

Excite the Imagination

N.E. CHEMCAT

SUSTAINABILITY REPORT

N.E. CHEMCAT CORPORATION

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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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EDITORIAL POLICY

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, society, and governance. We hope this report will help our stakeholders gain a better understanding of our sustainability management.

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N.E. CHEMCAT CORPORATION

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Helping to solve social issues while pursuing sustainable growth

Matsuru Kushida
President & Representative Director



Promoting sustainability management based on our Corporate Philosophy and Vision 2030

After more than two years of the global COVID-19 pandemic, lifestyles and work styles have changed significantly. This requires us to continue adapting responsively to the new normal.

Meanwhile, large-scale natural disasters attributable to climate change have become more frequent. With environmental problems such as these, people are becoming increasingly aware of the need to build a more sustainable society, and companies are also being called upon to help solve social issues.

The business environment faced by N.E. CHEMCAT is also undergoing major changes, especially the automobile industry. The participating countries of the 2021 United Nations Climate Change Conference (COP26) agreed

that all sales of new cars must be zero-emission vehicles (ZEVs) by 2040.

To better respond within the dramatic changes unfolding today and to achieve steady growth, we established a new Corporate Philosophy in April 2021.

At the same time, we released our Vision 2030 to clarify the direction and aims we seek to achieve by that year, as well as to indicate the management approach that should be consistently pursued.

Based on our Corporate Philosophy and Vision 2030, we are now focused on sustainability management. By helping to solve social issues as part of our business activities, we aim to achieve sustainable growth as a company that is needed by society. With our ESG perspective, we

intend to continue building business models and systems that are beneficial to both society and our company.

Under Vision 2030, we aim to provide new values for catalysts to society and thereby contribute greatly to the development of a sustainable society and protection of the global environment. Our goal is to also contribute significantly to the realization of a sustainable society and the protection of the global environment. At the same time, Vision 2030 lays out a vision of the kind of company we want to become in the three areas of finance, business, and management infrastructure.

In addition, we have established 16 key drivers as specific actions for achieving the vision. We aim to achieve

the vision goals by strengthening our systems for engaging in SDG-related businesses, improving the efficiency of internal processes through digital transformation (DX), ensuring workplace health & safety and environmental protection through Responsible Care activities, and creating an HR system that supports employees and encourages them to take on challenges.

As we continue to practice sustainability management and develop systems this way, we have decided to issue this Sustainability Report. This publication was prepared since we believe that it is essential to practice proper information disclosure so that the stakeholders of N.E. CHEMCAT can understand the company's beliefs and initiatives.

Leveraging the power of catalysts to help build a carbon-neutral, recycling-oriented society

Since its founding, N.E. CHEMCAT has helped to build an even more sustainable, affluent society through its catalyst business. We have provided broad support to society through the development and manufacture of catalysts that are used in a variety of applications. For example, our auto exhaust catalysts contribute greatly to environmental conservation by detoxifying vehicle emissions, while our chemical catalysts are used to make products such as pharmaceuticals, agricultural chemicals, fertilizers, and light-emitting polymers.

In the 1990s, N.E. CHEMCAT began developing and manufacturing catalysts for stationary fuel cells and electrode catalysts for fuel cell vehicles. Since then, we have been working to develop products that can help realize a hydrogen society.

By utilizing the knowledge we have already accumulated, we are now enhancing our technological development to help society achieve carbon neutrality. For example, starting with the treatment of exhaust gas created when fossil fuels are replaced by e-fuels and biofuels, we are developing catalysts and technologies to be applied in a variety of areas. These include the synthesis of carbon-neutral fuels, the creation of hydrogen value chains (manufacturing, storage, transportation and utilization),

and the utilization of captured CO₂. We believe that our technical contributions in these fields will support the development of a society powered by renewable energy.

Moreover, the recovery and refining of precious metals, which is one of our core businesses, will become even more important in a recycling-oriented society. Accordingly, we are also pursuing technological innovation in this area.

There are many other areas where N.E. CHEMCAT can contribute significantly, such as helping to reduce food loss and conserve water resources.

Catalyst development and production requires knowledge accumulated from a wide variety of fields, and this development has even been described as a multidisciplinary pursuit.

Having developed extensive knowledge of catalysts, precious metals, chemical reactions, and relevant technologies, N.E. CHEMCAT is proud of its potential to play a major role in building a sustainable society. We also believe that it is our mission to exercise our capabilities to help society overcome the challenges it faces.

We will continue to focus our efforts on helping to build a sustainable society. I would like to ask you, our stakeholders, for your continued support and cooperation.

Long-Term Vision Vision 2030

Our Vision 2030 was created by first forecasting the desired social environment of 2050 and then working backwards to connect that specified future to the present (backcasting). The long-term vision identifies the company we want to be in 2030 based on three areas: finance, business, and management infrastructure. We are now promoting corporate transformation to achieve this vision by 2030.

SUSTAINABLE DEVELOPMENT GOALS



Catalysts that facilitate chemical reactions are used in the chemical field and a wide range of other industries. Since the beginning, N.E. CHEMCAT has contributed to the overall development of society by providing catalysts. At the same time, we have also made a big contribution to environmental solutions by supplying auto exhaust catalysts to detoxify vehicle emissions.

Meanwhile, the climate change crisis has become ever more critical. If action is not taken, by 2050 the average global surface temperature could be two degrees Celsius higher. Global warming intensifies desertification, raises sea levels, contributes to abnormal weather events, and

drives ecosystem destruction. In order to prevent these problems, there is an urgent need to reduce CO₂ emissions. Companies are expected to support this effort while also helping to solve other social issues.

In the midst of these changes faced by society, N.E. CHEMCAT is committed to fulfilling Vision 2030. In order for our company to grow and develop sustainably while helping to solve social issues, we need to rebuild our systems to leverage catalyst technology to create new value.

We have established 16 key drivers to achieve Vision 2030. We will use these to reform our existing structure and transform the company so that we can create new value.

16 Key Drivers to Achieve Vision 2030

Finance	(1) Strengthen business management process and financial base focusing on ROIC
Business	(2) Restructure the business execution framework to strengthen existing businesses and create new businesses
	(3) Explore new areas and develop new technologies (products)
	(4) Strengthen marketing functions and optimize the value chain
	(5) Streamline the development process and create new technologies by utilizing digital transformation (DX), etc.
	(6) Establish a lean production process by strengthening the process engineering functions
	(7) Improve the overall process through the promotion of Lean Six Sigma (LSS) activities
	(8) Strengthen procurement functions and secure a sound supply chain
	(9) Optimize the precious metal management process
	(10) Establish a system to promote corporate-wide digital transformation (DX)
Management Infrastructure	(11) Reduce environmental load substances throughout the business activities; prevent environmental and labor accidents
	(12) Strengthen the management of precious metals and chemical substances at plants
	(13) Enforce safe & hygiene workplace and environmental management through promotion of responsible care (RC) activities
	(14) Strengthen stakeholder engagement through appropriate information disclosure and dialogue
	(15) Establish an HR system to encourage and support aggressive challenges
	(16) Promote ESG management and create a lively working environment

History of N.E. CHEMCAT

Catalysts facilitate chemical reactions. Through the development and manufacture of catalyst technology, N.E. CHEMCAT has contributed to the development of the Japanese chemical industry and various other industries.

The company has also pursued environmental conservation including air pollution reduction, and more effective use of resources.

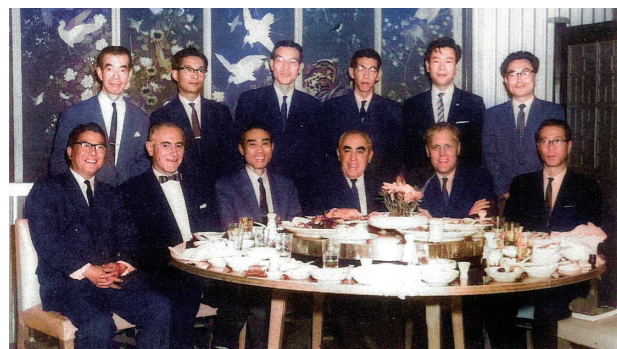
Early Years

1964-1978

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.

Founded as Nippon Engelhard Ltd. on April 9, 1964, the company was established with a total of 37 employees as a fifty-fifty joint venture between Sumitomo Metal Mining Co., Ltd. and Engelhard Corporation of the United States. The Ichikawa Laboratory was set up later in the same year. In 1970, operations began at the Numazu Factory (now Numazu Plant), which is still a base for manufacturing and R&D today.

By manufacturing a wide range of products, including catalysts, chemical products (precious metal salts, plating chemicals, electrodes, etc.), as well as liquid gold (luster), and through its precious metal recovery and refining business, N.E. CHEMCAT helped promote the development of the Japanese chemical industry.



First management team



Numazu Factory at the start of operations

Breakthrough Period

1979-1995

Auto exhaust catalyst business expanded along with the motorization of society

In 1979, the company started manufacturing auto exhaust catalysts. As automobile use grew, the health effects of harmful substances contained in exhaust gas, such as carbon monoxide (CO), hydrocarbons (HC), and nitroxides (NOx), began to raise concern. At that point, the auto exhaust catalyst business expanded rapidly due to the tightening of vehicle emissions regulations.

In June 1989, the company name was changed to N.E. CHEMCAT CORPORATION, and the company went public in September of the same year.



Auto exhaust catalyst, honeycomb carrier



First shipment of auto exhaust catalysts

Expansion Period

1996-2019

Eco-friendly business expanded beyond Japan

The company began its global expansion in 1996, and by 2002, it had sites in locations including Singapore, Thailand, and China.

Our research and development division launched a development project to explore the potential of electrode catalysts for fuel cell vehicles (FCVs). In response to stricter vehicle emission regulations for diesel vehicles, the company opened the Tsukuba Plant in 2002 to create a mass production system for diesel automotive catalysts.

In order to accelerate decision-making capabilities, the company delisted in 2010, and became a fifty-fifty joint venture between Sumitomo Metal Mining Co., Ltd. and the BASF Group.



BASF CHEMCAT (Thailand) Limited



Tsukuba Plant groundbreaking ceremony

Towards New Development

2020-

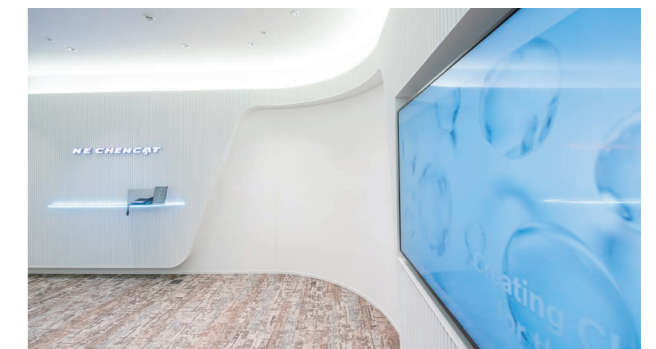
Management focused on building a sustainable society

The Numazu Plant celebrated its 50th anniversary in July 2020, the head office relocated in May 2021, and the Tsukuba Plant marked its 20th anniversary in February 2022.

In April 2021, the company established a new Corporate Philosophy and started practicing sustainability management.

While helping to achieve the UN Sustainable Development Goals (SDGs), N.E. CHEMCAT is now pursuing structural reforms to achieve Vision 2030, which outlines the company's long-term direction and aims.

In April 2022, the new corporate tagline, "Excite the Imagination," was unveiled.



Head office moved in May 2021

N.E. CHEMCAT
Excite the Imagination

"Excite the Imagination" expresses the company's aspiration to bring about new innovation by spurring the imagination. It conveys a passion for building an even better future by fostering excitement and motivation in all employees.

N.E. CHEMCAT's Business Fields BUSINESS

As a leading manufacturer of precious metal catalysts in Japan, we contribute to achieving a sustainable and quality global environment and affluent society through chemistry.

Auto Exhaust Catalysts



Untreated vehicle emissions contain environmental pollutants and substances harmful to human health. Auto exhaust catalysts convert these pollutants into harmless substances through chemical reactions, thereby detoxifying the exhaust. Vehicle emission regulations have been getting ever tighter over the years. Accordingly, we work closely with automakers to develop and manufacture catalyst products that meet the highest standards in areas such as durability, catalytic, low temperature performance, and thermal durability. Our products are market leaders both in Japan and globally

Gasoline Automotive Catalysts

These products control carbon monoxide (CO), unburned hydrocarbons (HC), and nitrogen compounds (NOx), which are harmful substances emitted from gasoline automobile engines. We are also developing catalysts for purifying motorcycle exhaust gas.

Diesel Automotive Catalysts

These products control CO, HC, NOx, and particulate matter (PM), which are harmful substances emitted from diesel automobile engines.

Providing value to society

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

Chemical Catalysts



Chemical catalysts are used for accelerating chemical reactions or selectively producing specific compounds, and are indispensable for industrial manufacturing. N.E. CHEMCAT develops and manufactures chemical catalysts used in a variety of fields, from power plants to the manufacturing of pharmaceuticals, pesticides, fertilizers, and light-emitting polymers. Through these activities, we provide support to many aspects of society, from cutting-edge industries to the everyday lives of citizens.

Chemical catalyst applications

1. Energy: Hydrogen production, city gas production and nuclear power plants
2. Environment: Deodorization and detoxification of off-gas from plants, and treatment of factory wastewater
3. Petrochemicals: Synthesis of basic chemicals used in the manufacture of fiber and plastics, etc.
4. Pharmaceuticals: Manufacture of antidiabetic drugs, antihypertensive drugs, and antibiotics, etc.
5. Fine chemicals: Production of agricultural chemicals, fertilizers, light-emitting polymers, dyes, incenses, and resin additives, etc.

Providing value to society

Supporting industrial development and affluent living

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. N.E. CHEMCAT produces electrode catalysts, which are the core of fuel cells used in FCVs. We also develop and manufacture reforming catalysts and PROX catalysts necessary for producing hydrogen gas.

Electrode catalysts

These play a vital role in accelerating the reaction energy of hydrogen, and are an essential technology for fuel cells.

Reforming catalysts

For both polymer electrolyte fuel cell systems (PEFC systems) and solid oxide fuel cell systems (SOFC systems), reforming catalysts serve to convert methane to hydrogen as part of the hydrogen gas production process.

PROX catalysts

These remove CO in the process of producing hydrogen gas for PEFC systems.

Providing value to society

Facilitating the adoption of clean energy and promoting a sustainable society

Precious Metal Recovery



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.

Our company also excels in technology for reducing precious metal use. This allows us to design and offer catalysts that require less precious metal but still deliver performance equal to or better than conventional formulas. We are helping to conserve scarce precious metal resources by providing total-solution services, from the development and manufacture of catalysts to the recovery and refining of precious metals.

Providing value to society

Promoting the effective use of scarce resources and helping to build to a recycling-oriented society

Helping to Build a Sustainable Future

Working to solve social issues through business activities

By continually advancing the technologies we have amassed in developing our catalyst, precious metal recovery and other businesses, we aim to help create an even more sustainable, affluent world for future generations.

1 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.

2 Supporting healthcare



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.

3 Cleaner air and water

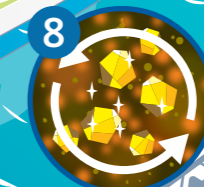
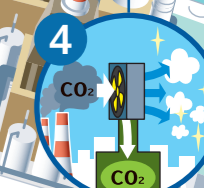


Catalysts are indispensable for decomposing and detoxifying harmful substances found in automobile and factory emissions and in industrial wastewater. In order to contribute to a more livable planet, we are advancing our purification technology to ensure cleaner air and water.

4 Utilization of captured CO₂



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 the green fuel production.



5 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.

6 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.

7 Technological Innovation



Semiconductors are essential for the advancement of the technologies being adopted for the digital transformation of society, including AI, IoT, and 5G. In order for nations to achieve carbon neutrality, energy-saving and other sectors need semiconductors with higher performance and efficiency. We will continue to contribute to these technological innovations with the power of chemistry.

8 Resource recycling



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

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.

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 and social value, before being prioritized, and the results were mapped.

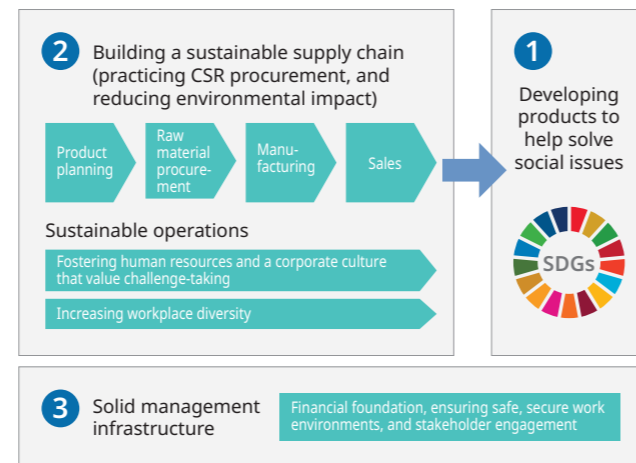
Through this mapping, initiatives with both high economic and social value were identified as key candidate issues. After consulting external experts, eight material issues were chosen.

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 SDGs. Specific individual issues are now incorporated into our Vision 2030, and we are pursuing various initiatives accordingly.



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 build a sustainable society.

Material issues (materiality)

Classification	Material issues	Important ESG issues	Details	SDG-based targets
E	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	
	Reducing environmental impact across the entire supply chain	Targeting carbon neutrality by 2050, reducing the environmental impact of all business operations Establishing systems to minimize the use of hazardous substances and prevent environmental accidents	- Continuing to reduce CO ₂ emissions, water use and waste in all business activities - Practicing high-efficiency energy management - Implementing Responsible Care (RC) activities	
S	Stakeholder engagement	Good communication with stakeholders Continued efforts to earn the trust of society as a fair company	- Deepening mutual understanding with customers, suppliers, employees and shareholders - Enhancing corporate branding - Strengthening employees' sense of belonging	
	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	
G	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 response systems (including PR activities and BCM) - Improving business efficiency based on thorough ROIC management - Setting and managing financial targets	
		Creating efficient business management systems based on numerical targets		
		Promoting compliance and establishing a comprehensive risk management system		
	Realization of safe and secure workplaces	Constructing a system to comprehensively manage environmental protection, as well as health and safety	- Creating a comprehensive system to prevent workplace accidents (RC activities)	
		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 culture that value challenge-taking	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	
Creating work environments where the individuality and diversity of employees is respected and where they are encouraged to take on challenges		- Developing human resources who can take on challenges - Fostering a corporate culture that welcomes diverse opinions and encourages open and frank discussions		
Workplaces that value diversity	- Increasing the recruitment and promotion of diverse human resources - Diversifying work styles (remote work, etc.)			

Value Creation Story



Conversation

The Potential of Catalysts Holds the Key to Carbon Neutrality

Today, both the international community and Japan have embarked on a major shift toward carbon neutrality in order to combat climate change. We asked an expert in catalytic chemistry, Professor Yasushi Sekine of Waseda University, about the role of catalysts in supporting carbon neutrality.



Susumu Endo

Executive Vice President and Representative Director



Yasushi Sekine

Professor, School of Advanced Science and Engineering, Faculty of Science and Engineering, Waseda University

Catalytic reactions as a key element in solving climate change issues

Endo: Dr. Sekine, you have been researching catalytic chemistry involving methane and hydrogen for many years. How did you become interested in catalysts as a research subject in the first place?

Sekine: A catalyst is a substance which dramatically alters the process to produce unexpected selectivity and activity. In other words, it is a miracle substance that has the potential to control any reaction as long as thermodynamics permit it.

When I started my research, I remember my supervisor mentioning to me that if you could produce ethanol from natural gas and air, you could make a lot of money. In recent years, such research has finally begun to yield results, but at the time, it was considered very difficult to realize, even though it was theoretically possible.

Today, catalysts have become essential substances for solving global issues such as those identified by the SDGs and for creating better societies and lives for people worldwide. According to the 6th Assessment Report released by the UN Intergovernmental Panel on Climate

Change (IPCC) in August 2021, "It is indisputable that human activities are causing climate change." Therefore, in order to minimize the impact of climate change on the planet, we need to reduce not only CO₂ emissions but also methane and NO_x emissions in the short and medium term.

The environmental impact of methane in particular has been enormous over the last ten years. Problems such as methane slip, where a fraction of methane used ends up escaping into the atmosphere unburned, need to be resolved as soon as possible. Precious metal catalysts, especially platinum group metals, can provide solutions for these problems. Basically, catalysts can help solve a number of the problems facing humankind. That is why industry, government, and academia are working closely to promote catalyst research. This could help solve many problems and open the door to a brighter future.

Endo: I understand that precious metal catalysts have a very important role to play.

Based on our Vision 2030, N.E. CHEMCAT is working to strengthen our technological development and leverage catalyst technology to create new value and help solve social issues.

For example, we are working on the development of catalyst technology to facilitate the production, storage, transport, and utilization of hydrogen, as well as the utilization of captured CO₂. We are also pursuing the development of the exhaust gas purification technology that will be needed when biofuels replace fossil fuels.

With catalyst technology becoming the key to achieving carbon neutrality, what do you see as the main points for the further development of this technology?

Sekine: In order to achieve carbon neutrality, going forward, we will need to use the bare minimum of fossil resources. At the same time, we must meet the needs for all human activities using only the resources already available on the planet surface.

In other words, we must create what we need from resources such as biomass, hydrogen, CO₂, and waste. To do this, it is important to use sunlight, heat, or electricity, etc., to power uphill reactions which are difficult to happen under normal conditions.

Moreover, since power generation fluctuates when using renewable energy sources such as solar, it is also important to convert surplus electricity into hydrogen and store it. Then the hydrogen can be converted back into electricity when needed. In other words, we need to secure energy from simple chemical reactions that are on-demand and on-site.

Endo: Even if we increase our use of renewable energy, this source alone will likely not be enough to meet sudden surges in power demand.

Sekine: That's right. In fact, power demand on the Kyushu grid of southern Japan is relatively low in this year, and some of the energy we are getting from solar power during this period is being wasted. If this could be converted to hydrogen for use in urban areas, or if it could be converted to synthetic fuel or sustainable aviation fuel (SAF), it could be properly utilized.

Now that environmental regulations are becoming more stringent, one of the keys to the future will be whether catalytic chemistry can be effectively utilized together with lower-temperature heat sources, light, and electricity to promote greater adoption of renewable energy.

Precious metal catalysts can play a key role in creating a hydrogen society

Endo: In 2020, the Japanese government announced its commitment to Japan achieving net zero greenhouse gas emissions by 2050. According to materials released by the government's Green Innovation Strategy Meeting, various initiatives are being put forward for achieving carbon neutrality. From this series of actions, we can see how serious our government is about this goal, and I think it goes beyond merely sending a positive message to the international community. Do you think this trend will only accelerate?

Sekine: I really think so. The earth is a closed system, and although there are 2.4×10^{25} molecules in just one cubic meter of the earth's biosphere, there are almost no inflows or outflows. For thousands of years, human beings have extracted and used kerogen (insoluble organic matter in sedimentary rocks). This insoluble organic matter was originally created through photosynthesis and then decomposed and became trapped in sedimentary rock over a span of 300 million years. We know this material as

petroleum and natural gas. In other words, we are living off a resource from 300 million years ago. But it won't last forever.

In order to build a sustainable society going forward, we need to break our dependence on underground resources and instead operate our economies using only solar energy and other resources found above ground. In other words, carbon neutrality can be easily achieved theoretically, just by cleverly using our above-ground resources. At the same time, by using technologies such as carbon capture and storage to reduce atmospheric CO₂ and store it underground, we can eventually start cooling the planet.

In Europe, they are seeking to rapidly promote carbon neutrality with regulations such as the EU's taxonomy classification system to encourage green investment. In Japan, however, we are striving to promote green innovation in stages. This will allow us to respond flexibly to changes in society, and there should therefore be fewer reversals over the long term.

Endo: When you say "stages," are you talking about the combined promotion of not only hydrogen, but also methanation, the production of methane from water, CO₂ and hydrogen, as well as the use of ammonia and synthetic fuels?

Sekine: Yes, fuel cells, ammonia, hydrogen, and synthetic fuels can be used for their respective optimal applications. Undoubtedly, some internal combustion engines and hybrid systems will still remain, so precious metal catalysts will play an important role in reducing nitrous oxide and methane emissions.

Endo: Can we assume that a hydrogen society will inevitably result if we pass through these stages?

Sekine: There is no doubt that hydrogen is one of the key elements for attaining carbon neutrality. However, instead of hydrogen alone, various technologies such as storage batteries, ammonia, synthetic fuels, and organic hydride need to be used where they are most effective.

For example, organic hydrides can be used to store hydrogen in a liquid state. Hydrogen can then be extracted when needed using a platinum catalyst. This makes organic hydrides an essential part of regulating the power supply from variable renewable energy.

Meanwhile, ammonia can be synthesized using a ruthenium catalyst and then utilized as a CO₂-free fuel in large plants.

Alternatively, synthetic hydrocarbons produced from CO₂ and hydrogen can be used as fuels for aircraft and trucks, or even as a raw material in the petrochemical industry.

Broadly speaking, these raw materials all represent uses of hydrogen in different forms, and precious metal catalysts are indispensable for adopting all of them.

Endo: When it comes to utilizing hydrogen, technologies for not only hydrogen production but also for storage and transport are extremely important.

Sekine: Liquefied ammonia with its high volumetric hydrogen density is suitable for industrial use under the supervision of experts. Since ammonia is highly toxic, however, it cannot be used for consumer products.

Fuel cells that use hydrogen in its original form are suitable for on-demand use, while organic hydrides are suitable for storage. The method that uses toluene as a hydrogen carrier is particularly suited for traveling between destinations.

Each technology needs to be appropriately adopted according to its characteristics.

Endo: That makes sense. So, to achieve carbon neutrality, we need to utilize hydrogen in different forms, and precious metal catalysts hold the key to making this work.

Becoming a "catalyst" company that bridges between different industries

Endo: You have been researching hydrogen, CO₂, and methane since the 1990s. What sparked your interest in this field, which did not get much attention back then?

Sekine: To tell you the truth, I first wanted to be an architect. However, because I spent most of my student days doing sports, my marks weren't good enough in those classes, but I did well in chemistry and ended up majoring in that. On top of that, hydrogen, CO₂, and methane were the only chemical terms I was familiar with back then. Now I have been researching hydrogen, CO₂, methane, and biomass for 30 years.

Endo: You are also active on the frontlines and helping to make policy proposals, as part of your role serving as working group chairman for the government's Green Innovation Strategy Promotion Meeting.

So, in addition to your interests as a researcher, you seem to have a passion for building a better future for society.

Sekine: Since there is only so much you can do on your own, I like to bring together people who can share their own areas of expertise. By also mentoring young people, I am trying to help make the world a better place.

For example, even as we focus on hydrogen and methane, new fields are being created through collaboration with researchers in areas such as quantum computing, electrochemistry, and solid-state ionics. I believe that younger generations can develop a better society by taking an interest in and developing these new technologies.

Endo: By passing the baton to younger generations, we can have an even bigger impact. Among the corporate executives of my generation, we realize that, even if we are not able to achieve all our goals, our role is to sow the seeds of success for the next generation. So, I really understand what you are saying.

Sekine: I think it is the role of both universities and companies to create such opportunities. Companies can also generate profits through such efforts, and universities can help develop diverse human resources.

Endo: You're right. We believe that the creation of new value begins with fostering an environment in which everyone can collaborate and share their knowledge. This means not only our own company, but also other companies, universities, and other stakeholders. That is why we are working to strengthen stakeholder engagement.

Sekine: Recently, I have also been focusing on activities to bring companies together. By combining the technologies of companies from completely different industries, amazing new technologies can be generated.

Endo: I believe you yourself have become a "catalyst!"

Sekine: You may be right. Innovation arises when companies and researchers from different industries and fields meet and interact with each other. Therefore, the role of a catalyst who can facilitate this kind of interaction is extremely important.

Endo: As a company, it is important for us to reach out actively and connect with those in new and different fields, while continuing to meet customer needs.

Sekine: Shifting from a needs-driven approach to a seeds-driven approach is essential.

Endo: Right. That is why we are also working on challenging development initiatives, such as artificial photosynthesis. Even if we do not know when the sprouts will appear and the crop will grow, we keep our focus on our vision for the future.

I would like to conclude by asking what your expectations might be for our company, going forward.



Yasushi Sekine

Born in 1968, Yasushi Sekine obtained a Doctor of Engineering degree from the Department of Applied Chemistry at the University of Tokyo's Graduate School of Engineering. After working as an assistant researcher in the same department, in 2007 he became an Associate Professor at Waseda University in the Department of Applied Chemistry, Faculty of Science and Engineering. Since 2011, he has also been serving as a Fellow with the Japan Science and Technology Agency (JST) in the Energy and Environment Unit of the Center for Research and Development Strategy (CRDS). He has been in his current position since 2012.

Sekine: Rather than merely providing catalyst technology, I encourage you to become a "catalyst" between different industries and fields by maintaining the two frameworks of open innovation and collaboration with different industries.

Chemistry is often referred to as the "central science," but even more central than that is the field of catalysts. I hope N.E. CHEMCAT will become the core that brings together the companies that surround it. I believe you can become the catalyst that everyone utilizes, just like a dash of seasoning that brings out the full flavor of food.

Endo: We intend to fulfill our responsibilities as a catalyst maker in the quest to achieve carbon neutrality. Thank you for this very thought-provoking conversation today.

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

Environmental Management

Our Corporate Philosophy includes the commitment to "fulfill our corporate social responsibility and strive to coexist harmoniously with the environment and society surrounding us." To further promote this, N.E. CHEMCAT has established an environmental policy and is actively engaged in environmental conservation activities.

Environmental Policy

1. We consider global environmental conservation to be one of our most important missions. We strive to reduce the environmental impact of our business activities with help from the creativity and ingenuity of all our employees. We also actively promote business activities that aim to control environmental pollution.
2. As one effort to fulfill our key mission of conserving the global environment, we properly manage chemical substances while taking into consideration technical and economic factors. This includes the management of substances in all equipment, parts, and products that we design, manufacture, and deliver.

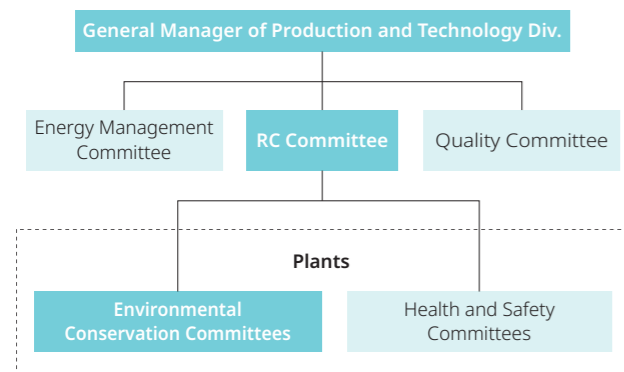
Promotion System for Environmental Management

Environmental Conservation Committees have been established at each plant to promote initiatives related to environmental conservation, chemical substance management, and energy, as part of our Responsible Care activities (see RC on page 22).

Initiative progress is reported to the supervisory company-wide RC Committee chaired by the General Manager of the Production & Technology Div.

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

Promotion System for Environmental Management



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 we conduct environmental activities as part of daily operations.

Business Sites with Environmental Management System Certification

ISO 14001:2015	Numazu and Tsukuba Plants
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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.

FY2021 Environmental Training Programs

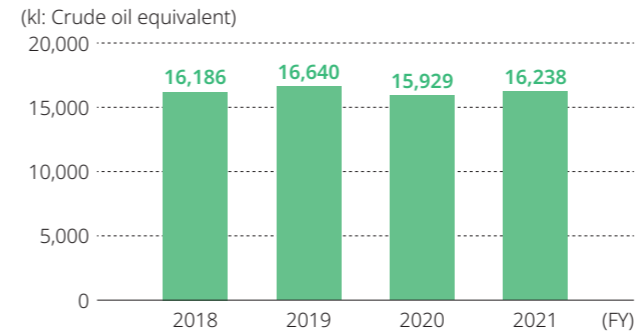
Training name	Frequency
Biodiversity	Once a year
Waste Management and Public Cleansing Act and Act on the Effective Utilization of Resources	Once a year
Basic Act on Establishing a Sound Material-Cycle Society	Once a year
Environment Month (Message from the President)	Once a year
Internal auditor course	Once a year
Emergency equipment training	Once a year
Environmental safety patrol	Four times a year
High pressure gas (LNG) leak training	Once a year
Chemical leak and emergency shutoff valve training	Once a year
Chlorine gas leak training	Once a year

Initiatives to Reduce Environmental Impact

Energy Conservation

We have established energy-saving targets for each plant and are implementing energy-saving measures. These include improving production processes, adopting highly energy-efficient equipment, installing LED lighting in offices, and reducing standby power supply usage.

Annual Energy Consumption



Reduction of Greenhouse Gas Emission Intensity

We have set a target to achieve a 50% reduction in our greenhouse gas (GHG) emissions 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.

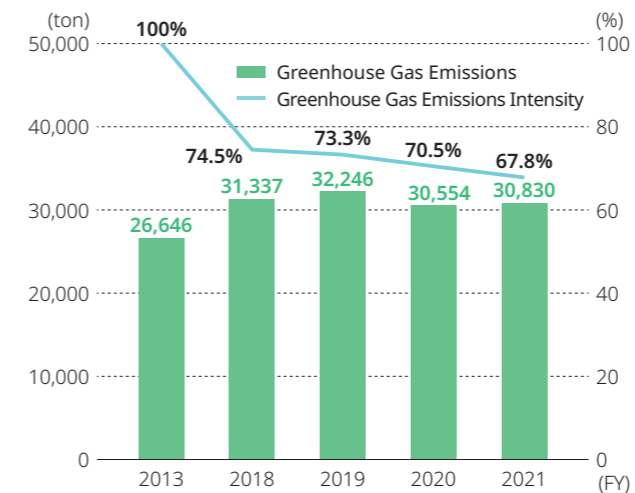
Target to Reduce Greenhouse Gas Emission Intensity

2030	50% reduction compared to FY2013
2050	Achievement of carbon neutrality

Initiatives for Target Achievement

- Energy conservation and loss reduction measures for electricity and LNG use (installation of LED lighting and higher-efficiency air conditioning equipment)
- Adoption of highly energy-efficient equipment and technology
- Production efficiency improvement
- Adoption and expanded use of renewable energy

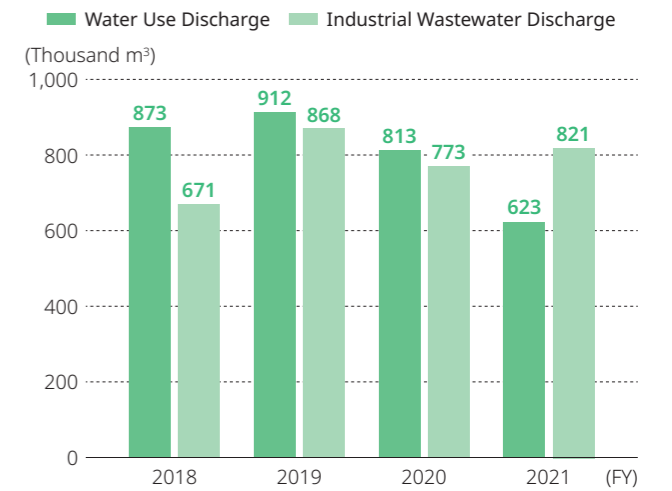
Annual Greenhouse Gas Emissions and Emissions Intensity (with 2013 intensity level set as 100%)



Effective Water Use

We have installed our own water supply equipment and are working to minimize water usage by recycling water.

Annual Water Use and Industrial Wastewater Discharge

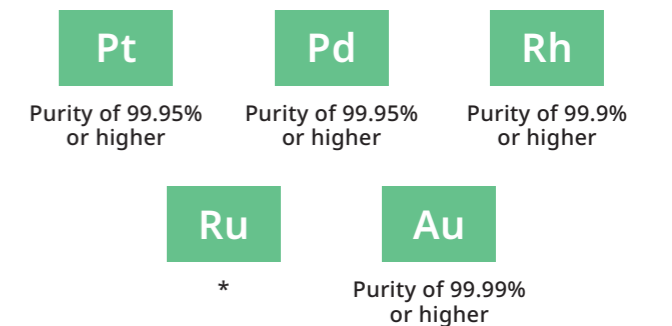


Effective Resource Use

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.

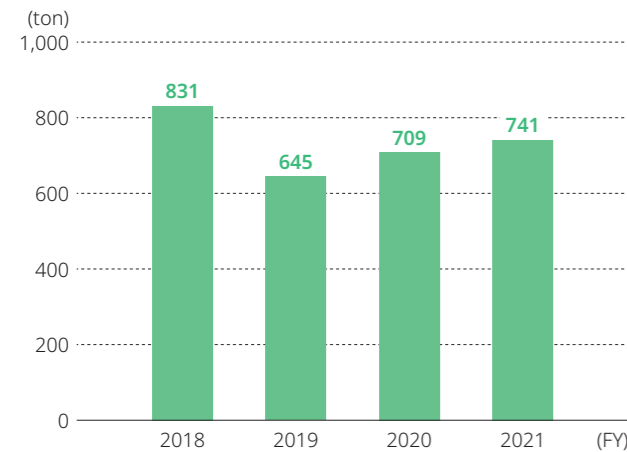


* Ruthenium is recovered as ruthenium chloride

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



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.

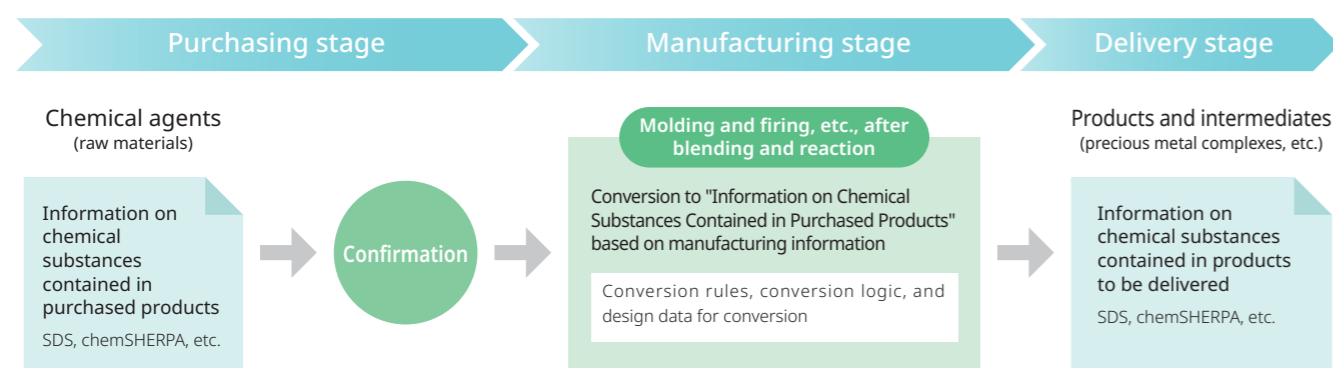
Management of Chemical Substances Contained in Products

In the product design and development stage, we clarify the management standards for chemical substances contained in products to be applied at each stage, from raw material purchase to product manufacturing and delivery. This allows us to promote appropriate chemical management across the supply chain.

In order to manage chemical substances contained in products throughout the supply chain, the key is to appropriately manage chemical substances contained in intermediates and products that are the result of chemical agent conversion.

At N.E. CHEMCAT, we manage not only the amounts of chemical substances found in chemical agents used in intermediates and products, but also the amounts of and changes in chemical substances in the manufacturing process. This extends to the prevention of any contamination.

Supply Chain and Management of Chemical Substances Contained in Products



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 Responsible Care Council (JRCC). 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

We regard environment protection, safety and health as the highest-priority issues, and we engage in the following voluntary and ongoing Responsible Care activities.

1. We strive to reduce environmental impact and protect the environment throughout the entire life cycles of our products, from development to disposal.
2. Based on the principle of "safety first," we aim for zero accidents and occupational injuries, and we ensure the safety of all onsite personnel and local community members.
3. We verify the safety of chemical substances found in the raw materials, intermediate products, and final products that we handle and will take into consideration the health of everyone connected to our business activities, including employees, logistics personnel, and customers.

We publicly release the results of the above activities and maintain appropriate communication with stakeholders.

RC Promotion System

We have established an RC Committee to promote Responsible Care activities as well as safety and environmental protection activities. (See p.19 for the organizational chart)

Based on the priority points of the Responsible Care Policy, the committee manages execution of the action plans established by each plant for achieving their targets.

In fiscal 2021, along with Responsible Care Management Regulations (health & safety and environmental

protection), we established a Responsible Care manual, clarified the details of initiatives for each management system code, and launched our RC activities.

RC Management System

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

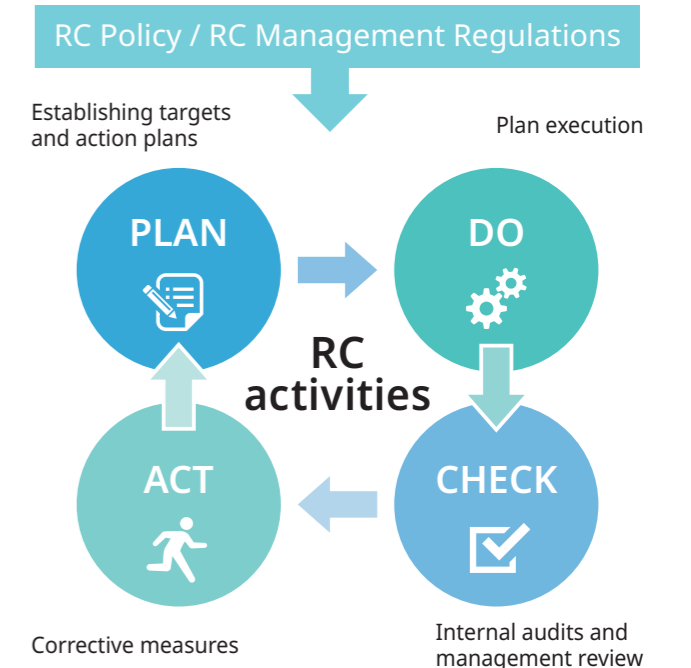
RC Activities (Six Management Practice Codes)

Code 0 Management system		
Code 1 Environmental preservation	Code 2 Process safety and disaster prevention	Code 3 Occupational safety and health
Code 4 Logistics safety	Code 5 Chemical agents and product safety	Code 6 Dialogue with society

RC Audit System

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

PDCA Cycle under RCMS



Since its founding, N.E. CHEMCAT has provided high-quality products and services that earn the confidence of customers and meet their expectations. We strive to improve our quality on a daily basis so that we can work with customers to provide them with optimal solutions.

Quality Assurance Activities

Quality Policy

In order to ensure our customers receive high-quality products, we have implemented a Quality Policy and are always striving to further improve quality.

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 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

At N.E. CHEMCAT, the General Manager of the Production & Technology Div. is ultimately responsible for service quality assurance and product liability, and oversees the company's quality assurance activities.

Our quality management system has been certified under the ISO 9001 and IATF 16949 programs, and we provide a stable supply of high-quality products.

Business Sites That Have Acquired Quality Management System Certification

ISO 9001:2015	Numazu Plant
IATF 16949:2016	Head Office, Numazu Plant, and Tsukuba Plant

Quality Audits

Based on our quality management system, each plant conducts external and internal quality audits once a year.

Continuous Quality Improvement

N.E. CHEMCAT makes the following efforts to continuously improve quality.

Internal Bodies for Quality Improvement

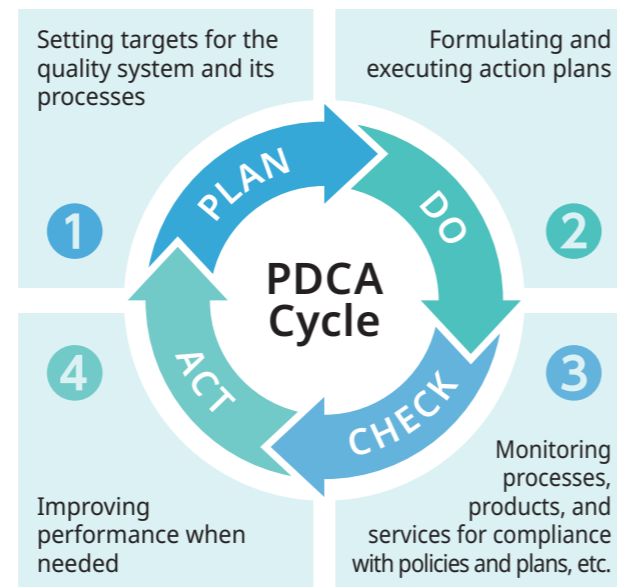
The company has established the following bodies for quality improvement, and has established a system enabling departments to cooperate for enhancing quality.

- Audit Reporting Committee
- Quality Committee
- Quality Manufacturing Liaison Committee
- Quality Defect Reporting Committee
- Quality Patrol

In April 2022, the Customer Service (CS) Group was set up to centralize daily order receiving and placing operations and to strive for further service quality improvement.

PDCA Cycle for Quality Improvement

N.E. CHEMCAT continually improves quality by implementing a plan-do-check-act (PDCA) cycle for quality assurance.



Cooperation with Group Companies

A technology transfer system has been created so that auto exhaust and other catalysts developed in Japan can be manufactured at overseas production plants without any loss of product performance.

We also regularly share technical information with the BASF Group and adopt the latest technology to further enhance quality.

Customer Satisfaction Surveys

We often work closely with our customers, from catalyst development to scale-up. In order to further improve customer satisfaction and quality, we conduct an annual Customer Satisfaction Survey. The results are used for our continual quality improvement.

Quality Awards Received in FY2021

Daihatsu Motor	Quality Excellence Award	May 2021
Nissan	Nissan Global Supplier Award	July 2021
SUBARU	Quality Excellence Award	November 2021
Hino Motors	Quality Management Excellence Award	March 2022

Quality Control Training

N.E. CHEMCAT actively conducts quality control training to improve the abilities of human resources involved in quality control. This includes QMS basic training, IATF tool training, and internal quality auditor training.

Main Quality Control Training in FY2021

Training programs:	Plants
IATF internal auditor seminar / preparatory session	Numazu / Tsukuba
IATF standards study group	Tsukuba / Sales
CP and P-FMEA preparation / OJT	Numazu / Tsukuba
Process approach and process indicator management	Numazu
Introduction to IATF for new process owners / scopes due to organizational change	
Corrective action review using QMS-style cause investigation diagram and Naze-naze Analysis	Site needing corrective action based on IATF review

Lean Six Sigma Activities

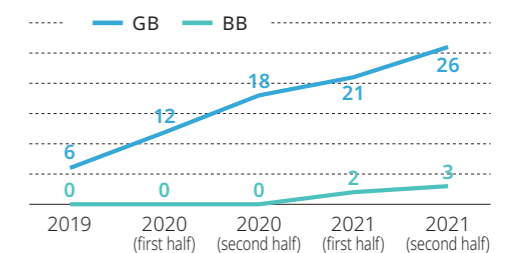
Lean Six Sigma (LSS) is a globally recognized management approach for quantitative improvement of processes and quality. In addition to being a means for operation improvement, LSS activities are also helping us to develop the human resources who will be the leaders of tomorrow. Through Green Belt (GB*1) / Black Belt (BB*2) training and project coaching, our employees are able to comprehensively develop the four skill areas.

Since the launch of LSS activities in 2019, their scope has expanded year by year, and our GB/BB Project will complete its 5th term by the second half of 2021. LSS enables the company to steadily promote human resource development while improving manufacturing processes.

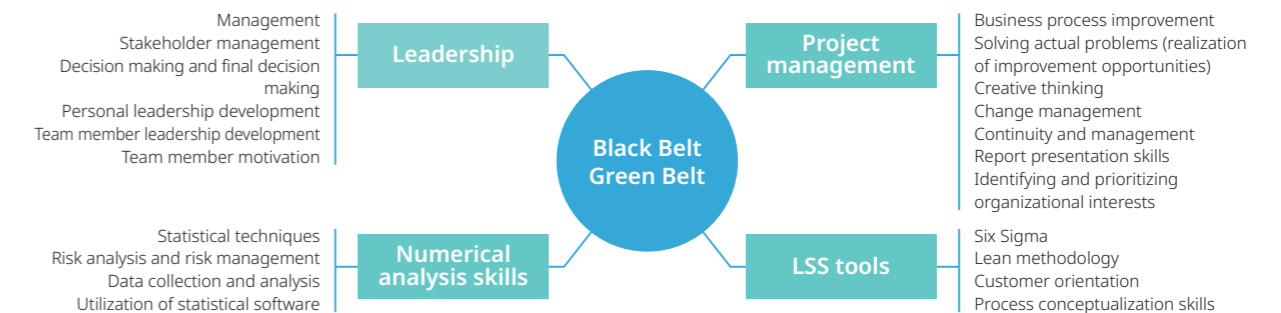


LSS Activities

Number of GB/BB certified personnel



Four Personal Skill Categories Fostered by LSS



*1 **Green Belt (GB)**
This is the first level of LSS qualification. A GB holder supports project data collection and analysis as a part-time Six Sigma activity team leader.

*2 **Black Belt (BB)**
This is one level higher than GB. A BB holder is a team leader dedicated to Six Sigma activities, promoting projects to solve actual problems.

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.

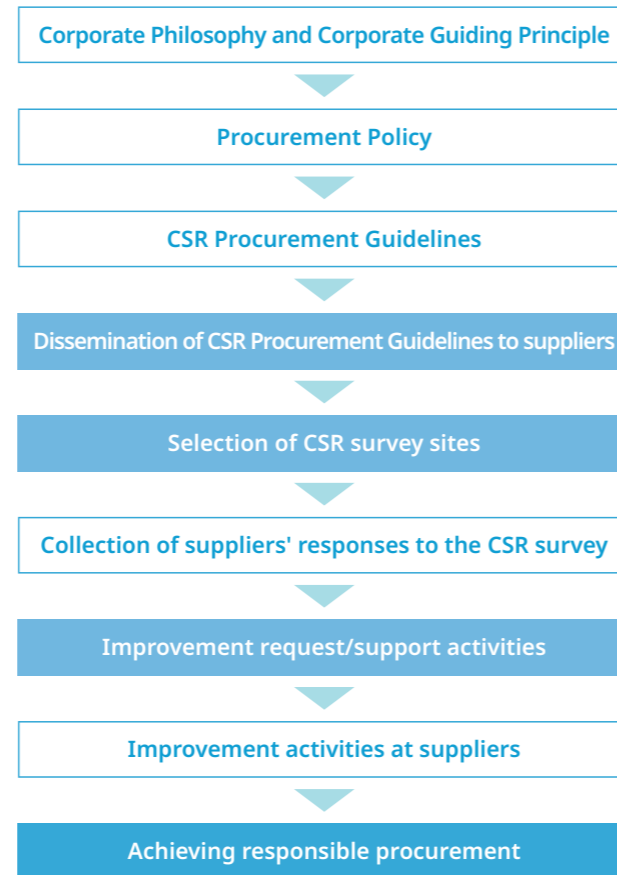
Establishment of CSR Procurement Guidelines

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

In addition to informing suppliers of our CSR Procurement Guidelines, we launched a survey on CSR procurement for business partners in fiscal 2022. The results of the survey of each product or supplier will be shared with our suppliers. We will work with suppliers to establish a system to develop and implement improvement measures and to engage in 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 product 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

- (1) Environmental Management System
Our suppliers establish and operate a general management system 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.
- (2) 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.

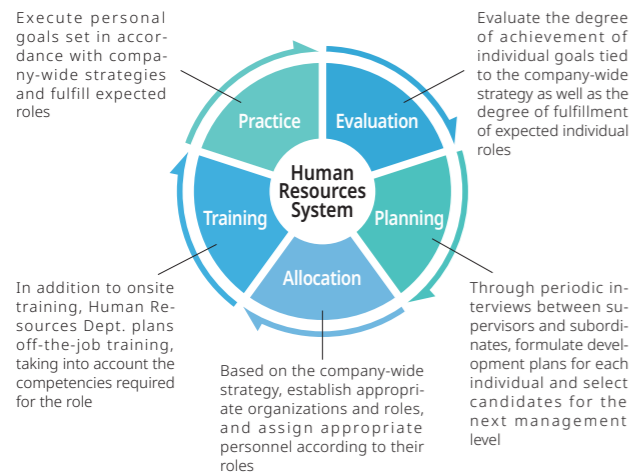
N.E.CHEMCAT encourage employees to be proactive about taking on challenges and strives to promote diversity to “build an environment and structure that allows employees to share the joy of working for N.E.CHEMCAT and constantly breed innovation,” as stated in Vision 2030.

Human Resource Development

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

To create innovation and achieve sustainable growth even in a rapidly changing business environment, it is essential to foster a corporate culture that encourages each and every employee to take on new challenges.

Five Components of the Human Resources System



To create the infrastructure for encouraging employees to take on challenges, we introduced and began operating a new human resource system in fiscal 2021. The system is designed so that each employee can recognize clear roles and goals, take on challenging and rewarding work, and have it evaluated appropriately.

Human Resources Management Promotion System

The company's Human Resources Dept. and the HR functions of each plant manage human resources in cooperation with other departments. The company formulates and implements various human resource policies based on the human resource strategy in its mid-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 and consists of full-time directors and executive officers. This ensures a medium- to long-term perspective in the management of human resources.

Human Resource Development

Our human resource development is mainly based on on-the-job training, which involves communication with supervisors and senior employees in daily work as well as

guidance and advice provided via regular interviews with supervisors. We also provide training for new employees, newly appointed managers, 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.

In addition, we provide necessary support for employees' career development using a system that supports the acquisition of doctoral degrees and a bachelor's degree in liberal arts from the Open University of Japan. We actively support the self-development of each employee via an e-learning system that allows applicants to freely select from a menu of more than 300 courses.

Promoting Diverse Work Styles

Flexible Work Style

As part of efforts to prevent the transmission of COVID-19, the company began operating a telecommuting system that utilizes web conferencing and other forms of online communication. In fiscal 2021, the system was rolled out beyond the head office to plants that serve as manufacturing bases.

The flex system implemented at the head office has also been expanded during the pandemic to include a super-flex system with no core hours, allowing employees to work flexibly.

In addition, a telecommuting system was introduced as a permanent system for new ways of working, with an view to the post-COVID world.

Support System for Childcare and Nursing Care, etc.

To support the activities of employees with childbirth, childcare, and nursing care needs, the company has introduced a variety of support systems that exceed legal standards.

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.

Diversity and Inclusion

We believe it is important to respect diversity in the broadest sense, which includes not only nationality, gender, and age, but also different values and lifestyles.

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 by encouraging an open exchange of ideas and positive challenges.

We also promote the employment of people with disabilities, and the employment rate for FY2021 was 2.9%, well above the legally mandated level. In addition, the company plans to focus on hiring foreign nationals in the future.

Women in Management Positions

Of the approximately 700 employees at the company, approximately 10.8% are women. The percentage of women in management positions has been increasing in recent years and was 4.4% in FY2021.

	FY2018	FY2019	FY2020	FY2021
Percentage of regular employees who are women	9.8	10.0	11.0	10.8
Percentage of management positions held by women	1.7	3.3	4.5	4.4

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

We have established and are implementing the following goals in order to create an environment in which all employees can balance work and child rearing and in which all employees can work comfortably so that they can fully demonstrate their abilities.

1. Encouraging employees to take annual paid leave by informing their supervisors of the status of their use of annual paid leave.
2. Using the intranet to inform employees about childcare leave based on the Child Care and Family Care Leave Law and various systems based on the Unemployment Insurance Law.
3. Appropriately managing the transition of employees' overtime work and striving to reduce working hours.

Human Resource Development System

	OJT	OFF-JT				Self-development support	
		Position-based training	Knowledge & skills training	Selected training (training for potential managers)	Function-specific training (conducted by each organization category)	Dispatch to outside the company	Individual learning
Officers		Off-site meetings					
Managers	M3						
	M2						
	M1		Middle management program New manager training				
Employees	S4						
	S3		English training for new employees Followership training				
	S2						
	S1						

Occupational Health & Safety

Seven Safety Action Rules

Under the safety policy that safety takes precedence over everything else, N.E.CHEMCAT has established Seven Safety Action Rules to ensure safety and health.

Seven 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. The initiatives reported to the committee are reported to the company-wide RC Committee, which oversees the progress of the initiatives.

Health & Safety Management System

We have obtained OSHMS certification for our health and safety management system, which is qualified by the JISHA method.

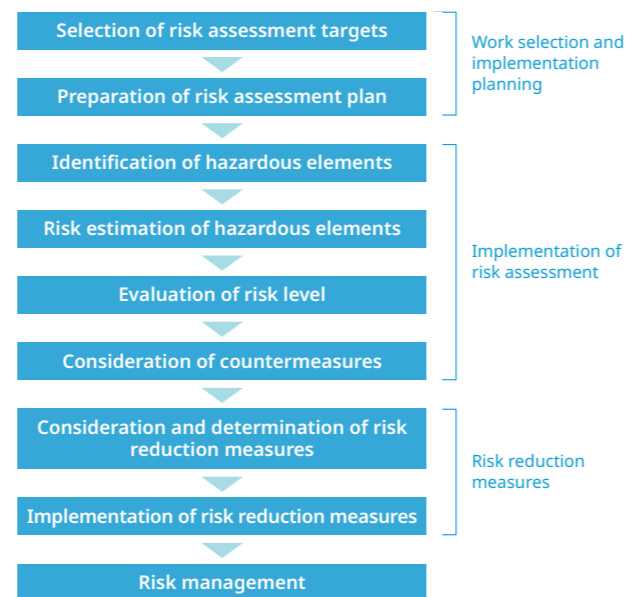
Plants with Certified Health and Safety Management Systems

JISHA-qualified OSHMS	Numazu Plant, Tsukuba Plant
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Risk Assessments

We conduct risk assessments, placing the highest priority on preventing serious accidents, and implement essential safety measures such as the maintenance and management of necessary equipment. In addition, we are working to improve heavy-muscle tasks and hot-weather work 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 FY2021, two lost time accidents occurred.

Occupational Accidents (Number of accidents)

	FY2018	FY2019	FY2020	FY2021
Lost worktime Injuries	0	1	1	2
Accidents without lost worktime	0	2	2	0
Fatal accidents	0	0	0	0

Safety Training

We conduct safety-related education and training and make educational materials available on our safety and health bulletin board.

Safety Training (example)

- Safety principles
- Disaster preparedness education (BCP for major earthquakes/wind, flood, and earthquake disaster prevention)
- Education on chemical substance management
- 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
- Heat stroke prevention education
- Risk assessment of chemical substances

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.

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 lifestyle.
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 fiscal 2021, 97.8% of employees underwent stress checks. We are following up with high-stress individuals through interviews

Health Consultations

From fiscal 2021, in partnership with an outside organization, the company 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 year-end and New Year holidays.

In addition, employees who request health counseling meet with an industrial physician at least once a month at our head office and plants.

Response to COVID-19

Under our policy of giving top priority to employee safety and health and continuing our business so as to contribute to society, the company has established Company-Wide Preventive Measures and Guidelines for the Outbreak of Infectious Disease and is promoting the following initiatives.

Ensuring Workplace Safety

- Avoiding the three conditions that facilitate infectious diseases and ensuring thorough ventilation
- Installing partitions in offices and cafeterias
- Installing high-performance air purifiers
- Placing non-contact thermometers and alcohol disinfectant at entrances and exits
- Alcohol disinfection of desks and shared areas
- Enforcing silent meals in the cafeteria

Introducing New Work Styles

- Encouraging Web conferencing and remote work
- Applying super-flex system without core hours (head office)
- Encouraging staggered commuting hours and restricting attendance at work (head office)

Other Support

- Company covers PCR testing expenses for employees and temporary workers
- Payment of full salary when receiving medical care and during home isolation
- Establishing a special leave for employees to get vaccinated

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.

Communication to Deepen Connections among Stakeholders



Opportunities for Dialogue with Stakeholders

Stakeholders	Objectives	Main communication
Customers	<ul style="list-style-type: none"> - 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 satisfaction surveys, acceptance of plant inspections, CSR survey responses, information disclosure on website, sustainability reports
Shareholders (Sumitomo Metal Mining and BASF)	<ul style="list-style-type: none"> - Be accountable to shareholders for business strategies and performance, and strengthen Group cooperation 	General shareholders' meeting, acceptance of audits, and technical exchanges
Suppliers	<ul style="list-style-type: none"> - 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	<ul style="list-style-type: none"> - Strengthening collaboration with various companies to develop products and new technologies that contribute to a sustainable society 	Communication through projects, cooperative research
Employees	<ul style="list-style-type: none"> - 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, employee awareness survey (conducted once every three years), executive blog, intranet
Schools (Universities)	<ul style="list-style-type: none"> - Creating new technologies and values that support a sustainable society 	Acceptance of internships, cooperative research
Industry Groups	<ul style="list-style-type: none"> - 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, Catalyst Manufacturers Association JAPAN, Japan Hydrogen Association, and others.)
Local Communities	<ul style="list-style-type: none"> - Contributing to local development through youth development, local environmental conservation, and 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 landowners, 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

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.

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 accounting auditors to ensure appropriate corporate governance.

Activities of the Board of Directors and Corporate Auditors

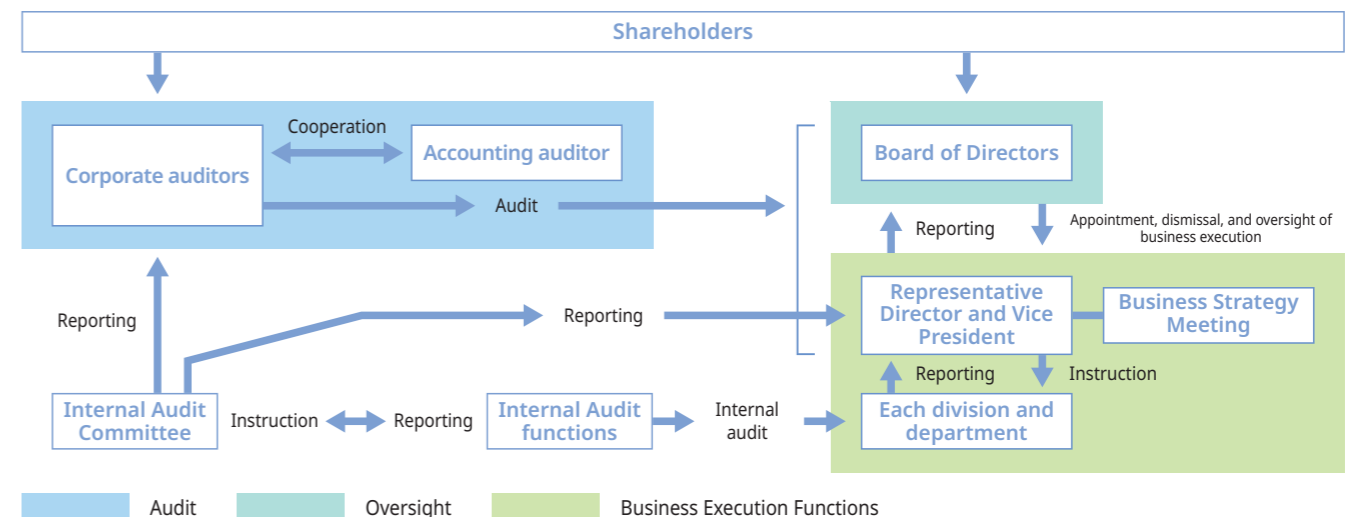
In accordance with the Companies Act and internal regulations, we held five board of directors' meetings, and two meetings of the board of directors held in writing, in fiscal 2021 to discuss important matters and report on the state of business execution.

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.

N.E.CHEMCAT views compliance as not limited to laws, regulations, and internal rules, but also social norms, and places the highest priority on compliance in its corporate activities. N.E. CHEMCAT also promotes risk management under the supervision of top management so that it can respond appropriately and promptly to increasingly diverse and complex risks.

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.

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. If we find a violation of laws, regulations, or internal rules after a required investigation by the function in charge, it is reported to the president, corporate auditors, and other relevant parties.

In fiscal 2021, there were no serious compliance violations reported.

Internal Reporting Contacts

General Manager of the Corporate Administration Dept.,
General Manager of the General Affairs Dept. of the Numazu Plant,
General Manager of the General Affairs Dept. of the Tsukuba Plant

External Reporting Contacts

Affiliated law firms

In-House Training

We conduct compliance training company-wide, focusing on the importance of compliance, the company's compliance system, and the prevention of harassment.

In fiscal 2021, the company regularly published the *Compliance Newsletter* to raise awareness about harassment, safety and environmental laws and regulations, and antitrust laws.

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 given first 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.

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, harassments, 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 initiatives towards 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. When a case of suspected harassment is found, the protection of the victim shall be given the highest priority, and after careful investigation of the facts, if harassment is found, it shall be dealt with strictly in accordance with the relevant laws, regulations, and internal rules.

Compliance with Safety and Environmental Laws and Regulations

The activities of the Internal Audit Committee in fiscal 2021 included compliance audits on safety and environmental laws and regulations.

Although the Safety Environmental Group at each plant plays a leading role in monitoring compliance with relevant laws and regulations, the head office checked the compliance status again from a third-party perspective.

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.
- 2) 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 committee is responsible for identifying and assessing various management risks and taking measures against them, as well as planning and conducting disaster prevention-related education and training.

In the event of a crisis, the company ensures that it is prepared to quickly resolve the crisis and prevent its recurrence.

Business Continuity Management (BCM)

The company has created a system under the assumption that earthquakes, a major natural disaster risk for Japanese companies, are a target for BCM.

The basic approach of BCM is to place top priority on securing human life, strive to prevent secondary disasters, and consider contributing to and coexisting with the local community.

Disaster Prevention Training and Drills

We conduct diverse types of education and training as part of our disaster preparedness efforts. Once a year, we educate all employees at each plant on disaster prevention measures during normal times and action 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 inspection based on the assumption of a large-scale earthquake, fire, chemical leak, and injuries (we also assumed a tsunami for the Numazu Plant)	Once per year for each type of work
Self-defense firefighting drills (head office)	Drills for evacuation, fire extinguishing, and reporting in case of a fire	Twice a year

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, cyber-attacks, 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.

Risk Management System

During normal times



- Promotion of company-wide risk management activities and review of the system
- Formulation of risk countermeasures that require a company-wide response
- Planning and implementation of company-wide education and training



Plants, R&D center, and head office

- Establishment of risk management system
- Risk management activities (including development of risk management plan)

During a crisis



Environment-Related Data

	Unit	2018	2019	2020	2021	
Energy / GHG	Energy consumption (crude oil equivalent)	kl	16,186	16,640	15,929	16,238
	Purchased electricity	kwh	34,472,000	34,873,000	33,391,000	33,094,000
	Gasoline	kl	953	1,064	1,057	1,108
	Light oil	kl	138	197	170	96
	Liquefied natural gas (LNG)	Ton	2,595	2,477	2,343	2,591
	City gas	Thousand m ³	2,504	2,820	2,715	2,761
	GHG emissions	Ton	31,337	32,246	30,554	30,830
	GHG intensity (index with FY2013 as 1)		0.745	0.733	0.705	0.678
Water	Water usage (total)	Thousand m ³	873	912	813	623
	Tap water	Thousand m ³	10	12	9	10
	Groundwater	Thousand m ³	848	885	790	599
	Industrial water	Thousand m ³	16	15	14	14
	Industrial wastewater	Thousand m ³	671	868	773	821
Waste	Amount of industrial waste (general/special management)	Ton	831	645	709	741
Chemical substances	Emissions of PRTR substances (amount transferred)	Ton	1,459	2,055	1,040	2,021
Atmospheric emissions	NOx emissions (Tsukuba Plant)	Ton	-	8.62	4.27	4.54
	SOx emissions	Ton	0	0	0	0
Others	Number of serious environmental accidents	Cases	0	0	0	0

Social Data

	Unit	2018	2019	2020	2021	
Employment	Number of employees (regular employees)	People	590	628	661	676
	Male	People	532	565	588	603
	Female	People	58	63	73	73
	Number of new hires	People	55	42	39	44
	New graduates	People	11	21	21	15
	Mid-career	People	44	21	18	29
	Average years of service (male)	Years	17.3	17.2	17.1	17.0
	Average years of service (female)	Years	15.1	14.8	13.7	13.7
Diversity	Percentage of women in management positions	%	1.7	3.3	4.5	4.4
	Percentage of employees with disabilities	%	2.4	2.3	2.2	2.9
	Number of employees aged 60 and over	People	23	37	52	63
Childcare, nursing care, and nursing	Number of employees taking childcare leave	People	7	5	8	7
	Percentage of employees returning to work after childcare leave*	%	100	100	100	100
Workplace accidents	Number of employees using family support leave	People	1	0	2	1
	Number of accidents resulting in lost worktime	Cases	0	1	1	2
	Number of accidents without lost worktime	Cases	0	1	3	0
	Number of fatal accidents	Cases	0	0	0	0

*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	2018	2019	2020	2021	
Directors and corporate auditors	Number of directors	People	6	6	6	6
	Number of corporate auditors	People	3	3	3	3
	Number of board of directors' meetings held	Times	9	7	7	7
	Number of corporate auditors liaison meetings held	Times	4	4	4	6

Company Outline

Company name	N.E. CHEMCAT CORPORATION	Representative	President: Matsuru Kushida
Capital	3,423.5 millions of yen	Sales	122,996.35 millions of yen (as of March 31, 2022)
Founding date	April 9, 1964	Number of employees	676 (as of March 31, 2022)