustainable growth.

Based on this belief, the company has established the Corporate Guiding Principle and the Code of Conduct to show its commitment to rigorous compliance as a company, and to clarify the items that must be observed by employees, which they must put into practice in their daily work.

In FY2023, there was one non-compliance issue, for which measures were appropriately completed in accordance with our internal rules.

To prevent recurrence, we are also making everyone in the company aware of these incidents and are posting educational activities on the intranet.

Internal Reporting System

The company has established an internal reporting system to promptly collect information on any violation of laws or regulations and to respond to that information as quickly as possible. The division in charge investigates reports and determines whether the report content qualifies as a legal violation or violation of other rules. It then reports the results and the appropriate measures to be taken to the Representative Directors and the standing corporate auditor.

Although there were no internal reports in FY2023, we will continue to promote the system's proper use by raising awareness of the importance of compliance, as well as the role of internal reporting system and how to utilize.

In-house liaisonGeneral Manager of the Corporate Administration Dept.Outside liaisonThe designated law firm

In-House Training

In FY2023, we continuously conducted company-wide compliance training, focusing on the importance of compliance, our compliance system, and the prevention of harassment.

In addition, we regularly published a Compliance Newsletter and conducted awareness-raising activities on the compliance themes such as harassment, safety and environmental laws, competition laws, and internal reporting systems.

Corporate Guiding Principle

Basic attitude towards business activities

We conduct active R&D based on a long-term perspective, establish systems to supply safe and quality products consistently, develop existing businesses and create new businesses in order to resolve social issues.

Environmental initiatives

We position the preservation of global environment as an important mission, and provide products that help resolve environmental issues, as well as take actions to reduce environmental impact throughout our corporate activities.

Enforce safety

We make sure that "Safety is the highest priority," throughout the company. We allocate management resources necessary to ensure safety, and strive to create an accident-free, disaster-free environment by enforcing training upon all persons engaged in our corporate business activities.

Quality improvement

We provide the quality that is satisfactory to our customers, engage the entire company in the quality control systems and conduct continuous quality improvement activities to gain customer trust.

Relationship with stakeholders

We value the dialogues with all stakeholders around us, and aim to be trusted as member of society through achieving accountability and appropriate information disclosure.

Compliance, internal controls

We enforce legal compliance, provide appropriate internal training, and take rigorous attitude against illegal and violating acts, as well as establish an internal controls system with emphasis on the management risks associated with our business activities.

Vibrant working environment

We respect the human rights of our employees and encourage open exchange of opinions and proactive challenges, and create a cheerful working environment that will enable employees to express their characters and diverse human resources to reach their potential. N.E. CHEMCAT promotes risk management under the supervision of top management so that it can respond appropriately and promptly to increasingly diverse and complex risks.

Human Rights Policy

The company has established a human rights policy that respects the Universal Declaration of Human Rights and other international norms and prohibits all forms of workplace discrimination. The policy also clearly states that we will cooperate with relevant parties and not be complicit in any human rights violations, even indirectly.

Human Rights Policy

- 1) We will respect the Universal Declaration of Human Rights and other international norms, comply with laws and regulations, and promote initiatives towards respecting human rights.
- 2) We will not allow discrimination, harassment, or other acts of human rights abuse in the workplace. We will respect the diversity of our employees and will foster a lively workplace environment.
- 3) We will encourage supply chain partners and other stakeholders to take the initiative on respecting human rights, and will not take part in any human rights violations.
- 4) We will identify the adverse human rights impacts in our business activities and strive to prevent and mitigate such impacts, and to address such impacts when they occur.
- 5) We will carry out awareness-raising activities for officers and employees to embed the Policy throughout the Company.

Harassment Prevention

The company will in no way tolerate any violation of human rights, including discrimination, harassment, or any other forms of harassment in the workplace for any reason. In FY2023, there were four incidents of harassment that led to disciplinary action. When someone reports harassment, we first take sufficient steps to protect the privacy of the reporter, the perpetrator, and others involved, and then swiftly and accurately verify the facts. The necessary measures are then promptly implemented after the facts have been verified.

To prevent harassment in the workplace, we have established internal and external contacts for consultation and reporting and a system for handling the process from receiving a report to the response. We make everyone in the company aware of this system, in addition to conducting training on harassment.

Internal Audit

N.E. CHEMCAT conducts internal audits based on the internal audit rules to help ensure appropriate, efficient audits of its business.

Risk Management

We believe that identifying and strengthening our response to management risks not only fulfills our corporate responsibility but also leads to our sustainable growth, and we are working to strengthen our risk management system.

The risk management policy stipulates that the company shall establish a high-precision crisis management system. The policy also stipulates that in the event of an emergency, we should prioritize respect for human life and seek rapid recovery.

Risk Management Policy

- 1) Ensure the safety of company employees and preserve company resources.
- Conduct risk management to continuously improve risk response capabilities.
- 3) Develop risk sensitivity and share risk-related information.
- 4) In the event of an emergency, prioritize respect for human life, responding promptly and quickly restoring operations.
- 5) Maintain a high-precision crisis management system with the aims of not only quickly restoring operations in the case of an emergency, but also contributing to society and enhancing our corporate image.

Risk Management System

The company has established the Risk Management Committee, chaired by the president, as a body that oversees risk management.

The Risk Management Committee is responsible for identifying and assessing various management risks and implementing risk mitigation measures, as well as planning and conducting disaster prevention-related education and training.

We have established and maintain a disaster response system that makes it possible to ensure the physical safety of people and protect lives, prevent and/or mitigate the expansion of corporate and stakeholder losses, and rapidly restore important business and business operations.

In the event of a serious disaster that could disrupt business continuity, the officer in charge of crisis management has the discretion to activate a crisis response headquarters and mount a company-wide response when a crisis occurs.

Business Continuity Management (BCM)

N.E. CHEMCAT has formulated a business continuity plan (BCP) for earthquakes, wind and water damage, infectious diseases, and other envisioned events.

We also take action to improve the crisis management system and response measures by operating the PDCA cycle to enhance our ability to respond when a crisis occurs.

Disaster Prevention Training and Drills

We conduct various kinds of training and drills for all employees as part of our business continuity management. Once a year, we conduct training and drills for all employees on disaster prevention measures during normal times and response procedures during emergencies.

Safety verification drills	Response drills for all employees using the safety verification and response system	Twice a year
Comprehensive disaster drills (Numazu and Tsukuba)	Training for evacuation, roll call, reporting, firefighting, and inspec- tion based on the assumption of a large-scale earthquake, fire, chemical leak, and injuries (we also assume a tsunami for the Numazu Plant)	Once per year for each type of work
Self-defense firefighting drills (Head office)	Drills for evacuation, fire extin- guishing, and reporting in case of a fire	Twice a year
BCP training and drills	Training and drills on internal information sharing, determining the response, and response procedures to maintain and quickly restore continuity of important operations in the event of a disaster	Once a year

Risk Management System

During normal times



Information Security

To protect information assets including various confidential and personal information held by the company, we have established Regulations for Handling Confidential Information, Regulations for Handling Personal Information, and Regulations for Information Security to protect information assets including distinct types of confidential and personal information held by the company.

Based on these regulations, the company appoints an Information Security Management Officer (Director in charge of Corporate Planning Dept.) and an Execution Supervisor (General Manager of the Corporate Planning Dept.).

The Information Security Management Officer and the Execution Supervisor identify information security risks such as large-scale disasters, computer viruses, cyberattacks, and information leaks, and promote measures to properly protect and manage the company's information assets from various threats, while constantly working to strengthen information security.

If information security risks materialize that make it difficult to maintain our information security and seriously affect our business, the Execution Supervisor shall report to the Information Security Management Officer and convene the Information Security Emergency Response Committee to respond appropriately to minimize the damage and promptly return the situation to normal.

In addition, to maintain and improve security, the company informs, educates, and instructs its officers and employees on information security standards and rules.



During a crisis

Environment-Related Data

		Unit	FY2020	FY2021	FY2022	FY2023
	Energy consumption (crude oil equivalent)	kl	15,929	16,238	17,175 ^{*1}	15,112 ^{*2}
	Purchased electricity	kwh	33,391,000	33,094,000	34,774,000	33,094,470
	Gasoline	kl	1,057	1,108	1,100	1,009
	Light oil	kl	170	96	113	144
спегду/ана	Liquefied natural gas (LNG)	Ton	2,343	2,591	2,909	2,877
	City gas	Thousand Nm ³	2,715	2,761	2,811	2,284
	GHG emissions	Ton	30,554	30,830	32,925	30,621*2
	GHG emission intensity (index with FY2013 as 1)		0.705	0.678	0.639	0.621
	Water usage (total)	Thousand m ³	813	623	661	728
	Tap water	Thousand m^3	9	10	14	25
Water	Groundwater	Thousand m ³	790	599	632	689
	Industrial water	Thousand m ³	14	14	16	14
	Industrial wastewater	Thousand m ³	773	821	788	741
	Amount of industrial waste (general/special management)	Ton	709	741	606	400
Waste	Amount of industrial waste reused	Ton	658	708	570	395
	Recycling rate	%	92.8	95.6	94.1	98.8
Chemical substances	Emissions of PRTR substances (amount transferred to the environment)	kg	901	2,021	2,581	1,474
Atmospheric	NOx emissions (Tsukuba Plant)	Ton	5.70	4.76	4.99	5.92
emissions	SOx emissions	Ton	0	0	0	0
Others	Number of serious environmental accidents	Cases	0	0	0	0

*1 Figures disclosed last year were corrected after a review of the scope *2 The calculation method changed starting in FY2023 due to revisions to the Energy Conservation Act

Social-Related Data

		Unit	FY2020	FY2021	FY2022	FY2023
	Number of employees (regular employees)	People	667	676	671	653
	Male	People	594	603	597	579
	Female	People	73	73	74	74
	Number of new hires	People	39	44	29	27
	New graduates	People	21	15	8	8
	Mid-career	People	18	29	21	19
	Percentage of women among new graduate hires	%	19.0	13.3	12.5	37.5
	Average years of service (male)	Years	17.2	17.0	16.8	16.3
Employment	Average years of service (female)	Years	13.9	14.3	14.6	14.2
	Average age	Years	42.8	43.0	43.0	43.0
	Numbers of employees by age (up to 29 years old)	People	113	107	95	83
	30–39 years old	People	149	162	175	174
	40–49 years old	People	175	172	169	172
	50–59 years old	People	196	192	191	193
	60 years old and above	People	34	43	41	31
	Percentage of paid annual leave taken*3	%	65.7	69.2	72.8	79.0
	Average hours of monthly overtime	Hours	19.3	20.4	20.3	20.1
	Percentage of women in management positions	%	4.6	4.3	4.9	5.0
Diversity	Percentage of employees with disabilities	%	2.2	2.9	2.6	2.6
	Number of employees aged 60 and over	People	52	63	69	71
	Number of employees taking childcare leave	People	8	7	9	17
	Percentage of childcare leave taken (male)	%	16.6	30.7	57.1	70.0
Childcare, nursing	Percentage of childcare leave taken (female)	%	100	100	100	100
care, and norsing	Percentage of employees returning to work after childcare leave*4	%	100	100	100	100
	Number of employees using family support leave	People	2	1	2	1
	Number of accidents resulting in lost worktime	Cases	1	2	2	0
Occupational	Number of accidents without lost worktime	Cases	2	0	0	0
health & safety	Number of fatal accidents	Cases	0	0	0	0
	Percentage of employees undergoing stress checks	%	97.8	97.3	98.6	98.0

*3 Calculation period: January to December *4 Percentage of employees returning to work after childcare leave: Number of employees who returned to work in the same year divided by the number of employees scheduled to return to work in the same year x 100

Governance-Related Data

		Unit	FY2020	FY2021	FY2022	FY2023
	Number of directors	People	6	6	6	6
Directors and	Number of corporate auditors	People	3	3	3	3
corporate auditors	Number of board of directors' meetings held	Times	7	7	8	7
	Number of corporate auditors' liaison meetings held	Times	4	6	7	6

Company Data				
Company name	N.E. CHEMCAT CORPORATION			
Capital	3,423.5 million yen			

Founding date	April 9, 1964
Representative director	President: Susumu Endo