

Nippon Shokubai Group

Sustainability Report 2023

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Sustainability



Message from the President

I will spearhead efforts to push forward transformations and change the Nippon Shokubai Group for the better in a visible way.

Learn more



Latest News on Sustainability

2023.11.30

Indonesian Subsidiary Enters into Purchase Agreement for Electricity Derived from Renewable Energy and Installs Solar Power Generation System -Toward Carbon Neutrality by 2050 –

2023.11.29

Nippon Shokubai published “TechnoAmenity Report 2023”, “RC Report 2023”, and “Financial Report 2023.”

2023.08.24

Establishing a New System to Calculate a More Appropriate and Efficient Carbon Footprint of Products -Reducing greenhouse gas emissions throughout the supply chain –

2023.08.21

Nippon Shokubai and Mitsubishi Heavy Industries Conclude Agreement on Joint Development of an Ammonia Cracking System - Project Aimed at Expanding Use of Hydrogen and Ammonia –

2023.08.03

Selected as a constituent of FTSE4Good Index Series, FTSE Blossom Japan Index

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Message from the President



Aiming to develop with various stakeholders, we will change the company for the better in a visible way by placing special emphasis on dialogues within and outside the company.

President & CEO
Member of the Board

Kazuhiko Nada

Introduction

The Nippon Shokubai Group conducts business activities in pursuit of the fulfillment of its Mission: “TechnoAmenity: Providing Prosperity and Comfort to People and Society, with Our Unique Technology.” The Mission reflects our strong desire to contribute to creating a society where people can not only enjoy material affluence but also lead a comfortable life, physically and mentally, with hope for the future.

Since its founding in 1941, Nippon Shokubai has provided chemicals, including ethylene oxide (EO), acrylic acid (AA), and superabsorbent polymer (SAP), through the development of unique technologies. These chemicals have been used for detergents, fibers, disposable diapers, and other key products that are related to people’s comfortable and prosperous lives, leading to the realization of “TechnoAmenity” and the considerable growth of our company.

In recent years, however, the globalization and commoditization of these chemicals has heated up global low-cost competition, making our business environment severer than ever. Moreover, the

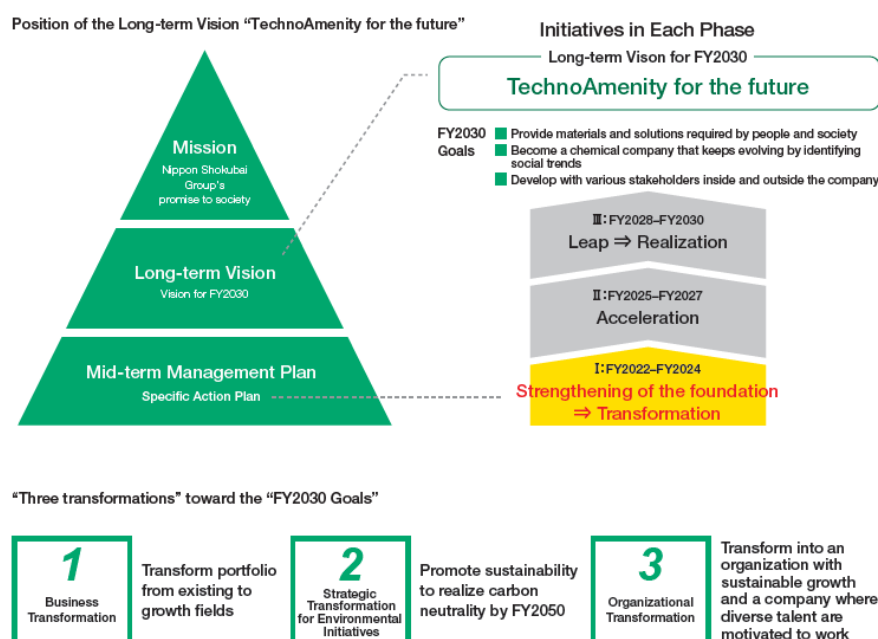
functions required for products have become increasingly diverse, including environmental impact reduction. Furthermore, ESG activities toward the realization of a sustainable society, including initiatives to address climate change and other environmental issues, have become an essential factor for companies to survive.

In response to these situations, we have formulated the Longterm Vision “TechnoAmenity for the future,” which states our FY2030 goals. Toward the achievement of the goals, we have developed our Medium-term Management Plan “TechnoAmenity for the future- I ” and been promoting the plan, regarding FY2022 to FY2024 as Phase 1, when we strengthen the foundation for transformations and implement them.

FY2022, or the first year of the Medium-term Management Plan, saw dizzying changes in the economic environment, including the prolonged impact of the COVID pandemic; soaring prices of petroleum and other chemical materials as well as natural gas and other energies, triggered by the tense situation in Ukraine; and rapid currency exchange fluctuations in response to European and U.S. interest-rate policies.

Since the beginning of this year, thanks to the end of the COVID pandemic, positive signals have appeared on the horizon, including the revival of inbound tourism and the recovery of the Chinese economy. Meanwhile, a global economic setback is anticipated based on negative factors, including high energy prices caused by the prolonged situation in Ukraine; and the ailing economies of certain countries due to tight monetary policies (as of June 2023). Furthermore, consumption trends after the end of the COVID pandemic have changed from those before the pandemic, and a downturn in consumption caused by inflation seems to be unavoidable for the time being.

Amid such turbulence in our business environment, we still consider that the following “Three transformations,” outlined in the Long-term Vision and the Medium-term Management Plan, are essential for our sustainable growth and evolution: “Business Transformation,” “Strategic Transformation for Environmental Initiatives,” and “Organizational Transformation.” I believe that it is important to ultimately achieve our goals while flexibly modifying our strategies in the process in response to external changes. Therefore, while adhering to the direction and goals indicated in the Long-term Vision and the Medium-term Management Plan, we will advance our efforts, focusing on how we can achieve the goals.



Business Transformation

Since FY2022, Nippon Shokubai's businesses have been reorganized into two segments: Materials and Solutions. This reorganization is based on our intention to drastically rebuild our Materials business to strengthen our business foundation while expanding our Solutions business, which is highly profitable, to further increase profitability. We have set the business targets of achieving a sales ratio of 65:35 and an operating profit ratio of 50:50 between the Materials and Solutions businesses by FY2024. As for FY2022 results, the Materials business achieved a sales increase from the previous year but remained at the same level of operating profit, while the Solutions business achieved a sales increase but had an operating profit decrease from the previous year. A decrease in sales volume had a significant impact on these results. As mentioned above, however, we will adhere to the goals and build a firm business foundation that is not susceptible to changes in market conditions.

The progress of the business plan is described as follows. Regarding the Materials business, the SAP Survival Project, which has been continued for the purpose of strengthening the profitability of AA and SAP, proceeded almost as well as planned. The EO Resilience Project, which started in FY2021 as a horizontal expansion of the SAP Survival Project, has been proceeding as planned, toward the achievement of the profitability improvement target for FY2024.

Regarding the Solutions business, we have invested human resources into our planning and sales organizations, and almost finished developing a platform that would become the key to strengthening our solution proposal capability. In FY2023, we will start full-fledged operation of this platform and promote the development themes that have been worked on as a company-wide project ("One Team" activities), accelerating the expansion of the Solutions business. Moreover, as one of the measures to improve profitability through expanded sales of strategic products, we have been promoting initiatives toward the business expansion of IONELTM, our electrolyte for lithium-ion batteries. Specifically, we will expand the business in China and Europe through alliance with partner companies, and grow it over the medium to long term based on this competitive advantage of local production for local consumption. This collaboration is based on our view that, amid the recent drastic changes in our business environment, we will not be able to gain sufficient competitiveness by doing business all by ourselves as we did before. We will continue to accelerate the business expansion of our strategic products while strengthening cooperation with our various external partners.

Strategic Transformation for Environmental Initiatives

Regarding climate change, in response to the full-scale implementation of CO₂ emissions trading in the EU, Japan has begun to consider the introduction of carbon surcharge and emissions trading systems. Discussions are under way, mainly in the EU, on a carbon border adjustment mechanism for products imported from outside the region. Initiatives to reduce carbon emissions have been further accelerating toward the globally common goal of achieving carbon neutrality by 2050.

Initiatives to reduce greenhouse gas emissions

Nippon Shokubai has set the FY2030 goal of reducing greenhouse gas emissions from the company and its Group companies in Japan by 30% compared to FY2014. Two years ago, in FY2021, continued energy-conservation activities at our plant sites played a key role in emissions reduction compared to FY2014, but due to a production volume increase, emissions were reduced only by 2% compared to FY2014. However, Since FY2022, we have been promoting the use of carbon neutral city gas, which is equivalent to a reduction of approximately 7% in CO₂ emissions, and combined with our existing energy-conservation activities, we have achieved a 14% reduction in CO₂ emissions. Toward the achievement of the FY2030 goal, we will also promote process improvements and catalyst efficiency improvement.

Moreover, for the promotion of Group-wide CO₂ emissions reduction, we have decided to introduce internal carbon pricing.

Achievement of carbon neutrality by 2050

Keeping an eye on the possibility of revising the FY2030 emissions reduction goal upward, we have been proceeding with the introduction of biomass materials. This fiscal year, we obtained ISCC PLUS certification for 19 items produced at the Himeji and Kawasaki Plants, including AA, SAP, and EO. With this certification, we have established a system of manufacturing and selling certified products to which biomass-derived materials are allocated in the mass balance system. Moreover, NSE, our subsidiary in Europe, has started to produce and supply ISCC PLUS-certified SAP.

We have also been engaged in the development of a new acrylic acid manufacturing process using 100% biomass derived from natural products and a joint study with other companies for manufacturing and marketing ethylene oxide derivatives using biomass raw materials.

We believe that these products, made from natural materials, will not only meet the needs of global environmental protection and environmental load reduction, but will also be indispensable to our further growth.

Diverse global environmental issues

Various countries are making progress in discussions about and specific requests for risk recognition and information disclosure regarding the sustainability of natural resources such as water resources and biodiversity in addition to climate change measures. We at the Nippon Shokubai Group disclose information on our water resource-related initiatives through the CDP (Carbon Disclosure Project). Furthermore, at the end of FY2022, we began to announce the results of surveys of biodiversity-related risks. We deal in products that contribute to the sustainability of water resources, including wastewater treatment catalysts and osmotic pressure generating agents for seawater desalination. While contributing to society with these products, we take these social issues as business opportunities for chemical companies like us, and we will promote the development of new environmental contribution products, leading it to our future growth.

Organizational Transformation

For the sustainable growth of a company, the growth of both individuals and organizations in the company is indispensable. We strive to develop a pleasant work environment and in-house systems, and make our company a place where diverse talents are motivated to work and where individuals and organizations can grow together. To be more specific, we have identified the following three

issues and executed measures for them: the development and empowerment of human resources, organizational growth, and the strengthening of corporate governance.

Regarding the development and empowerment of human resources, we began to employ a new personnel system in FY2022. We have also developed “autonomous talents” and established systems that support diverse work styles and the empowerment of diverse talents.

Regarding organizational growth, we have implemented authority delegation for quicker decision making. We will continue to take measures to strengthen labor-management dialogue, including a system that allows employees to advance proposals to the management.

Regarding the strengthening of corporate governance, we have developed the management’s skill matrix to address increasingly complex and diverse issues. In FY2022, we introduced a performance-linked stock compensation plan to encourage board members to contribute to enhancing our medium- to long-term business performance and increasing our corporate value. Through the implementation and improvement of related measures, we will continue to pursue corporate governance that will lead to our corporate growth.

In order to promote and strengthen these measures, we also conducted an engagement survey and began to use this system on a regular basis. In the FY2022 engagement survey, employees suggested that there was room for improvement in “growth potential and future prospects of businesses” and “confidence in the management.” We consider these suggestions as the matters we should improve in order to promote the Medium-term Management Plan, and we will make continuous initiatives toward the transformation.

In the previous fiscal year, we developed corporate systems for Organizational Transformation. We consider Organizational Transformation a key matter that affects the possibility of our success in Business Transformation and Strategic Transformation for Environmental Initiatives in the medium to long term.

Promotion of a Digital Transformation

In FY2022, to advance the “Three transformations,” we accelerated the promotion of digital transformation (DX). We began to give all employees DX training in order to help them understand what we pursue through DX and to provide them with basic knowledge in using digital technologies. We also proceeded with the introduction of a platform that strengthens our solution proposal capability and a system that supports the integration and full use of information.

We focus particularly on initiatives led by the Production Division for the consolidate management of plant information and the optimization of production plans. We will start with tangible improvements, including a significant reduction in the time spent searching for information and developing plans, and then we will explore the possibility of predictive maintenance and energy conservation.

While the use of digital technologies will become an increasingly important means of supporting our transformations, we believe that we cannot maximize the effect of using digital technologies if we rely only on a fraction of our human resources who are experts in the field. We will continue to enrich company-wide training to secure the human resources we need to promote DX.

Conclusion

Setting the three years from FY2022 to FY2024 as a period of strengthening the foundation for transformations and implementing them, we are steadily stepping up our initiatives for the transformations. Meanwhile, the external environment is constantly changing irrespective of our pace of taking measures. As outlined in the FY2030 goals, we will accelerate our transformation into a “chemical company that keeps evolving by identifying social trends” through our initiatives to “provide materials and solutions required by people and society.”

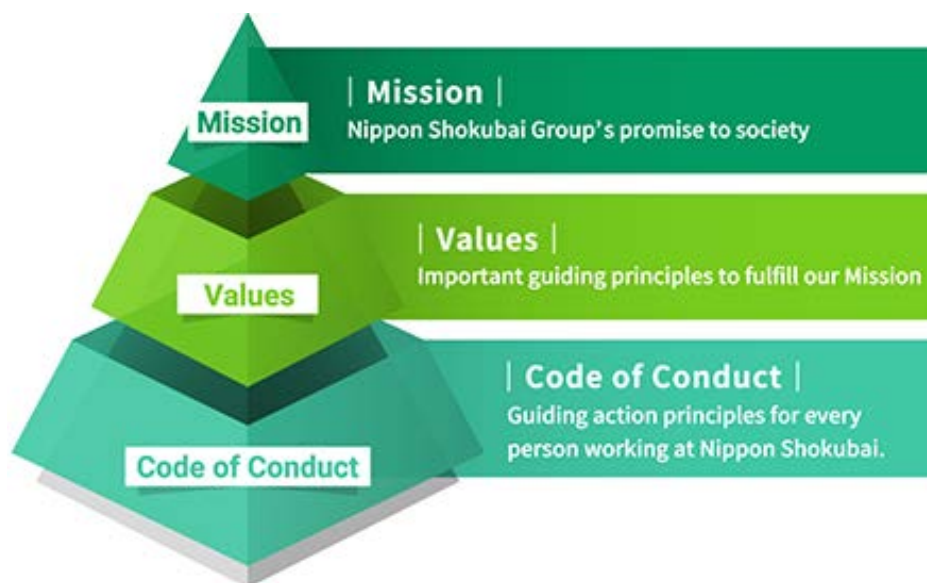
Regarding the transformations, aiming to “develop with various stakeholders inside and outside the company,” we will change the company for the better in a visible way by placing special emphasis on dialogues within and outside the company and actively adopting various suggestions. We will also contribute to the realization of a sustainable society through collaborations with all stakeholders. Under the Safety Philosophy “Safety takes priority over production,” we will continue to promote safe and stable production activities, taking special notice of the responsibilities we should fulfill, including those for contributing to the peaceful lives of local community residents, ensuring stable product supply to customers, and maintaining a safe working environment for our employees.



Group Mission Framework / Safety Philosophy



Group Mission Framework



Mission

TechnoAmenity

Providing prosperity and comfort to people and society,
with our unique technology.

Values

Respect Diversity

We will create new value by respecting the unique traits of each person.

Pioneer New Possibilities

We will courageously provide solutions to customer challenges and social issues.

Contribute to Global Environmental Preservation

We will work to ensure a better global environment is passed down to the next generation.

Code of Conduct

Every person working at the Nippon Shokubai Group will carry out business activities with commitment to the guiding principles below.

01

Realizing a sustainable society

We will contribute to the realization of a sustainable society by putting the Group Mission into practice.

02

Safety first

We will execute our business activities by always ensuring both internal and external safety.

03

Compliance

We will enforce thorough-going compliance in every area.

04

Respect for human rights

We will support international human rights standards and respect the human rights of all people touched by our business activities

05

Fair and honest business dealings

We will engage in fair and sincere business activities with all of our stakeholders.

06

Providing value to our customers

We will provide materials and solutions needed by customers

07

Preserving the environment

We will help reduce our environmental impact and help tackle environmental issues through technology.

08

Communicating with stakeholders

We will actively disseminate information and dialogue with stakeholders.

09

Promoting active participation of diverse human resources

We will recognize and respect diversity so that every person and organization reaches their full potential.

10

Contributing to local communities

We will contribute to the development of local communities as a member of those communities.

[Code of Conduct \(2.4MB\)](#) 

Safety Philosophy

Safety takes priority over production.

Meaning of the Corporate Symbol

Our corporate symbol represents the spirit of TechnoAmenity.



Hexagon: One of the fundamental symbols used in chemistry



Cosmo yellow: Represents the hidden energy of the sun



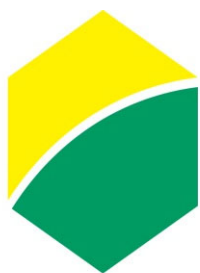
Earth green: Represents the life-supporting nature of the earth



Horizon between two colors: Represents the future we always seek

NIPPON SHOKUBAI Group

Code of Conduct



**NIPPON
SHOKUBAI**
Group

September 2022



Message from the President

Nippon Shokubai Group Employees

In April 2022, we revised our Group Mission Framework to fulfill our Mission, “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.” Our Values and Code of Conduct embody the mindset and behaviors we hope each employee of the Nippon Shokubai Group will hold in high regard. Previously, it was only our Group Mission we shared within the internal group. However, having unified our group initiatives, we decided to implement this revision to share our Group Mission Framework companywide to respond to the stakeholder demands that accompany the changing times.



Kazuhiro Noda, President

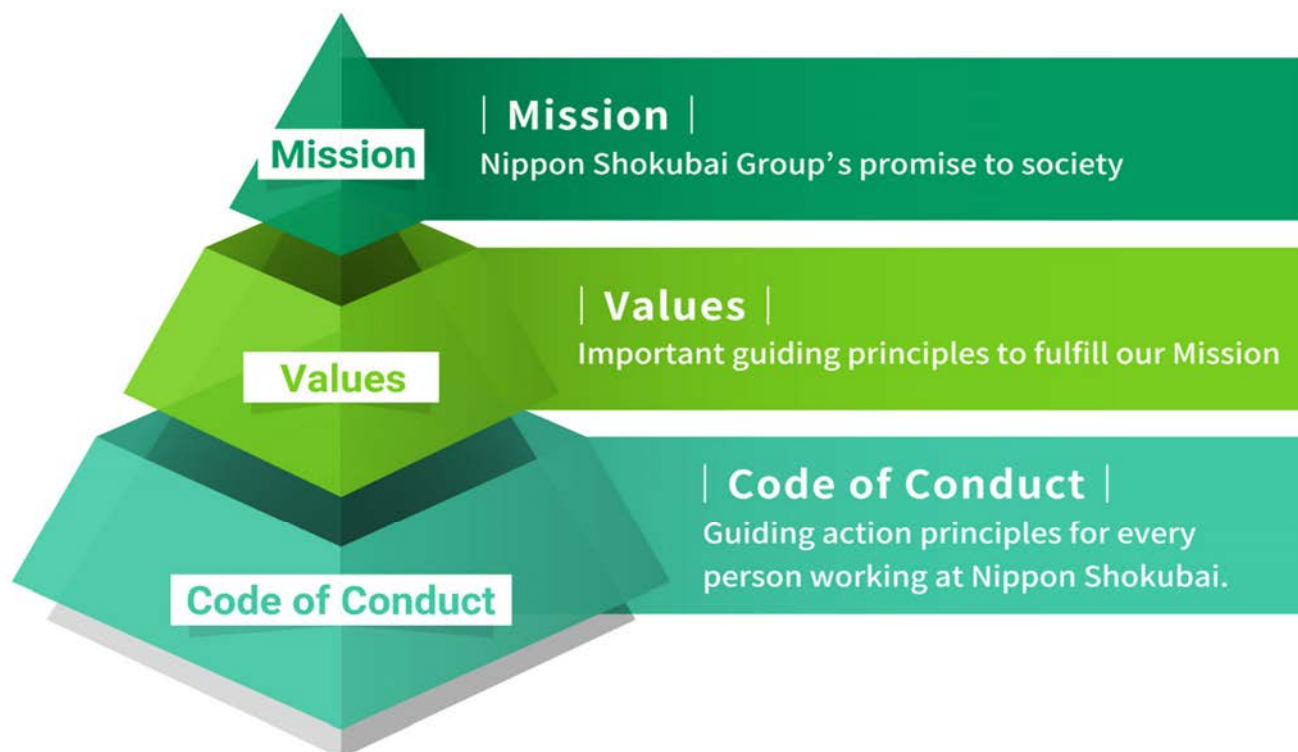
In today’s drastically changing external environment, support from our stakeholders is indispensable to the ongoing business activity of the Nippon Shokubai Group. Therefore, in addition to pursuing economic profits, earning the trust of our stakeholders by fulfilling our corporate social responsibilities and meeting the demands of a global society while complying with the applicable laws and regulations is fundamental to our business.

However, merely complying with societal demands results in a passive stance. For Nippon Shokubai to demonstrate its purpose, everyone working for the Nippon Shokubai Group must share our Group Mission Framework and apply themselves to fulfilling our Mission.

Thus, our Code of Conduct outlines the conduct that each employee should adopt and implement for the Nippon Shokubai Group to satisfy its corporate social responsibilities and move toward achieving its Mission.

I ask everyone at the Nippon Shokubai Group, including myself, to join forces in using this Code of Conduct as a guideline for daily work to allow us to carry out our Group Mission.

Group Mission Framework



The Nippon Shokubai Group's Mission Framework is shared by the entire Nippon Shokubai Group. To realize the Mission, the Nippon Shokubai Group has established a set of Values that every employee of the Nippon Shokubai Group (all executives and employees) should focus on as well as a Code of Conduct as a standard for daily business behavior and decision-making.

Mission

TechnoAmenity

Providing Prosperity and Comfort to People and Society,
with Our Unique Technology

Prosperity and comfort are not only economic and material but harmonious with the global environment as well as social and spiritual, such as diversity, fairness, and safety.

We will keep contributing to the realization of a sustainable society by practicing our TechnoAmenity mission in the future.

Group Mission Framework

Values

Respect Diversity

We will create new value
by respecting the unique traits of each person.

Pioneer New Possibilities

We will courageously provide solutions
for customer challenges and social issues.

Contribute to Global Environmental Preservation

We will work to ensure that a better global environment
is passed down to the next generation.

Code of Conduct (Summary)

Every person working at the Nippon Shokubai Group will carry out business activities with a commitment to the guiding principles below.

1. We will contribute to the realization of a sustainable society by putting the **TechnoAmenity** Group Mission into practice.
2. We will execute our business activities by always ensuring both internal and external safety.
3. We will enforce thorough-going compliance in every area.
4. We will support international human rights standards and respect the human rights of all people touched by our business activities.
5. We will engage in fair and sincere business activities with all of our stakeholders.
6. We will provide the materials and solutions needed by customers.
7. We will help reduce our environmental impact and help tackle environmental issues through technology.
8. We will actively disseminate information and dialogue with stakeholders.
9. We will recognize and respect diversity so that every person and organization reaches their full potential.
10. We will contribute to the development of local communities as a member of those communities.

What Is the Code of Conduct?

The Code of Conduct is a document that presents our guiding principles for the specific conduct that all executives and employees of the Nippon Shokubai Group should practice earning the trust of all our stakeholders and promoting our business activities with an eye toward fulfilling our Mission.

Each of us should act in a manner that represents Nippon Shokubai Group's guiding principles. In sharing these guiding principles, each employee will demonstrate their individuality and capability to enable us to fulfill our Mission.

Everyone working for the Nippon Shokubai Group is expected to adhere to the Code of Conduct in their daily work.

Roles and Responsibilities of Executives and Managers

While the Code of Conduct indicates the behavior that everyone should practice during regular work, the actual desired behavior varies depending on the type of job. Therefore, practicing the Code of Conduct during daily work requires an understanding of the content of the Code of Conduct and how it applies to each job.

Furthermore, daily management at each workplace is central for implementing the Code of Conduct into everyday work.

Therefore, executives and managers in supervisory positions have the following major roles and responsibilities in ensuring that everyone is following the Code of Conduct:

Act as a model	Lead by example to encourage associates to follow the Code of Conduct.
Help instill the Code of Conduct	Instill the Code of Conduct by applying it to each job performed. Hold discussions to share how associates can implement the Code of Conduct in their daily work.
Provide a safe environment	To prevent behavior that violates the Code of Conduct, provide an open atmosphere for associates to be able to speak up when they do not know what to do or when a problem has arisen.



Steps to Take When Unsure of What to Do

Please go through the following steps when you are not sure what to do or when you have questions about how to proceed.

Step 1

Is this conduct in accordance with the applicable laws and regulations, the Mission, Values, and Code of Conduct of the Nippon Shokubai Group, and other corporate policies and internal rules?

Step 2

Would this be described as proper conduct to other people around the world?

Step 3

Would you engage in this same conduct if it affected your family or close friends?

If you are unable to answer yes to any of the above questions, the conduct in question is not what the Company expects. Talk to your supervisor or the relevant department to devise a better alternative.



If You Discover a Violation of the Code of Conduct

Everyone working at the Nippon Shokubai Group must comply with the applicable laws and regulations, internal rules, and Code of Conduct. Violating them will cause us to lose our stakeholders' trust and keep us away from fulfilling our Group Mission. In addition, violators will be subject to disciplinary action based on our employment rules.

The company's profit or following the orders of a superior do not justify such violations. If you discover questionable behavior or behavior that violates the laws and regulations, internal rules, or Code of Conduct, please inform your boss and discuss it with them. If that course of action is not feasible, please contact the whistleblower desk at each Group company for a consultation.



Furthermore, we will protect the privacy of reporters/whistleblowers. Information given to any in-house whistleblower desk will be treated as confidential unless otherwise required by law. In addition, the whistleblower will not receive any disadvantageous treatment for having reported or discussed the matter providing that consultations and reports are not carried out with dishonest intent.



Code of Conduct (Full Version)

1. Realizing a sustainable society

We will contribute to the realization of a sustainable society by putting the **TechnoAmenity Group Mission into practice.**

(1) Contributing to the future for people and society

- a. We will use our unique technology to provide economic, physical, as well as social and spiritual prosperity and comfort to people and societies throughout the world. By doing this and proactively tackling social issues and customer challenges, we will help bring about a sustainable change.



2. Safety first

We will execute our business activities by always ensuring both internal and external safety.

(1) Comprehensive process safety and disaster prevention

- a. Recognizing that safety is the foundation of our existence, we will observe all laws, ordinances, and regulations concerning security and disaster prevention.
- b. We will ensure the safety and well-being of workers, their families, and society through comprehensive implementation of programs to prevent explosions, fires, leakage of hazardous materials, and accidents and disasters that may harm the environment and people.



2. Safety first

(2) Workplace health and safety

- a. We will strive to eliminate work-related disasters, and we will observe all laws, ordinances, and regulations concerning workplace health and safety.
- b. We will consider our health as well as the health of those working with us and will strive to maintain and enhance a workplace environment in which everyone can be assured of safety and comfort.

(3) Business continuity

- a. We will formulate a business continuity plan and take other appropriate organizational initiatives and measures to ensure our workers' safety and maintain our business activities in the face of threats, such as earthquakes, floods, and other natural disasters, pandemics and cyber-attacks.
- b. In the event of an actual threat, we will take the appropriate steps in accordance with our predetermined guidelines and procedures for response.

3. Compliance

We will enforce thorough-going compliance in every area.

(1) Observance of the applicable national and local laws, ordinances, and regulations and business ethics

- a. We will observe the applicable laws, ordinances, and regulations in the countries and regions where we do business, and our codes of conduct and in-house rules. We will behave with integrity, fairness, goodwill, in a self-directed fashion, and law-abiding spirit.



“Integrity” is doing your best for others without telling lies.

“Fairness” is taking actions that anyone would find just and convincing.

“Goodwill” is observing social etiquette.

“Self-directed” is seeing everything as relating to you.

“Law-abiding” is taking actions based on the purpose, intent, and context of the rules.

3. Compliance

(2) Thorough-going compliance

- a. We will diligently collect information about the laws, ordinances, and regulations that govern our business activities.
- b. We will implement thorough-going compliance, including formulating in-house rules and manuals and offering opportunities, such as educational and training sessions.

(3) Reporting and review of behavior that violates the Code of Conduct

- a. When we learn of behaviors that violate laws, ordinances, regulations, our in-house rules or our Code of Conduct, we will promptly report and discuss it with the relevant supervisor. In cases where this is not feasible, we will discuss the incident and report it to the company's consultation desk or internal whistleblower desk.
- b. The internal whistleblower desk will protect whistleblowers' identities and promptly conduct an investigation of the relevant facts.
- c. We will not condone reprisals against persons who reported incidents in good faith or who cooperated in our investigations but will treat them fairly to avoid putting them in an unfavorable position.



4. Respect for human rights

We will support international human rights standards and respect the human rights of all people touched by our business activities.

(1) Respect for human rights

- a. We will respect everyone's human rights and will not engage in any conduct that unfairly discriminates or harms the dignity of an individual, regardless of the reason.
- b. We will prevent human rights violations by respecting international human rights standards and the laws and ordinances of each country and region. In the event of a violation, we will respond appropriately and with fairness.
- c. Recognizing that our business activities have an impact on human rights, we will not provide products to firms or groups that commit or promote human rights violations, and we will not take part in purchasing any products or services from such firms or groups.

4. Respect for human rights

(2) Prohibition against forced labor and child labor

- a. Under no circumstances will we ever engage in forced labor or child labor, and we will not allow forced labor or child labor to take place in our supply chain.

(3) Prohibition against discrimination

- a. Under no circumstances will we ever engage in discrimination based on gender, age, nationality, race, ethnicity, social status, place of origin, beliefs, creed, religion, physical characteristics, sexual orientation, sexual identity, or disease or disability.



4. Respect for human rights

(4) Prohibition against harassment

- a. Under no circumstances will we ever engage in sexual harassment, abuse of power, pregnancy discrimination, or other discriminatory behaviors against another person or do anything that threatens them or makes them uncomfortable, regardless of whether such threat is physical or emotional.

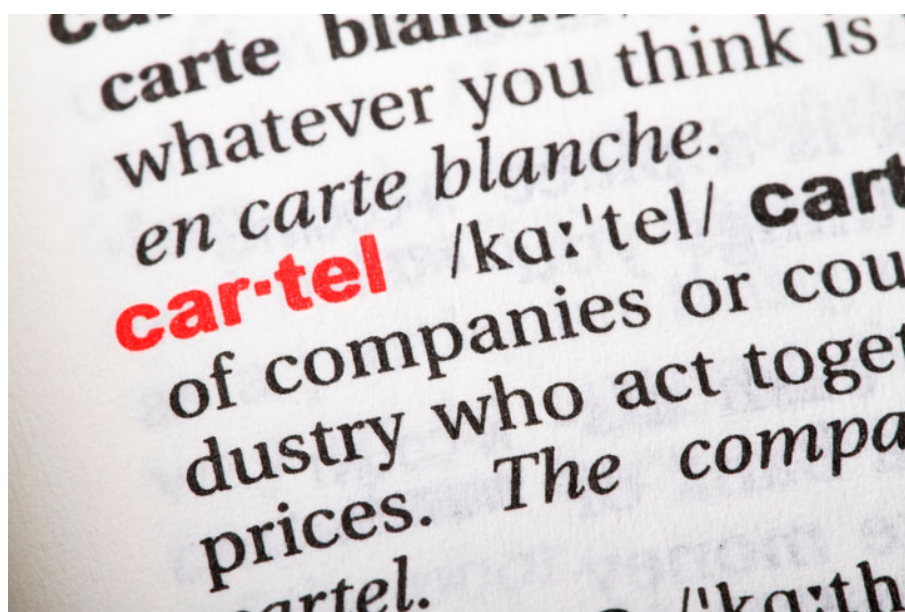


5. Fair and honest business dealings

**We will engage in fair and sincere business activities
with all of our stakeholders.**

(1) Fair and free dealings

- a. We will observe the applicable laws, ordinances, and regulations concerning fair and free competition and business activities in other countries and regions where we do business. We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.





5. Fair and honest business dealings

(2) Prevention of bribery and corruption

- a. We will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value to public officials or will not make any illegal facilitation payment (small payments for speeding up bureaucratic procedures).
- b. We will not aid, abet, or authorize any of such illegal conduct by any third party.
- c. We will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/ from clients, customers, and other business partners.

(3) Respect for trade-related laws and ordinances

- a. In trading raw materials and products, we will follow proper trade procedures in accordance with the applicable laws and ordinances and will not trade in contraband.
- b. We will not export technology that will be used as information, materials, or products in the production of weapons of mass destruction that would interfere with the preservation of international peace and safety, including nuclear, chemical, and biological weapons.

5. Fair and honest business dealings

(4) Responsible procurement

- a. Because our business activities are dependent on the cooperation of the many people and companies in our supply chain, we will promote responsible procurement practices and engage in transactions that are honest and proper.
- b. We work with our business partners so that they understand and relate with our Code of Conduct as we engage with them.

(5) Proper management and use of corporate assets

- a. We will not use the company's tangible and intangible assets, including its products, equipment, supplies, information, and intellectual property, for personal or inappropriate purposes; we will manage and use these assets so as to prevent their loss, theft, or improper use and ensure their effective use.



5. Fair and honest business dealings

(6) Respect for and use of intellectual property

- a. We will strive to protect our intellectual property rights and use them in effective way as we believe that patents, trademarks, designs, knowhow, trade secrets, and publications are key corporate assets and the source of our competitive strength.
- b. In the manufacture and sale of our products, research and development, provision of service, and other business activities, we will respect the intellectual property rights of others and will not infringe on them.
- c. We will proactively use our intellectual property in open innovation and other external partnerships, and we will develop and provide innovative and effective products and services for solving the problems facing society and our customers.



5. Fair and honest business dealings

(7) Information security

- a. We will closely control access to our information assets and data systems in order to prevent unauthorized access, loss, leaks, manipulation, destruction, and hacking.
- b. We will formulate measures to counter threats to our computer network and endeavor to minimize any damage to ourselves and others.
- c. On an ongoing basis, we will review our framework for responding to incidents should they occur.

(8) Management of confidential information

- a. We will strictly manage the confidential information of others obtained in the course of business.
- b. We will not allow unauthorized disclosures or leaks, and we will not permit such information to be used for purposes other than those intended, nor will we permit viewing by uninvolved parties.

5. Fair and honest business dealings

(9) Proper accounting practices and tax compliance

- a. In accordance with the laws and ordinances concerning accounting standards in the countries and regions where our Group does business, we will work to build effective systems of internal control and use accurate and proper accounting practices.
- b. We place great importance on tax compliance, and we will observe each country's and region's laws and ordinances concerning corporate taxation, etc., as well as tax treaties and international taxation rules.

(10) Protection of personal information and privacy

- a. We respect individuals' privacy and collect personal information to the extent necessary and appropriate. Also, we strictly manage the personal information that we collect and will not disclose it to third parties or use it for other than its intended purpose, except in cases required by law or where we have received advance permission from the individual in question.



5. Fair and honest business dealings

(11) Prohibition against individual conflicts of interest

- a. We will not commit any act that uses information gained in the course of business to seek personal profit, or that is contrary to the company's interest.
- b. We will not abuse our corporate position or authority, nor will we seek personal profit or cause the company to lose money in violation of our job responsibilities.
- c. We will not engage in any personal transactions that compete with the Group, nor will we engage in any conduct that competes with the Group, such as becoming a manager or key investor at a competitor.

(12) Dealing with antisocial forces

- a. We will have absolutely nothing to do with antisocial forces that threaten public order and safety or the stable business of the company, whether it is through business relations, money laundering, and other means of providing profits to those involved in such forces.
- b. We will take a firm stance in rejecting improper demands from antisocial forces.

6. Providing value to our customers

**We will provide the materials and solutions
needed by customers.**

(1) Providing solutions to our customers' problems

- a. We will provide products and services that are responsive to our customers' needs and solve their problems.
- b. We will innovate to drive forward with solutions to the needs of society and our customers.



6. Providing value to our customers

(2) The “three actuals” principle

- a. In all of our tasks, we will relentlessly observe the actual locations, actual objects, and actual realities that underlie all of our work. The resulting ideas allow us to take judgments and actions that are free of preconceptions.

(3) Providing safe and reliable products and services

- a. We will meet our customers’ needs and specifications, ensuring safety and quality so that our customers can confidently use our products and services.
- b. We will respond promptly and sincerely to our customers’ inquiries and feedback and incorporate their feedback into enhancing and developing our products and services.



6. Providing value to our customers

(4) Providing safe, high-quality information

- a. When providing products and services, we will properly furnish the necessary information regarding quality and safe usage in an easily understandable way.
- b. We will not falsify any of our business data or falsely represent that we have acquired data that we have not.

(5) Dealing with product-related accidents

- a. In the event of a problem with the safety or quality of a product that we have provided to a customer, we will respond promptly and sincerely and will take the appropriate steps to find the cause and prevent recurrences.



7. Preserving the environment

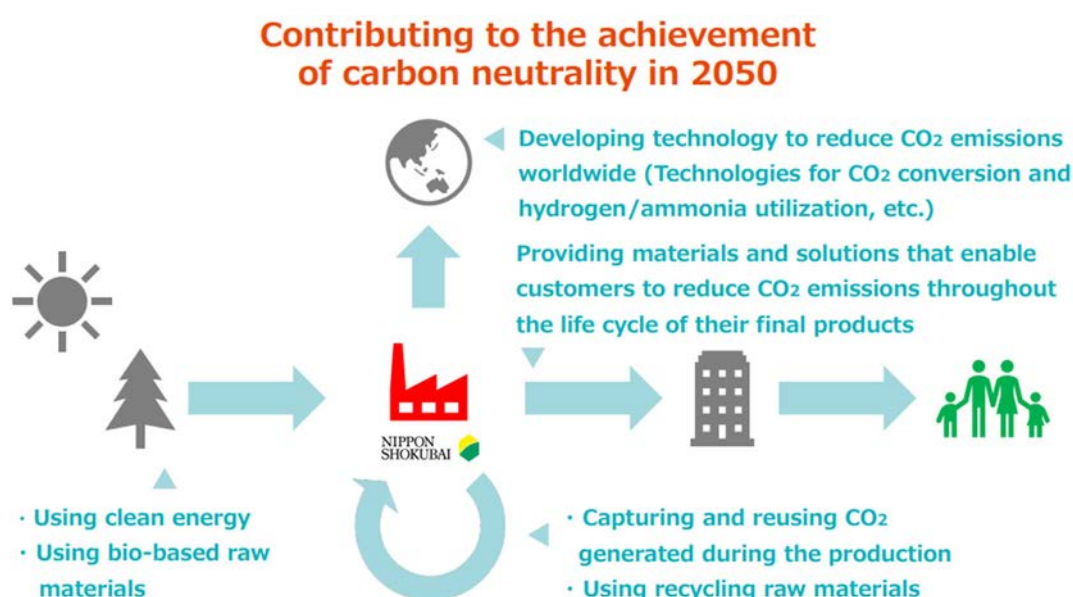
We will help reduce our environmental impact and help tackle environmental issues through technology.

(1) Harmony with the global environment

- a. Based on the desire to leave a better global environment to the next generation, we are controlling emissions of hazardous materials and are taking initiatives to address environmental issues.

(2) Climate change initiatives

- a. Besides reducing emissions of carbon dioxide and other greenhouse gases in our business activities, we are helping to reduce emissions throughout the supply chain by creating environmental contribution products, thus contributing to bringing about carbon neutrality.



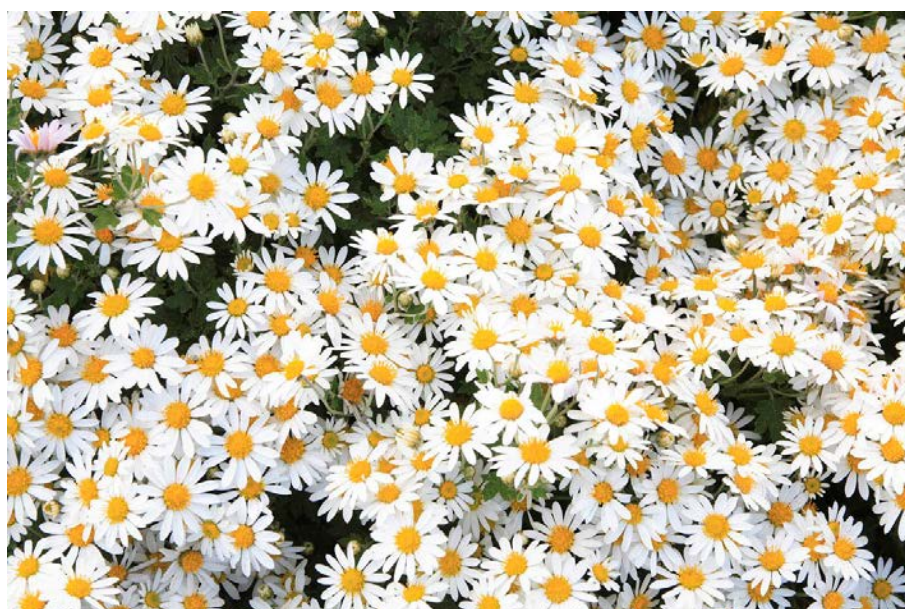
7. Preserving the environment

(3) Efficient use of resources

- a. We are actively involved in resource conservation, waste reduction, and recycling efforts so that our limited and precious resources can be used more efficiently.

(4) Preserving biodiversity

- a. Recognizing that our business activities do affect biodiversity, we are promoting a deeper understanding and awareness of preserving biodiversity and biodiversity-friendly programs.



8. Communicating with stakeholders

**We will actively disseminate information
and dialogue with stakeholders.**

(1) Fair disclosure of information

- a. We disclose timely and accurate information about ourselves in accordance with the applicable legislation, and we are transparent in our explanations.
- b. We take the initiative to actively disclose our financial information as well as such non-financial information as our mission, policies, business performance, environmental programs, and stakeholder relations, the better to deepen understanding about our Group among shareholders, investors, and other stakeholders.



8. Communicating with stakeholders

(2) Communicating with stakeholders

- a. We will actively engage in dialogs with our various stakeholders, including customers, business partners, employees, local communities, government bodies, shareholders, and investors, and strive to build and maintain long-term relationships of trust with them and to gain their support for the Group's business initiatives. So that we will increase our corporate value.
- b. We appreciate both positive and negative feedback from those outside the Group, and we strive for two-way communication.

(3) Prohibition against insider trading

- a. We will not buy or sell shares or other securities or recommend their purchase or sale to others based on material non-public information (information that would significantly affect the share price if disclosed) about our Group or its business partners gained in the course of business.
- b. If we possess material non-public information, we will not leak such information prior to its disclosure.

9. Promoting active participation of diverse human resources



**We will recognize and respect diversity
so that every person and organization reaches
their full potential.**

(1) Respecting diversity

- a. We will create a working environment and culture where employees can work with diversity and mutual respect and can grow together.
- b. We, as professionals, will make every effort to show his or her individuality and ability, which will lead to innovation.



9. Promoting active participation of diverse human resources



(2) Fair hiring, labor, and compensation

- a. We will treat everyone fairly in accordance with their work skills and performance.
- b. In assigning work locations, we will take into consideration our employees' ability and track record in performing their jobs well and getting their work done, their childcare and care-giving responsibilities, and their orientation.
- c. We will maintain sound hiring and labor practices, and our treatment of employees regarding wages, work hours, vacations, and the like will conform to the applicable laws and ordinances of the respective countries and regions.
- d. In accordance with the applicable laws and ordinances of each country and region, we will respect the right to form or participate in labor unions, the right to engage in collective bargaining, and the right to assemble peacefully. We will also build healthy management-labor relations through dialog.



9. Promoting active participation of diverse human resources



(3) Promoting work–life balance and developing skills

- a. We will enhance each person's job satisfaction and skills by allowing them to have a balance between their job and their personal life, which may entail child-rearing, care-giving, and medical treatment, thus creating a work culture that engenders high performance.
- b. We will respect each individual's orientation and will work in cooperation with them, taking into consideration their family situation, including childcare, care-giving, and other personal circumstances.
- c. We strive to develop everyone's skills and build their careers through a variety of training opportunities, including on-the-job training, in-house and off-site training sessions, and self-study courses.
- d. We will offer ample opportunities for our employees to develop their skills and advance their careers and will support them so that they can take responsibility and pride in proactively tackling and solving the problems they face at work.



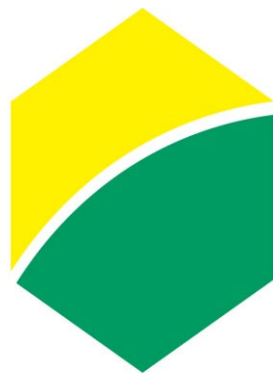
10. Contributing to local communities

**We will contribute to the development of local communities
as a member of those communities.**

(1) Respecting local culture

- a. We will respect the natural surroundings, culture, traditions, and customs of the countries and regions where we do business, and we will work together with local communities and contribute to their development.
- b. We will work to participate in and contribute to local communities by means of local procurement and hiring.





NIPPON
SHOKUBAI
Group

September 2022 Version 1

Nippon Shokubai's Sustainability

Sustainability Management



Materiality



Stakeholder Communication



External Evaluation



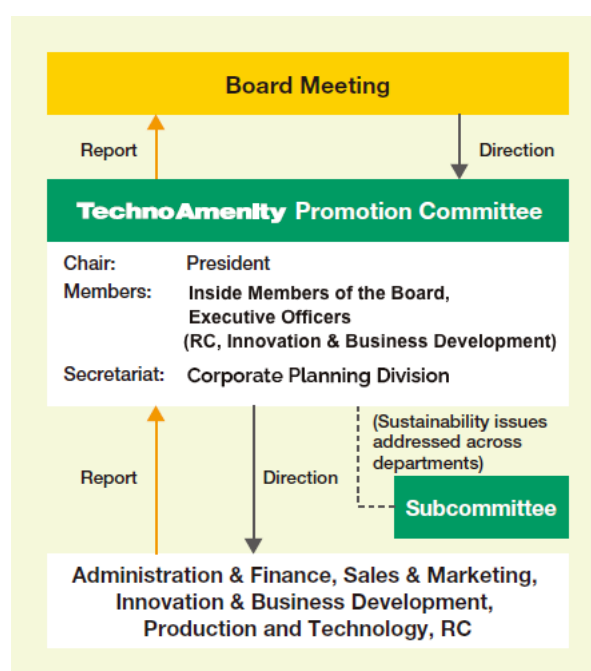
Sustainability Management

Sustainability Policy

We conduct business activities with the determination to contribute to society, under the Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.” We believe that promoting sustainability activities is equivalent to practicing the Group Mission. Based on this belief, we take a comprehensive view of our corporate behavior that encompasses the economy, society and the environment. We therefore prioritize corporate governance, compliance, Responsible Care, risk management, human rights and labor, social contribution, and information disclosure. In implementing actions to increase our corporate value, we emphasize dialogue with our customers, business partners, employees, the communities we serve, public administrators, shareholders and investors, and all other stakeholders. We also endeavor to solve social issues through business activities, thereby contributing to the realization of a sustainable society.

Management System for promoting sustainability

TechnoAmenity Promotion Committee chaired by the president has been organized to implement sustainability initiatives.



Roles of TechnoAmenity Promotion Committee

- Determine group's policies and strategies relating to promote sustainability initiatives.
- Direct each department to formulate plans and measures and evaluate their performance and progress.
- Consider other significant matters relating to promote sustainability initiatives.
- Disseminate information about the initiatives to stakeholders.

Operation for TechnoAmenity Promotion Committee

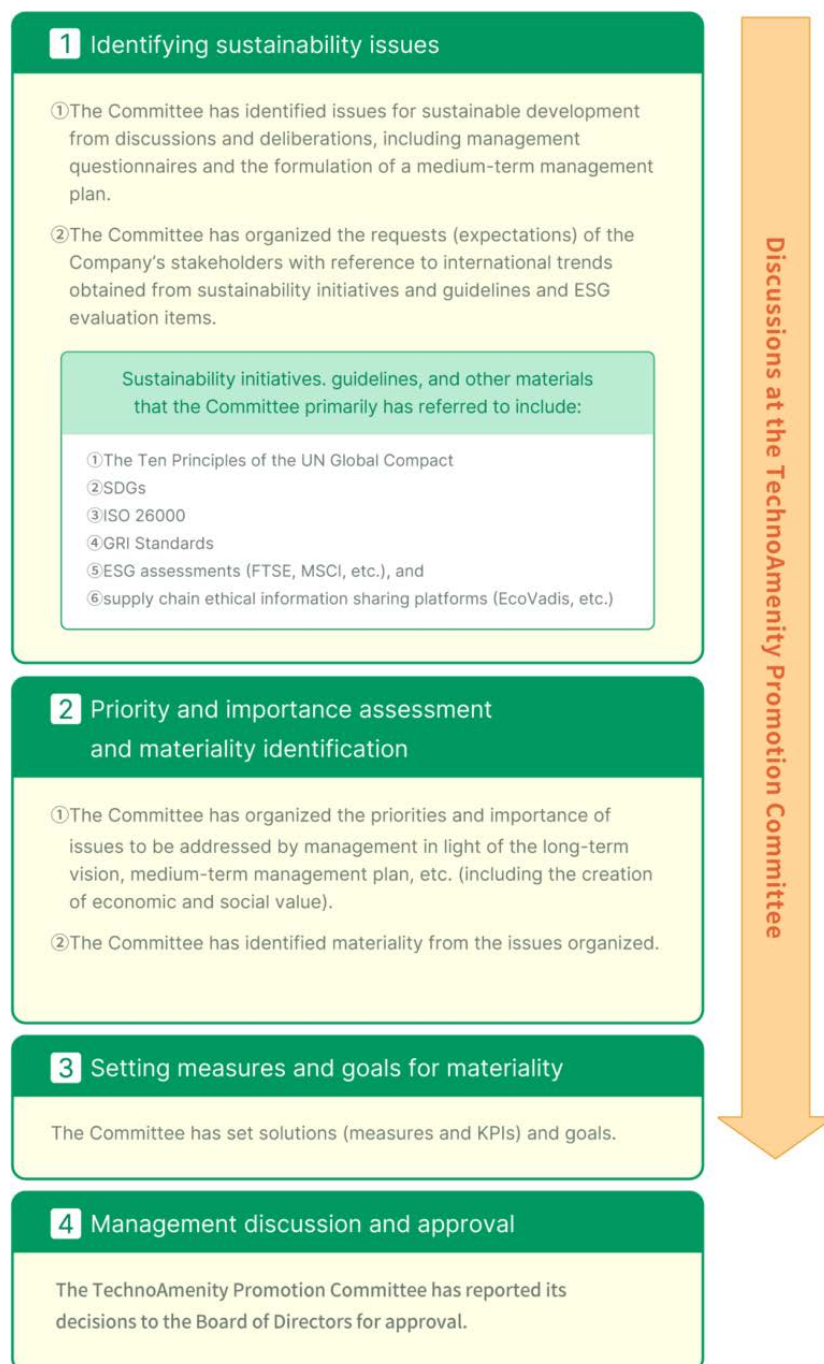
- In principle, the committee meets at least twice a year.
- When it is necessary to consider and adopt measures for important sustainability issues across departments, the committee will establish a subcommittee to assume responsibility for them.

Materiality

The Nippon Shokubai Group has identified materiality (material issues) to be addressed in order to achieve its vision for 2030 as set forth in its long-term vision “TechnoAmenity for the future,” which is to “Provide the materials and solutions required by people and society,” “Become a chemical company that keeps evolving by identifying social trends,” and “Develop with various stakeholders inside and outside the company.”

The content of material issues will continue to be reviewed and revised on a regular basis.

Materiality Identification Process



Materiality and Initiatives

Promote climate change response

Contribution to SDGs :



Initiatives	KPI and their ideal state	Year of achievement	Actual performance in FY2022
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Contribute to carbon neutrality	<ul style="list-style-type: none"> Scope 1, Scope 2: reduce CO₂ emissions by 30% from the 2014 level (Nippon Shokubai and Group Companies in Japan) 	End of FY2030	Reduced by 14% (including an offset equivalent to 7.3% through the purchase of carbon-neutral city gas)
Contribute to the circular economy	<ul style="list-style-type: none"> Develop and socially implement technologies for resource use reduction and recycling 	—	—
Promote the development and sales of Environmentally Contribution Products	(1) 55 billion yen (2) 135 billion yen	(1) End of FY2024 (2) End of FY2030	44 billion yen

* CO₂ emissions : Our Group's emissions reduction targets are for greenhouse gases, but since they are mostly carbon dioxide (CO₂), they are referred to as CO₂.

Contribute to solving customer issues

Contribution to SDGs :



Initiatives	KPI and their ideal state	Year of achievement	Actual performance in FY2022
<ul style="list-style-type: none"> Strengthen the company's ability to understand issues and propose solutions Strengthen the supply chain management 	(1) Develop a platform to strengthen solution proposals (2) Expand the Solutions business to achieve the dual focus of the Materials and Solutions businesses (Sales ratio of 50% each, revenue of the 500 billion yen level)	(1) End of FY2024 (2) End of FY2030	Completed the introduction of the foundation system for information sharing

Promote safe and stable production activities

Initiatives	KPI and their ideal state	Year of achievement	Actual performance in FY2022
<ul style="list-style-type: none"> Strengthen the safety foundations Foster a culture of safety 	<ul style="list-style-type: none"> Third-party evaluation: maintain above industry standards for the petroleum and petrochemical industries 	—	<ul style="list-style-type: none"> Conducted a third-party evaluation at the Kawasaki Plant Confirmed the maintenance of levels above industry standards (evaluations to be conducted every few years for individual business locations)

Developing/Promoting the Active Participation of Talent

Contribution to SDGs :



Initiatives	KPI and their ideal state	Year of achievement	Actual performance in FY2022
Develop autonomous talent	<ul style="list-style-type: none"> Improve the employee engagement score (transformation and growth of people and workplaces through early establishment of a new personnel system, linkage with multi-layered measures, and organizational improvement) Increase in the number of applicants for solicit publicly proposed autonomous learning programs (e-learning, skill development training, online English conversation classes, etc.) and make these programs better known within the company 	End of FY2024	<ul style="list-style-type: none"> Began to conduct engagement surveys Began to conduct Company-recommended training named “autonomous learning programs” (with an attendance rate of about 20%)
Promote the active participation of diverse talent	<ul style="list-style-type: none"> Improve the employee engagement score (promotion of suitable assignments, individual motivation, and diverse and autonomous work styles through various systems such as self-assessment and the continuity of work location) Increase the ratio of female employees hired in the clerical and chemical fields to at least 30% Increase the ratio of female in managerial position to 6% or more 	End of FY2024	<ul style="list-style-type: none"> Began to conduct engagement surveys Rate of female employees hired in the clerical and chemical fields: 24.1% Rate of females in managerial positions: 4.4%

Strengthen corporate governance

Initiatives	KPI and their ideal state	Year of achievement	Actual performance in FY2022
Enhance the effectiveness of the Board meeting	<ul style="list-style-type: none"> Improve the effectiveness of the Board meeting by enhancing its decision-making of management policy and strategy, and supervisory functions 	End of FY2024	Confirmed with a third-party evaluation that the effectiveness of the Board was ensured

Ensure the knowledge, experience, skills, and diversity of the Board meeting	<ul style="list-style-type: none"> • Disclose a skills matrix of the Board meeting • Satisfy the skills matrix of the Board meeting 	End of FY2022 End of FY2024	<ul style="list-style-type: none"> • Started the disclosure at the end of FY2022 • Expanded the positions subject to the skills matrix disclosure (Statutory Corporate Auditors)
Enhance medium-to long-term incentives for corporate officers	<ul style="list-style-type: none"> • Introduce stock-based compensation for internal Members of the Board, etc. 	End of FY2022	Introduced the plan at the end of FY2022 (Effectiveness being monitored on an ongoing basis)

Stakeholder Communication

The Nippon Shokubai Group undertakes various initiatives to help stakeholders better understand the Company so that cooperation-oriented dialogue is more meaningful and geared toward achieving the Group Mission.

Stakeholders	Our approach	Main opportunities for communication
Customers	Create innovation that are responsive to our customers' needs and solve their problems, and provide safe and reliable products and services.	<ul style="list-style-type: none"> • Communicating and providing support during sales and marketing • Appearing at exhibitions • Providing information through our product pamphlets, corporate website and other avenues • Responding to inquiries made on the telephone/through our corporate website
Business partners	Establish trust-based relationships with our business partners through fair and impartial business dealings, and promote sustainable procurement initiatives.	<ul style="list-style-type: none"> • Communicating and providing support during purchasing • Distributing CSR Procurement Guidelines • Providing information through our corporate website and other avenues • Administering and gaining feedback from CSR supplier surveys
Employees	Create workplaces where everyone respects and accepts each other's differences and can work free of worry, and help each and every employee find motivation and optimal work styles.	<ul style="list-style-type: none"> • Labor-management council meetings • Safety and Health Committee meetings • Talent development measures • Evaluation consultation, Career consultation • Company newsletters, portal site • Company events • Internal reporting system
Local Communities	Engage in proactive dialogue and establish trust-based relationships with local communities, and work with them to help them develop.	<ul style="list-style-type: none"> • Environmental preservation-activities • Local cleanup campaign • Interactive activities with local communities • The community dialogue undertaken by the JCIA's Responsible Care Committee • Developing the next generation

Public administrators	Fulfill our corporate responsibility by complying with laws and regulations, participating in policymaking, and more.	<ul style="list-style-type: none"> • Participation in committees and councils associated with governments and public agencies through industrial associations and other avenues
Shareholders and investors	Make efforts to improve corporate value by establishing trust-based relationships with shareholders and investors through fair disclosure and proactive dialogue.	<ul style="list-style-type: none"> • Shareholders meetings • Briefings for institutional investors/analysts • 1 on 1 meeting with investors • Briefings for individual investors • Facility tours • Publishing TechnoAmenity Report (integrated report), Reports to Shareholders, etc. • Providing information through our corporate website and other avenues

External Evaluation

(As of September 2023)

Inclusion in ESG indices

FTSE4Good Index Series

Created by the global index and data provider FTSE Russell, the FTSE4Good Index Series is designed to measure the performance of global companies demonstrating strong Environmental, Social and Governance (ESG) practices. The series are used by a wide variety of market participants to create and assess responsible investment funds and other products.



FTSE4Good

[FTSE4Good Index Series](#) 

FTSE Blossom Japan Index

Created by the global index and data provider FTSE Russell, the FTSE Blossom Japan Index is designed as an industry neutral benchmark that reflects the performance of companies demonstrating strong Environmental, Social and Governance (ESG) practices in Japan. The Index is used as an important criterion in ESG investment, with the Government Pension Investment Fund (GPIF) adopting it as one of the general indices for Japanese equities.



**FTSE Blossom
Japan Index**

[FTSE Blossom Japan Index Series](#) 

S&P/JPX Carbon Efficient Index

An index created by S&P Dow Jones Indices and the Tokyo Stock Exchange. The S&P/JPX Carbon Efficient Index is designed to measure the performance of companies in the Tokyo Stock Price Index (TOPIX), while overweighting or underweighting those companies that have lower or higher levels of carbon emissions per unit of revenue.



[S&P/JPX Carbon Efficient Index](#)

Sompo Sustainability Index

An index selected by Sompo Risk Management Co., Ltd., consisting of companies with excellent ESG (environmental, social, and governance) initiatives. Sompo Asset Management builds and manages portfolios that follow this index.



[Sompo Sustainability Index](#) (Japanese only)

ESG-related evaluation

DBJ Environmentally Rated Loan Program

The DBJ Environmentally Rated Loan Program is the world's first financing menu to select outstanding companies by evaluating their environmental management by means of the environmental rating method developed by Development Bank of Japan Inc. (DBJ). Nippon Shokubai has received the highest rating, which is given to companies with "excellent advanced environmental initiatives," for 4 times in a row.



[DBJ Environmentally Rated Loan Program](#)

Responsible Care Initiatives

Corporate members of the chemical industry that work with chemical substances undertake and publish the outcomes of voluntary initiatives to ensure excellence in environmental matters, safety, and health in all processes from the development to the manufacturing, distribution, and industrial and consumer use of chemical substances to their disposal and recycling in an effort to engage in dialogue and communication with society.

The initiatives are collectively known as Responsible Care (RC), and have been promoted around the world since they were announced by the International Council of Chemical Associations (ICCA) in the RC Global Charter in 2006 and revised in 2014.

Nippon Shokubai is one of the charter members of the Japan Responsible Care Council (now known as the Responsible Care Committee of the Japan Chemical Industry Association [JCIA]) founded in 1995, and has since introduced and continues to promote efforts under several systems, including an environmental management system (ISO 14001), quality management systems (ISO 9001 and GMP*), and an occupational safety and health management system (OSHMS).

The Nippon Shokubai Group intends to continue to fulfill its corporate social responsibility by contributing to society through Groupwide RC activities.

* GMP : Good Manufacturing Practice



The Company President's signature on the RC Global Charter (2014 revised version)

[RC Initiatives](#)



[RC Basic Plan and Results](#)



Production/R&D Site Reports >

**Providing Support for Group
Companies** >

Initiatives of Group Companies >

RC Initiatives

Nippon Shokubai proactively implements RC initiatives based on environmental protection, process safety and disaster prevention, occupational safety and health, chemical safety, quality, and communication with society.

RC Policy

In order to achieve our Group Mission and put our Values, Code of Conduct, and Safety Philosophy into practice, the Nippon Shokubai Group takes the priority actions listed below with regard to the environment, safety, and quality. In doing so, we consider contributing to society by providing technologies and products that facilitate environmental protection to be a key management strategy; our actions are guided by the principle of Sustainable Development, and we work conscientiously to achieve harmony with environmental conservation on a global scale.

Our goal is for all Group employees to have an accurate understanding of this RC Policy, to be aware of its importance, and to put it into practice in all business activities.

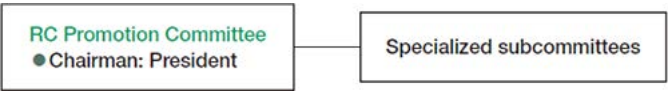
The Company President is the person with ultimate responsibility for putting the policy into practice.

1. We consider environmental impact and take steps toward environmental protection throughout the entire lifecycle of our products, from development to disposal.
2. We strive to ensure safety for our employees and society at large by striving to completely avoid accidents and injuries based on our Safety Philosophy of “Safety takes priority over production.”
3. We consider the health of our employees, logistics partners, customers, and others by verifying the safety of the raw materials, intermediate goods, products, and other chemical substances we work with.
4. We consistently provide reliable, high-quality products and services that satisfy our customers.
5. We publish the outcomes of the aforementioned activities in an effort to ensure that our message is understood properly.

RC Promotion System

Our RC Promotion Committee chaired by the Company President reviews basic and overall matters to make concrete progress in implementing the RC Policy and guidelines set out in other company regulations in all activities: environmental protection, process safety and disaster prevention,

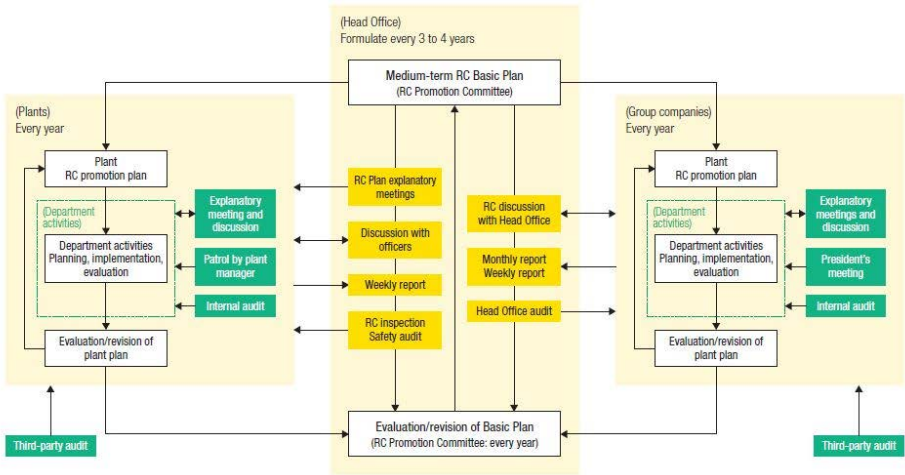
occupational safety and health, chemical safety, quality, and communication with society. We have also established specialized subcommittees under the RC Promotion Committee to promote company-wide RC initiatives.



Promotion Cycle for RC Initiatives

To put the RC Policy into practice, the Nippon Shokubai Group makes efforts to contribute to society and fulfill its corporate social responsibility by undergoing the PDCA cycle each year within the promotion cycle for RC initiatives illustrated below.

Flow of RC Initiatives



Flow of Promotion Cycles

[Head Office]

Every three to four years, the RC Promotion Committee chaired by the Company President formulates a Medium-term RC Basic Plan to coincide with the duration of the company’s medium-term management plan. Additionally, each year the council selects the focuses of inspections, conducts RC inspections and safety audits to check and evaluate the status of activity implementation at our plants, and revises plans as necessary.

[Plants]

Each year, the RC Committee at each plant chaired by the plant manager formulates a Plant RC promotion plan based on the Company-wide Medium-term RC Basic Plan and evaluations of the previous year’s Plant RC promotion plan. Each department uses the RC promotion plan for their location as the basis for formulating and acting on a department activity plan that outlines specific activities to be implemented based on the challenges that department faces.

The progress of these activities is checked not only through plant manager patrols, discussions at departments, and internal audits of ISO and other management systems, but also through discussions and RC inspections conducted by Head Office officers as well as third-party audits. In light of the results, department activity plans are revised as necessary to undergo the PDCA cycle in pursuit of continuous improvement.

[Group companies]

Like Nippon Shokubai, each year Group companies formulate plans based on the Medium-term RC Basic Plan; however, each formulates their own RC promotion plan in consideration of their business activities and the laws and regulations in their country.

They show the progress of their activities with the Head Office through weekly and other regularly scheduled reports and online meetings, and the Head Office also conducts regularly scheduled discussions and audits to check on the progress. In light of the results, the activities are revised as necessary to undergo the PDCA cycle in pursuit of continuous improvement.

The Head Office also encourages Group companies to interact with each other in an effort to enhance each other's activities.

Key Terminology

PDCA cycle: Plan-do-check-act cycle

A method of continuous improvement for quality control and other aspects of process technology. Operations are continuously improved by repeating the four steps: Plan, Do, Check, Act.

RC Inspections

We organized an RC Inspection Committee led by Company officers and chaired by the Member of the Board in charge of Production & Technology to conduct annual RC inspections in an effort to continuously improve RC initiatives at the Himeji and Kawasaki Plants.

We strive to continuously improve RC initiatives by sending reports containing concerns, suggestions for improvement, and other information to the plants.

What Are RC Inspections?

Our RC inspections date back 48 years to February 1974, soon after we established our Safety Philosophy of "Safety takes priority over production" in 1973.

We referred to them as "safety inspections" until 2003, and have continued conducting them in an effort to put our Safety Philosophy into practice. Now, we conduct them based on the key topics set out each fiscal year and the implementation status of RC initiatives at each plant. The following are the key topics for RC inspections over the past several years.

Medium-term Plan*	Fiscal year	Priority theme
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10th FY2017 to FY2020	FY2017 (45th)	Initiatives for environmental protection
	FY2018 (46th)	Prevention of quality issues and ensuring quality governance
	FY2019 (47th)	Prevention of recurrence of similar industrial injuries
	FY2020 (48th)	Prevention of process safety accidents
FY2021	FY2021 (49th)	Chemical substance management
11th FY2022 to FY2024	FY2022 (50th)	Initiatives to foster a safety culture and revisions toward more effective safety activities

* The FY2021 plan is a single-year plan.

FY2022 RC Inspections

We conducted the RC inspection for FY2022 in person for the first time since FY2019, on October 13 for the Kawasaki Plant, and November 8 for the Himeji Plant, to check the implementation status of RC initiatives. The key topic was “fostering a safety culture and reviewing safety activities to make them more effective.”



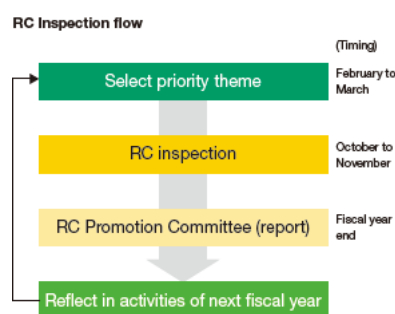
RC inspection

RC Inspection Procedure

RC inspections are conducted by the RC Inspection Committee from October to November each year after the key topic or topics for the year are selected from February to March of the previous fiscal year based on information such as problems outside the company and the results of internal RC initiatives.

The results are reported to the plants as well as the RC Promotion Committee chaired by the Company President, and are reflected in the activities of the following fiscal year.

The diagram below shows the procedure of RC inspections.



RC Training

We continuously conduct RC training for employees for the purpose of improving their overall understanding and mastery of RC initiatives.

FY2022 was no exception—we followed the RC training curriculum to provide training for new hires and for employees on their promotions to subsection chief and management positions. We intend to continue working to enhance our RC training.



Training for employees newly promoted to managerial positions

RC Basic Plan and Results

The 11th (FY2022–FY2024) Medium-term RC Basic Plan and FY2022 Results

We formulated the 11th Medium-term RC Basic Plan, in which objectives and priority initiatives were set by reflecting ongoing activities from the 10th plan and the plan for FY2021, the results of analyzing the issues encountered, and external needs, including revisions to laws made in response to technological progress.

By steadily implementing the 11th Medium-term RC Basic Plan and continuously making improvements, we will continue our safe and stable production activities and move toward the Goals for 2030, which have been set in our long-term vision “TechnoAmenity for the future.”

The 11th (FY2022–FY2024) Medium-term RC Basic Plan and FY2022 Results

[Ratings] Achieved Nearly achieved Unachieved

Environmental Protection

Objectives for FY2022–FY2024

- Energy saved: 6,000 KL (over 3 years)
- Energy consumption intensity: 5% reduction from FY2019 levels (annual reduction of 1%, 96.9 L/t-production)
- CO₂ emissions*¹ for FY2030: 30% or greater reduction from FY2014 levels (including Group companies in Japan)
- Fuel consumption intensity for road transport: 4% reduction from FY2020 levels (annual reduction of 1%, 33.7 L/1,000 t-km)
- Water use intensity: reduction to at least FY2020 levels (8.45 m³/t-production)
- Promote modal shifts
- Maintain zero emissions*²: (Quantity of final off-site landfill) < (Total amount of waste generated × 0.1%)
- Emissions of substances subject to the PRTR Law*³: 25% reduction from FY2015 levels (81 t/y)*⁴

FY2022 Actual Figures

- Energy saved: 8,514 KL
- Energy consumption intensity: Increased 9.2%
- CO₂ emissions: Decreased 14.0%⁵
- Fuel consumption intensity for road transport: Increased 1.4%
- Modal shift promotion ongoing
- Water use intensity: Increased 6.1% from FY2020 levels
- Zero emissions maintained
- Emissions of substances subject to the PRTR Law: Decreased 24.6%

Priority Initiatives

1. Promoted energy-saving activities and technical investigations to reduce emissions of waste/PRTR substances.
2. Promoted reduction in CO₂ emissions toward achieving carbon neutrality.
3. Currently considering building a system that totals up product-specific CO₂ emissions.
4. Ensured appropriate management of equipment that uses fluorocarbons and strove to control fluorocarbon emissions.
5. Promoted certification of Environmental Contribution Products, including those manufactured by Group companies.

Process Safety and Disaster Prevention

Objectives for FY2022–FY2024

- Zero Class A* or Class B* process safety accidents (aiming to completely avoid serious process safety accidents)

FY2022 Actual Figures

- Class A process safety accidents: 0
- Class B process safety accidents: 0

Priority Initiatives

1. Strove to strengthen the culture of prioritizing safety through monthly safety efforts, safety behavior checks, and more.
2. Implemented systematic risk assessment and other activities to prevent trouble.
3. Systematically implemented deterioration countermeasures, seismic countermeasures, and more.
4. Strove to continuously improve safety management systems.
5. Systematically implemented and enhanced training provided by outside entities and education/training/drills at plants and research centers.

Occupational Safety and Health

Objectives for FY2022–FY2024

- Zero injuries with loss of workdays*⁶ (including contractors)
- Zero injuries without loss of workdays*⁷ (including contractors)

FY2022 Actual Figures

- Injuries with loss of workdays: 2
- Injuries without loss of workdays: 5

Priority Initiatives

1. Promoted basic safety activities and implemented other activities to prevent troubles.
2. Implemented systematic safety measures through efforts such as persistently sharing cases of industrial injuries throughout the company.
3. Verified the status and strove for continuous improvement of various safety activities.
4. Systematically implemented workplace safety training and enhanced training/drills.
5. Supported contractors' safety activities through safety training, patrols, and more.

*1 The emissions reduction target is in fact for greenhouse gases (GHG), but most GHG is actually carbon dioxide (CO₂). Therefore, it is referred to as CO₂ here.

*2 Zero emissions: Reducing the quantity of waste subject to final disposal at off-site landfills to 0.1% or less of the total amount of waste generated.

*3 PRTR Law: Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement.

*4 Due to amendment of the PRTR Law, this objective is scheduled to be revised within the period of the 11th Medium-term RC Basic Plan.

*5 Including a carbon credit offset of 7.3% due to the purchase of carbon neutral city gas.

*6 Class A: Level 3 or higher according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart.

*7 Class B: Level 3 to 8 according to the Nippon Shokubai method on the Japan Petrochemical Industry Association chart.

*8 Injury with loss of workdays: Injury requiring at least one lost workday for medical treatment.

*9 Injury without loss of workdays: Injury requiring no loss of workdays for medical treatment.

Chemical Safety

Objectives for FY2022–FY2024

- Completely avoid (legal/social) problems with chemical products

FY2022 Actual Figures

- Cases involving problems with chemical products: 0

Priority Initiatives

1. Systematically conducted internal training and held exploratory meetings concerning laws and regulations for management of chemical substances both inside and outside of Japan.
2. Revised SDS on time in accordance with the requirements of relevant laws and regulations, including amendment to the PRTR Law.
3. Submitted notices and information before the prescribed deadlines based on legal obligations under domestic and foreign laws and regulations, and when requested by the authorities.

Quality

Objectives for FY2022–FY2024

- To achieve zero serious quality complaints
- To improve customer satisfaction by strictly complying with quality-related laws and promoting priority initiatives regarding quality

FY2022 Actual Figures

- Serious complaints about quality: 0
- Accomplished quality priority initiatives designed to improve customer satisfaction

Priority Initiatives

1. Continuously made improvements by effectively using the quality management system through audit, inspection, quality meetings, and the like.
2. Promoted activities to prevent quality complaints and issues, as planned.
3. Implemented quality education and quality awareness-raising activities to foster a quality-first mindset, as planned.

Communication with Society

Objectives for FY2022–FY2024

- Engage in dialogue with and disclose information to stakeholders

FY2022 Actual Figures

- Published the RC Report and published and revised the TCFD Report

Expanding RC initiatives to Group Companies (Common Items with Group Companies)

Objectives for FY2022–FY2024

1. Environmental protection:
 - Reduce energy consumption intensity (Group companies outside Japan)
 - Set a CO₂-11 emissions reduction objective (Group companies outside Japan)
 - Reduce the volume of waste sent to off-site landfills for disposal (Group companies in Japan)
 - Reduce the total volume of waste (Group companies outside Japan)
 - Reduce emissions of substances subject to the PRTR Law (Group companies in Japan)
2. Process safety and disaster prevention:
 - Completely avoid disasters and accidents (equivalent to Class A and Class B process safety accidents on the Nippon Shokubai scale)
3. Occupational safety and health:
 - Completely avoid injuries with loss of workdays
4. Chemical product safety:
 - Completely avoid (legal or social) problems with chemical products
5. Quality:
 - Completely avoid serious complaints about quality
6. Communication with society:
 - Engage in dialogue with and properly disclose information to stakeholders

FY2022 Actual Figures

- Energy consumption intensity: Decreased at 7 out of 12 companies
- Volume of waste sent to off-site landfills for disposal: Decreased 31% YoY (Group companies in Japan)
- Volume of total waste: Increased 2.7% YoY (Group companies outside Japan)
- Emissions of substances subject to the PRTR Law: Decreased 12% YoY (Group companies in Japan)
- Disasters: 0
- Accidents: 0
- Injuries with loss of workdays: 4
- Cases involving problems with chemical products: 0
- Serious complaints about quality: 0
- Published environmental reports, and participated in local community events

Priority Initiatives

- Conducted RC discussions and audits of Group companies in an effort to improve the Group's overall quality of RC initiatives

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Production/R&D Site Reports

Himeji Plant



Kawasaki Plant



Suita Research Center



Himeji Plant

Plant Manager	Tokihiro Yokoi, Executive Officer
Location	992-1 Aza-Nishioki, Okinohama, Aboshi-ku, Himeji, Hyogo
Number of employees	1,235 (including research center)
Products	Acrylic acid, acrylates, maleic anhydride, superabsorbent polymers, resin modifiers, electronic information materials, De-NOx catalysts, dioxins decomposition catalysts, and other products
Contact	TEL+81-79-273-1131 FAX+81-79-274-3723

FY2022 Results of RC Activities

Occupational safety and health	Zero injuries with loss of workdays, four injuries without loss of workdays (including contractors)
Process safety and disaster prevention	Zero Class A and Class B process safety accidents
Environmental protection	Implemented measures for energy conservation amounting to about 4,800 kL/year (crude oil equivalent)

FY2022 marked the 10th anniversary of the explosion and fire at the acrylic acid production facilities. We held a lecture meeting on safety with Dr. Masayoshi Nakamura, an accident investigation committee member, as the lecturer. This lecture meeting provided employees with an opportunity to think anew about what we should do to pass on the lessons of the accident to future generations and prevent such an accident from recurring. As for occupational safety and health, the Himeji Plant has continued to strive to thoroughly implement the practice of basic safety behavior (think before you act, pointing and calling, and hold the handrail when stepping stairs). As a result, the number of industrial injuries decreased by half from eight in the previous year to four, and there were zero injuries with loss of workdays. Regarding environmental protection, we provide education to employees from various angles to strengthen our activities to achieve carbon neutrality. As part of such efforts, a lecture was given by a researcher of JAXA (the Japan Aerospace Exploration Agency) with the theme “Earth Seen from Space.” In addition, in an effort to promote smart safety, we are working to advance the use of new inspection technology for facilities. For example, a drone is used to check facilities and equipment, producing results. The Himeji Plant will continue to strive to provide maximum value for customers by enhancing the resilience of each member of the plant.



Tokihiro Yokoi, Plant Manager

Hands-on learning using VR safety experience equipment

In FY2022, the Himeji Plant provided hands-on safety education using VR (virtual reality). This education program, which is designed to enhance employees' awareness of safety through firsthand experience, has recently been introduced as a new safety education method by many companies in the manufacturing industry.

This time, we introduced VR contents for one month through a subscription system to enable employees to have virtual-reality experiences with various types of injuries and accidents using a three-axis VR simulator, such as falling from a height, being caught in machinery, a fire outbreak, or a dust explosion. In this education program, 320 employees of the plant participated and gave feedback in a questionnaire, saying things like, "I was able to have a unique experience that was beyond my imagination and that cannot be provided by case study-based education," and "This experience made me aware of a sense of danger and fear that I didn't feel before." The participants' feedback shows that the purpose of this education program was achieved. We will consider introducing VR contents that respond to various on-site needs, and expanding VR education to other plants and contractors.



Hands-on learning using VR safety experience equipment

Material recycling of waste plastics

The enactment of the Plastic Resource Circulation Act has accelerated the move toward transition to a circular economy. At the Himeji Plant, plastic containers for raw materials had been incinerated as industrial waste. We have decided to recycle some waste plastics and offer them as raw materials of plastic products. We will continue to contribute to reducing waste, promoting the effective use of resources, and decreasing CO₂ emissions by increasing the number of recyclables.

Polyethylene containers, etc.



Crushing



Product



Underground pipes
(cover, etc.)

Topics

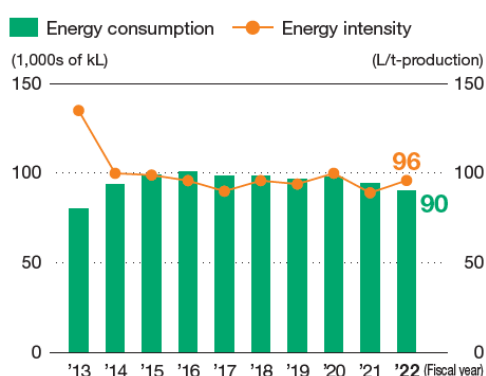
Participation in “Demand Response” Contributes to Stabilizing the Balance between Supply and Demand of Electricity

“Demand Response (DR)” has been attracting attention as a method of adjusting the supply-demand balance of electric power as the introduction of renewable energy sources, which are unstable in terms of power generation, expands. As one of its social contribution activities, Himeji Plant has concluded a contract with a DR aggregator* and has been participating in DR on an ongoing basis since FY2021. When the supply-demand balance of electric power becomes tight due to extreme heat, severe winter, or bad weather, the plant will contribute to stabilizing the supply-demand balance of electric power by reducing the amount of power received from the power grid based on requests from the DR aggregator, utilizing excess power generation capacity.

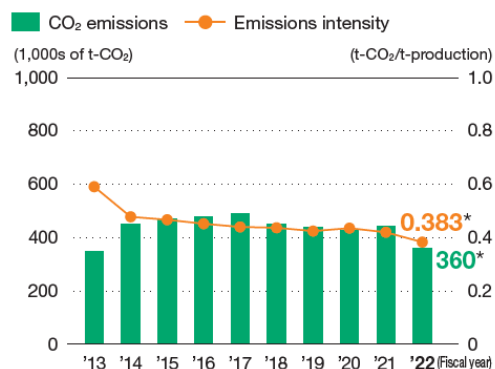
*DR aggregator: A business operator that aggregates multiple consumers and adjusts supply and demand

Plant Data

Trends in Energy Consumption and Intensity

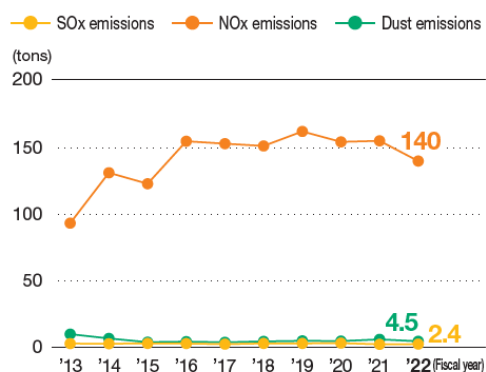


Trends in CO₂ Emissions and Intensity

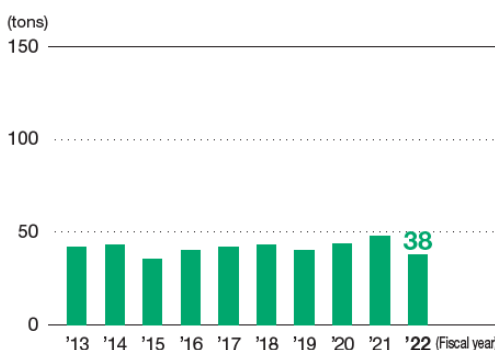


* Including emissions offset by buying carbon-neutral city gas

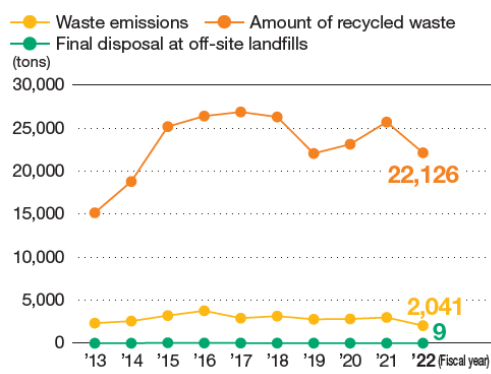
Trends in Emissions of SO_x, NO_x, and Dust



Trend in COD of Wastewater

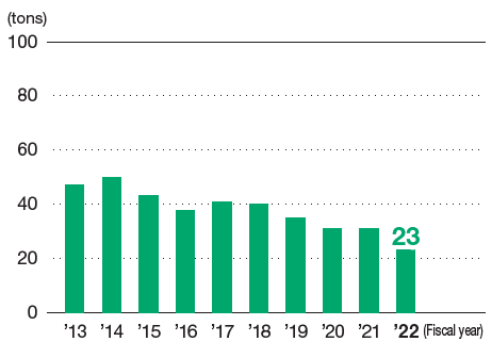


Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



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Trends in Emissions of Substances Subject to the PRTR Law



Kawasaki Plant

Plant Manager	Yoshihisa Oka, Executive Officer
Location	Chidori Plant 14-1 Chidori-cho, Kawasaki-ku, Kawasaki, Kanagawa Ukishima Plant 10-12 Ukishima-cho, Kawasaki-ku, Kawasaki, Kanagawa
Number of employees	370
Products	Ethylene oxide, ethylene glycol, ethanalamine, secondary alcohol ethoxylates, polymers for concrete admixture, acrylic acid special ester, and other products
Contact	TEL+81-44-288-7366 FAX+81-44-288-8492

FY2022 Results of RC Activities

Occupational safety and health	Two injuries with loss of workdays, one injury without loss of workdays (including contractors)
Process safety and disaster prevention	Zero Class A and Class B process safety accidents
Environmental protection	Implemented measures for energy conservation amounting to about 3,400 kL/year (crude oil equivalent)

Regarding occupational safety and health, the Kawasaki Plant had two injuries with loss of workdays (backache and a fall) and one injury without loss of workdays (chemical burns). To thoroughly prevent similar issues, we provided re-education in work procedures and strengthened scaffoldings.

For process safety and disaster prevention, we ensured safety management. As a result, we achieved zero Class A and Class B process safety accidents. In addition, we underwent a third-party evaluation by the Japan Industrial Safety Competency Center, through which we were able to confirm that our safety foundation and culture had been maintained, and identified the issues to be tackled to further strengthen them. For environmental protection, we took energy conservation measures, including heat recovery through modification of equipment. Regarding substances subject to the PRTR Law, we continued to work for the recovery of boron and conducted comprehensive inspections centering on the substances added to the list of those subject to the law due to its amendment. The inspections ensured that we grasp our emission amount without omission. We will continue to promote RC activities to ensure safety and even higher reliability.



Yoshihisa Oka, Plant Manager

Experience-based education for employees in administrative areas

Recently there have been fewer opportunities for employees to learn firsthand about “fears” in a chemical plant. We provide hands-on education to employees to enhance their awareness of danger. At the Kawasaki Plant, we provide experience-based education for not only young operators but also those working in administrative areas, including the technical department and the engineering department, who often make on-site visits.

In an experiment on chemical burns, chicken meat and a piece of the material used for protective equipment are dipped in chemical solutions handled at the plant, such as acids and alkalis, to see how they change in color and shape. In addition, participants learn the importance of washing at the time of exposure to a chemical solution through a demonstration that shows how difficult it is to restore the chicken meat exposed to the chemical solution to a neutral pH by washing it with water. In an experiment on burning, various hazardous materials are burned in a laboratory to see how the color and shape of the flame change. Considering the effectiveness of education for those working in plants, we will strive to enhance their safety awareness.



Experiment on chemical burns



Experiment on burning

Reinforcement of young employees' on-site capabilities

As part of education and training activities conducted under the RC Promotion Plan, the Kawasaki Plant places emphasis on the enrichment and effective use of documents necessary to pass on skills. In an effort to pass on the tacit knowledge that experienced employees have acquired to younger employees, the production division continues to provide education to enhance employees' inspection skills.

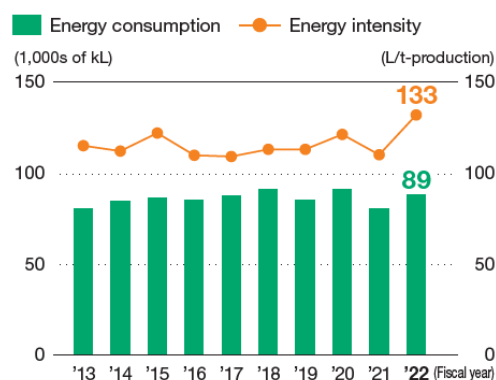
In this education program, persons who stay at the company under its post-retirement re-employment system serve as instructors, taking advantage of the deep production knowledge they have acquired through many years of experience in operation management and equipment modification. Those re-employed workers join young employees in their on-site inspection and give guidance on inspection points. They also provide explanations about equipment that is not subject to inspection, including the background to modification, configuration, and operating conditions. This education program helps young employees add new perspectives to their inspection activities and improve their ability to perceive changes occurring on-site and respond to them promptly.



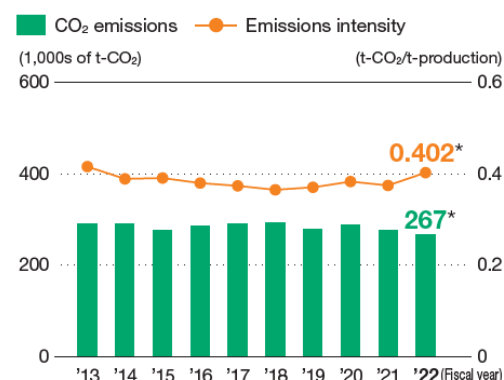
On-site training to enhance inspection capabilities

Plant Data

Trends in Energy Consumption and Intensity

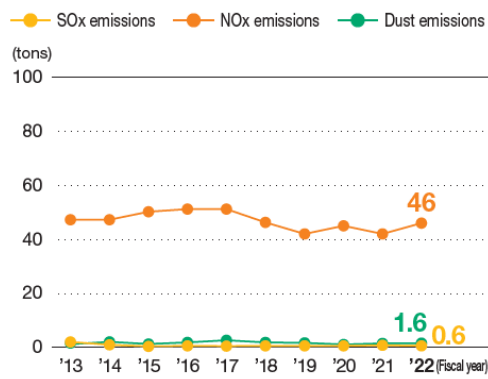


Trends in CO₂ Emissions and Intensity

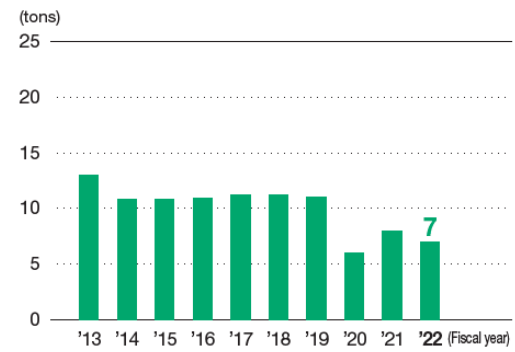


* Including emissions offset by buying carbon-neutral city gas

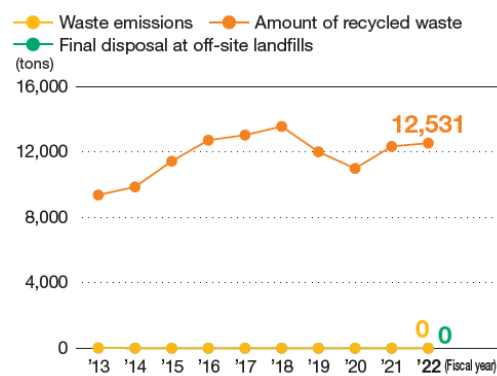
Trends in Emissions of SOx, NOx, and Dust



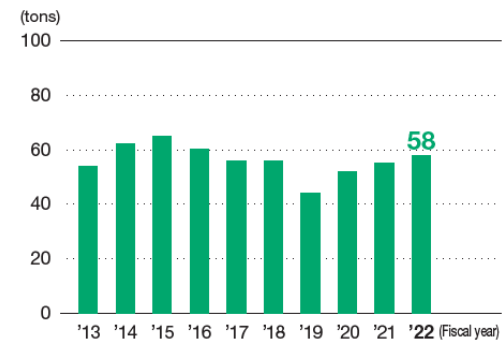
Trend in COD of Wastewater



Trends in Amount of Waste, Recycled Waste, and Waste for Final Off-site Landfill Disposal



Trend in Emissions of Substances Subject to the PRTR Law



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Suita Research Center

Representative	Yasutaka Sumida, Member of the Board, Managing Executive Officer
Location	5-8 Nishi Otabi-cho, Suita, Osaka
Number of employees	421
R&D organizations	Corporate Research Division, GX Research & Development Division, Industrial & Household Chemicals Research Department, Battery Materials Research Department, Electronics & Imaging Materials Research Department, Process Technology Center, Health & Medical Business Division, Cosmetics Materials Research Group, IONEL Project Technology Department, Water & Environment Solutions Business Department, R&D Management Department, General Affairs Research Department, Responsible Care Research Department
Contact	TEL+81-6-6317-2202 FAX+81-6-6317-1578

FY2022 Results of RC Activities

Occupational safety and health	Zero injuries with loss of workdays, zero injuries without loss of workdays ^{*1}
Process safety and disaster prevention	Zero Class A and Class B process safety accidents
Environmental protection	Recycling 100% of waste

^{*1} Total number for Suita Research Center and Himeji Research Center

Regarding occupational safety and health, we had zero injuries with loss of workdays and zero injuries without loss of workdays. We believe that these results are attributable to our constant efforts focused on risk reduction and risk prediction. We will remain vigilant in pursuing safety activities.

For process safety and disaster prevention, training in risk management to prevent the occurrence of accidents was given by an external organization, and lecture meetings on disaster management were held with internal personnel as lecturers. To increase our disaster prevention capabilities, various emergency drills were also conducted, including those for initial response to fire, and for disaster prevention organizations for self-protection. With regard to environmental protection, we attained the targets set for FY2022 by continuing to achieve 100% recycling of waste and enhancing energy conservation through efficient operation of air conditioning equipment and the updating of power machinery.

Aiming at ensuring sustainable and safe research activities, we will continue to promote RC activities.



Yasutaka Sumida, Member of the Board, Managing Executive Officer

Commitment to education

To enhance our ability to respond to earthquake disasters, we held a lecture meeting as part of employee education, with a former firefighter as the guest speaker. Participants learned about preparedness for disaster and preparatory measures from a real experience-based discourse given by the speaker who, as a firefighter, immediately went to affected areas and engaged in rescue operation and fire extinguishment at the time of the Great Hanshin-Awaji Earthquake.

He talked about many unanticipated events that happened in the wake of the disaster, including delay in response due to confusion in the chain of command, delayed arrival of fire engines due to heavily damaged roads and many abandoned vehicles, manual operation to rescue persons buried under the wreckage of collapsed houses in some areas that heavy machinery could not access, and failure to stop fires effectively due to lack of fire-fighting water resulting from damage to water supply systems. Through this lecture meeting, we recognized afresh that it would be necessary to provide training designed for disaster management teams to enhance their ability to respond to emergency situations, on the assumption that emergency materials and equipment would suffer damage.



Lecture meeting

Enhancement of chemical substance management

In FY2022, Suita Research Center adopted a “reagent management system,” which enables the use of reagents by each department of the Center to be managed by issuing a bar code for every container and reading the barcode. The introduction of this system, which automatically records the use of chemical substances, significantly reduces the workload conventionally needed for the preparation of documents, and eliminates the step of checking to prevent error in posting. Regarding general-purpose reagents, this system allows employees to check other departments’ holding status of a specific reagent and to share the reagent, eventually leading to reducing the redundancy of reagents.

We have just introduced the system, but we will make improvements as necessary to further increase its convenience.



Reagent management system

GMP^{*2} activities

SGP plant in Suita Research Center started operation as a GMP controlled plant in 2019. In SGP plant, we manufacture active pharmaceutical ingredients (APIs) of middle molecule drugs for commercial and investigational use. Middle molecule drug is a new modality expected to be applicable for various diseases, due to its high specificity to the target molecule. It is considered to have significant potential in various area.

As a manufacturer of API for this promising modality, we pursue reliable high quality of our products as well as operational safety in the manufacturing plant, so that reliable pharmaceuticals can be provided which can be used with peace of mind. We will continuously work for further improvement and stabilization of the quality of our products under compliance of GMP on the basis of our underlying Responsible Care (RC) activities.



GMP controlled facilities (SGP plant)

^{*2} GMP : Good Manufacturing Practice

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Providing Support for Group Companies

In the interests of strengthening group management, we are providing active support for the RC initiatives of our Group companies.

Support for Environment and Safety Activities

RC discussions

The RC Division holds RC discussions to promote and improve RC initiatives for Group companies both inside and outside Japan.

In FY2022, discussions were held in-person with six Group companies inside Japan for the first time in three years, and online with one Group company outside Japan.

In these discussions, the companies in Japan reported on the planning and achievements of their RC initiatives. And the company outside Japan reported on the planning and achievements of its RC initiatives, as well as the status of operation of its management systems. We provided them with advice and support.



RC discussion with Nisshoku Techno Fine Chemical Co., Ltd.



RC discussion with Singapore Acrylic Pte Ltd

Environmental and safety audits

We conduct environmental and safety audits at our Group companies in Japan every year to strengthen our environmental safety management structure and promote continuous system improvements.

In FY2022, the audits were conducted in-person for the first time in three years. We were able to confirm compliance with legal requirements as well as the status of the establishment and operation of necessary standards related to safety and the environment. We also confirmed that their environment and safety management systems are properly implemented.



Environmental and safety audit of Nippoh Chemicals Co., Ltd.



Environmental and safety audit of Tokyo Fine Chemical Co., Ltd.

Environment and safety exchange meeting

Every year, environment and safety personnel of our Group companies inside Japan gather at one of the companies to hold an environment and safety exchange meeting. At the meeting, the participating companies introduce their RC initiatives and share information with each other to improve the level of their initiatives. In FY2022, the meeting was held online to share information and exchange views on the implementation status of task risk assessment and relevant measures as well as safety measures for new employees.

An exchange meeting for Group companies outside Japan is held as appropriate, to allow the participants to share favorable initiatives and implement them in their own companies. In FY2022, the meeting was held online, with the participants sharing good practice and exchanging views.



Environment and safety exchange meeting for Group companies outside Japan

Support for Quality Activities

Support for quality assurance initiatives

For Group companies inside Japan, in FY2022, we continued to provide advice and support on their quality activities and quality issues through quality roundtable meetings.

For SAP manufacturing sites of Group companies outside Japan, to ensure high quality at the same level at our all sites for our core businesses, we have a quality meeting every year with the members in charge of quality of each site.

In FY2022, the meeting was held in person at the Himeji Plant of Nippon Shokubai for the first time in three years, although some sites participated online. As usual, we also held a periodic meeting with each site, including Sino-Japan Chemical Co., Ltd. We continue to provide even closer support to the

Group companies, including the enhancement of the quality-related database for work sites outside Japan.

Quality audits

Quality audits for the Group companies inside Japan for FY2022 were conducted focusing on products that had caused issues in the past. Through a Lot traceability exercise, the auditors checked whether day-to-day operations had been conducted in accordance with established procedures, and whether countermeasures against the recurrence of the issues had been taken on an ongoing basis. The audit findings were shared within the Group companies to raise the level of their initiatives.

For Group companies outside Japan, internal audits of SAP manufacturing sites were conducted in-person in FY2022 for the first time in three years, although at some sites, on-site audits were postponed due to the impact of COVID-19. For sites manufacturing products other than SAP and the SAP manufacturing sites for which on-site audits were not performed in FY2022, auditors will visit these sites for auditing in FY2023.

Quality exchange meeting

Every year, quality personnel from us and the Group companies inside Japan hold a quality exchange meeting, taking turns to lead it. In FY2022, the meeting was conducted face to face for the first time in three years. Based on the theme of “delivery specifications,” participants shared their current status and challenges to be tackled, the information thereof having been collected through a prior questionnaire survey. Lately, unavailability of materials and raw materials sometimes forces abrupt changes in schedule. The participants exchanged views and ideas about how their companies coped with the situation.



Quality exchange meeting for Group companies in Japan

Initiatives of Group Companies

Group Companies in Japan



Group Companies outside Japan



Group Companies in Japan

NIPPON NYUKAZAI CO., LTD.

Principal business	Manufacture and sale of surfactant and other chemicals
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In FY2022, we at Nippon Nyukazai promoted RC initiatives regarding occupational safety and health by analyzing all the cases of industrial injuries that had occurred in the past at our company, and identified trends from specific perspectives, including age brackets. In consideration of these trends, we will continue to promote our basic safety initiatives steadily to reduce injury risk.

In terms of quality, we analyzed the quality *hiyari hatto* (near miss) incidents reported in and after FY2019. From among the items describing the conditions of the relevant employees when such incidents occurred, “Did not notice at all” and “When performing familiar routine tasks” ranked high. Considering that there may be some risk factors hidden behind familiar routine work, we will utilize what we have learned from past near miss incidents to prevent the occurrence of similar near miss incidents.

For environmental protection, we implemented measures to reduce atmospheric emissions of substances subject to the PRTR Law. Regarding the issues that we are currently considering for improvement, we will proceed with our investigation to further promote the reduction of emissions.

Regarding communication with society, a clean-up activity was carried out by the Kashima Plant for the first time in three years, in which 29 people (including 12 families of our employees) cleaned Nikkawahama Beach.

We will continue to further promote our RC initiatives while pursuing safe operation.



Kashima Plant: Cleanup activity on Nikkawahama Beach

Interview

Replacement of UPS (uninterruptible power-supply system) under equipment replacement plan

The Kashima Plant of Nippon Nyukazai Co., Ltd. is working on the replacement of various types of equipment under its equipment replacement plan. The UPS of the plant was working stably thanks to regular maintenance. Considering it plays an important role in the case of power failure, the UPS was replaced in FY2022 as planned.

In October 2022, after the replacement of the UPS, the plant and the surrounding area suffered a power outage due to damage to power transmission lines caused by a rainstorm. Until the plant's emergency power-generating facilities were activated, the UPS



supplied power in a stable manner, enabling the plant to be controlled safely without interruption of the DCS (distributed control system).
We will continue to make efforts to ensure the stable operation of the plant by promoting the replacement of equipment in a planned manner.

Satoshi Konno
Chief, Kashima Machinery &
Equipment Maintenance
Sect.,
Engineering Dept.
Nippon Nyukazai Co., Ltd.

NISSHOKU TECHNO FINE CHEMICAL CO., LTD.

Principal business	Manufacture and sale of (meth)acrylic acid derivatives and photo/electro chemicals
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In FY2022, Nisshoku Techno Fine Chemical had one injury without loss of workdays involving a young employee, and it immediately took countermeasures against the recurrence of such an injury, including re-education on the handling of equipment. To prevent industrial injuries, we are continuously carrying out KY risk prediction and *hiyari hatto* (near miss) campaigns, and reviewing the risk assessment of the tasks to which any change was made. In addition, we are conducting various events to promote safety activities, including a safety convention in July and a health convention in October.

In an effort to promote environmental protection, we are striving for even more efficient operation of production facilities by setting the target of reducing waste intensity, the emissions intensity of substances subject to the PRTR Law, and the energy use intensity to below the FY2021 levels. Under the medium-term plan, we are also working to reduce environmental impact by converting fuel in steam boilers from heavy oil to city gas to reduce CO₂ emissions.

For process safety and disaster prevention, we carried out a disciplinary drill under the guidance of the Ichikawa Collaborative Disaster Control Center, partly due to a recent increase in the number of young employees. In addition, a comprehensive emergency drill was held, including an evacuation drill on the assumption of a tsunami caused by an earthquake and a disaster response drill.

In FY2023, we will continue to conduct safety and disaster control activities while taking measures against COVID-19.



Disciplinary drill under the guidance of the Ichikawa Collaborative Disaster Control Center



Comprehensive emergency drill

NIPPON POLYMER INDUSTRIES CO., LTD.

Principal business	Manufacture and sale of acrylic resins
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Regrettably in FY2022, Nippon Polymer Industries had one injury with loss of workdays and four injuries without loss of workdays (one of which occurred in a contractor). We take seriously the fact that there was an increase in cases involving new employees and less experienced workers. As part of efforts to prevent such occupational injuries, we are working on the revitalization of *hiyari hatto* (near miss) campaigns, including drastically improving the near miss report format and its submission system. We are also reviewing on-site warning signs (consideration of adoption of universal design) and education curriculums. For process safety and disaster prevention, we held a joint emergency drill with the fire department in a way similar to a “blind” method, in which the fire department controls the timing of event occurrence to make the drill more practical, rather than a drill based on conventional scenarios. As a result, we were able to identify many challenges to be resolved and learned a lot.

We will continue to work on RC initiatives with full participation whenever possible, aiming for zero accidents and zero injuries.



Joint emergency drill

NIPPOH CHEMICALS CO., LTD.

Principal business	Manufacture and sale of iodine, iodine compounds, raw materials for pharmaceuticals and pesticides, and natural gas
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In FY2022, Nippon Chemicals formulated a three-year medium-term RC plan, and has since been promoting RC initiatives.

For occupational safety and health, regrettably, we had four injuries without loss of workdays. By type of injury, one case fell in the category of “cuts,” and the other three in “exposure to harmful substances,” all of which were caused by unsafe behaviors resulting from familiarity with tasks and carelessness. We will strive to prevent the occurrence of such industrial injuries by ensuring basic safety behavior and enhance the safety awareness of employees. In FY2022, moreover, we created a poster titled “safety declaration at the workplace” by involving Group company employees working in the same workplace to enhance a spirit of teamwork and promote mutual awareness raising. We launched an environmental protection sub-committee to implement initiatives toward carbon neutrality. To achieve the GHG emissions reduction goal, we determined how much gases were being emitted, identified self-flowing methane from a well for extracting groundwater (brine water) that contains iodide ion and natural gas as another source of GHG, and calculated its emissions. We will further promote RC initiatives with full participation.



Poster: "Safety declaration at the workplace"



Well for extracting brine water and natural gas

TOKYO FINE CHEMICAL CO., LTD.

Principal business	Manufacture and sale of antiseptics, antifungal agents, disinfectants, brine, stabilizers of vinyl chloride resins, etc.
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In FY2022, the first year of the 8th RC Promotion Plan, we at Tokyo Fine Chemical engaged in RC initiatives under Nippon Shokubai's safety philosophy "Safety takes priority over production," as in the previous fiscal year. Regrettably, however, we had two industrial injuries, both of which involved young employees. We, together with young employees with less experience, are currently reviewing the task risk assessment made in the past. We will promote our initiatives toward zero industrial injuries.

For environmental protection, we continuously worked on waste reduction and sorting, resulting in a significant enhancement of the recycling rate of waste plastics.

In February 2023, our Yokosuka Plant was commended by Yokosuka City for being an excellent plant. Mayor Katsuaki Kamiji visited the plant, where an awarding ceremony was held.

We will continue to make company-wide efforts in further promoting and reinforcing RC initiatives.



Excellent plant award ceremony

CHUGOKU KAKO CO., LTD.

Principal business	Manufacture and sale of adhesive-processed products and fine sphere particles
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In FY2022, for occupational safety, Chugoku Kako had zero injuries with or without loss of workdays for the first time since 2016, achieving the target of improving its record to 1,800 days. As a specific effort, we provided employees with re-education on *hiyari hatto* (near miss), task risk assessment, and past cases of industrial injuries. In light of the fact that many industrial injuries involving new employees have occurred at Group companies, we are planning to provide safety education to young employees in FY2023.

Regarding environmental protection, we are making steady progress toward the FY2030 goal of reducing GHG emissions by 30% from the FY2014 levels by the replacement of boilers (to change the fuel to city gas) in 2021.

In our improvement and proposal activity “Chugoku Kako Improvement ACTION,” launched in 2020, a total of 284 proposals were made over two years, bringing about tangible results in a reduction in workload, information sharing, and safety and quality improvement.

We will continue to promote RC initiatives with an eye to continuously achieving zero injuries and reducing environmental impact.



A continuous record of zero injuries with loss of workdays



“Chugoku Kako Improvement ACTION” posted on a bulletin board

Nisshoku Butsuryu Co., Ltd.

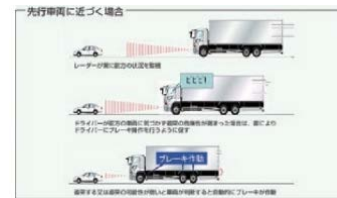
Principal business	Logistics of chemicals
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The Nisshoku Butsuryu Group positions “providing environment-friendly, safe, and high-quality logistics services for chemicals and contributing to society through its RC initiatives” as its key management policy. Under this policy, we have been working on the reduction of GHG emissions as an initiative to reduce environmental impacts and promoting risk prediction as an initiative to achieve zero accidents and injuries. We also promote proper operation of advanced operation information systems and the introduction of vehicles equipped with Advanced Emergency Braking System as priority tasks.

We also worked on the following priority issues: prevention of environmental disasters and accidents, promotion of energy consumption reduction and resource conservation, prevention of accidents with vehicle equipment, prevention of chemical transportation/handling issues, and promotion of white logistics.



“Mimamori-kun” advanced operation information system



Advanced Emergency Braking System

Initiatives of Group Companies TOP →

Group Companies outside Japan

SINO-JAPAN CHEMICAL CO., LTD. (Taiwan)

Principal business

Manufacture and sale of surfactant and other chemicals

A Pre-Start-up Safety Review (PSSR) is recommended by U.S. OSHA rules, the American Institute of Chemical Engineers / Center for Chemical Process Safety (AIChE/CCPS), and the American Petroleum Institute (API). Sino-Japan Chemical has adopted and implemented PSSR as a control method to enhance process safety and facility reliability. In the chemical industry, serious accidents often occur at the time of introducing new equipment, launching new products, changing processes, or changing raw materials. In our plant, we consider PSSR to be important and have established review processes for new equipment, new processes, new materials, and new products. To further enhance the safety of equipment, our safety review team checks engineering measures and management measures prior to start-up, in addition to PSSR.



Pre-start-up safety review

Interview

Risk assessment of production processes

At the Linyuan Plant, we mainly use HAZOP (Hazard and Operability Analysis) to perform risk management of production processes. With a method taken by a major manufacturer in Taiwan as a guide, we had identified risks, but the method was not suitable for our plant.

Since production processes at our plant differ depending on the step of input of raw materials, replacement, synthesis, etc., we prepared a facility map and an operating procedure manual for each step, carried out HAZOP, and identified potential risks that had been overlooked. Since the fourth quarter of 2022, we have used the above method to carry out a re-assessment of important facilities.

We will continue to pursue safety initiatives based on the philosophy: “Safety takes priority over production.”



Ho Cheng-Kuan
Senior Specialist and
HAZOP Team Leader
Engineering Affairs Section,
Manufacturing Department
Sino-Japan Chemical Co.,
Ltd. (Taiwan)

NIPPON SHOKUBAI EUROPE N.V. (Belgium)

Principal business

Manufacture and sale of acrylic acid and superabsorbent polymers

In 2022, as in the previous year, Nippon Shokubai Europe organized its second “safety week” during the periodic shut down maintenance in September to remind employees of the importance of ensuring their safety at work.

During this safety week, employees participated in a fire evacuation drill and a confined space rescue drill. For experiential safety education, a presentation about explosions was given by an outside expert. Within well controlled parameters, employees witnessed and experienced several vapor and dust explosions after a thorough explanation about how explosions occur and how to prevent explosions. The participants witnessed how small quantities of chemicals could generate a heat radiation and pressure wave. This event provided employees with a significant learning experience. In addition, initiatives related to the prevention of contamination and quality issues were also carried out.



Experiential safety education

Nippon Shokubai America Industries, Inc.

Principal business	Manufacture and sale of superabsorbent polymers, polymers for concrete admixture, water soluble polymers, and acrylic emulsions
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In 2022, both the Houston and Chattanooga facilities of Nippon Shokubai America Industries (NAII) achieved their goals of zero injuries with loss of workdays and zero environmental violations. At the Houston facility, the slogan that won the top prize in the annual safety slogan contest was used on hardhat stickers and on a large banner to remind all employees and contractors of the importance of ensuring their safety at work.

At the Chattanooga facility, employees are working on several large-scale projects. The projects at the Chattanooga site and the large-scale periodic maintenance at the Houston site require the cooperation of several contractors in overhauling process equipment, building necessary infrastructure, and resuming production in a timely manner. In 2022, both facilities had no contractor injuries, thus meeting their objectives. Contractor safety will remain a top priority at both NAII locations.

Additionally, as part of its CO₂ reduction initiative, NAII switched to green electricity by wind power at the Houston facility through our joint venture American Acryl L.P. from November 2022.



Top prize-winning slogan for 2022

SINGAPORE ACRYLIC PTE LTD

Principal business	Manufacture and sale of acrylic acid
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Due to the COVID-19 pandemic, Singapore Acrylic did not hold any physical emergency drills in or after FY2020, and instead only conducted tabletop exercises. We conducted our first emergency drill in June 2022 for the first time in three years, since primary COVID-19 measures had been lifted in Singapore from the second quarter of FY2022, in which we conducted hazmat and confined space drills with an external private fire brigade. Also in December 2022, together with the Singapore Civil Defence Force, we conducted a fire simulation around toluene storage tanks and performed a rescue operation of injured personnel.

In FY2022, to meet the National Environment Agency's tightened energy management regulations, we decided to implement an ISO 50001 energy management system to better address our energy management shortcomings and to also improve our overall energy consumption. We received professional guidance from an external consultant regarding the necessary documentation and training. We successfully obtained ISO 50001 certification.



Fire drill



NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. (China)

Principal business	Manufacture and sale of superabsorbent polymers
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Nisshoku Chemical Industry conducted a “Near Miss Kaizen” campaign in 2022, as in the previous year. A total of 181 suggestions (including 33 safety-related ones) were submitted. In the semiannual campaign, the teams that made the most and the second most suggestions per capita are commended.

In September, all employees of the company were given training based on past cases of injuries, and accidents that had occurred at the subsidiary companies of Nippon Shokubai in order to improve their safety awareness.

Twice-a-year emergency drills in collaboration with the local fire department and the emergency response center were conducted in June and December.

First-aid training with an external professional instructor was provided in November.



“Near Miss Kaizen Activity” awarding ceremony



First aid training

PT. NIPPON SHOKUBAI INDONESIA

Principal business	Manufacture and sale of acrylic acid, acrylic esters, and superabsorbent polymers
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In January 2023, PT. Nippon Shokubai Indonesia conducted emergency drills for a major earthquake disaster, consisting of Emergency Phase 1 (Field team by Shift Operation Members) and Emergency Phase 2 (Office team by Daytime Employees).

On the assumption of a major earthquake, all the employees participated in the Shakeout Drill (Drop, Cover, and Hold on!), in which the participants ensured their safety and then confirmed the safety of other employees and production facilities. In addition, based on a scenario where ethanol leakage and fire were found in the unloading area, the NSI Emergency Response Team that consists of the Office Team and the Field Team launched operations as stipulated in the Procedure. The Office Team was led by the Plant Manager, and the Field Team was led by the Shift Operation Supervisor. The purposes of these drills are to train employees on initial response against an emergency situation and to enhance the firefighting skills of the Field Team and the command ability of the Office Team in order to contain the spread of damage and ensure safety and security. After the drills, a debriefing was conducted. We will strive to work on the issues identified through the drills and enhance our crisis-control capabilities.



Training of the Office Team



Training of the Field Team

[Initiatives of Group Companies TOP →](#)

Initiatives for Environment

Nippon Shokubai promotes initiatives to reduce the environmental impact of our business operations, including tackling climate change and reducing waste through our product supply chains.

Environmental Management	Environmental Impact of Business Activities
Tackling Climate Change	Efforts for Eco-Friendly Logistics
Development and expansion of Environmental Contribution Products	Chemical Substance Control
Waste Reduction	Air Pollution Prevention
Water Resource Preservation	Biodiversity Preservation
Environmental Accounting	

Environmental Management

Environmental Protection Policy

We have set out the following Environmental Protection Policy based on the Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.”

- Actively seek to improve energy efficiency, use renewable energy and bio-based raw materials, and engage in other efforts to reduce greenhouse gas emissions.
- Reduce emissions of waste and chemical substances and promote the recycling and the effective use of resources to contribute to the realization of a sound material-cycle society.
- Actively seek to develop and provide products and technologies that help reduce environmental impact.
- Seek to minimize the negative impacts of business activities on ecosystems in an effort to preserve biodiversity.
- Actively disclose and communicate information about environmental conservation to further mutual understanding with stakeholders.

Promotion Organization

- [RC Promotion Organization](#)

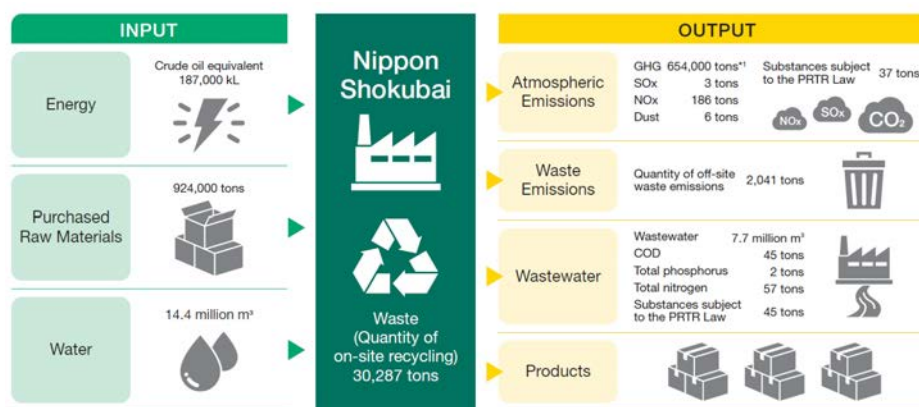
Environmental Impact of Business Activities

In addition to striving to provide better products and services, we engage in various activities to reduce the environmental impact of our business activities, which we extend to include our supply chains.

We recycle the water we use in our production locations to a high degree and thoroughly treat it before releasing it into the natural environment in an effort to effectively use water resources in addition to the obvious benefits of saving energy and combating climate change.

Also, so that people in the vicinity of our production locations can live free of worry, we ask them to monitor the air for foul smells, and conduct odor patrols and measure noise ourselves on a regular basis.

There were no environmental pollution incidents or complaints in FY2022.



Note: This FY2022 data is for only Nippon Shokubai (including our head offices, research centers and other sites).

*1 Including a carbon credit offset of 61,000 tons of CO₂ emissions due to the purchase of carbon-neutral city gas

Tackling Climate Change


[Click here for the TCFD report.](#) 

Promoting Greenhouse Gas (GHG) emissions reduction

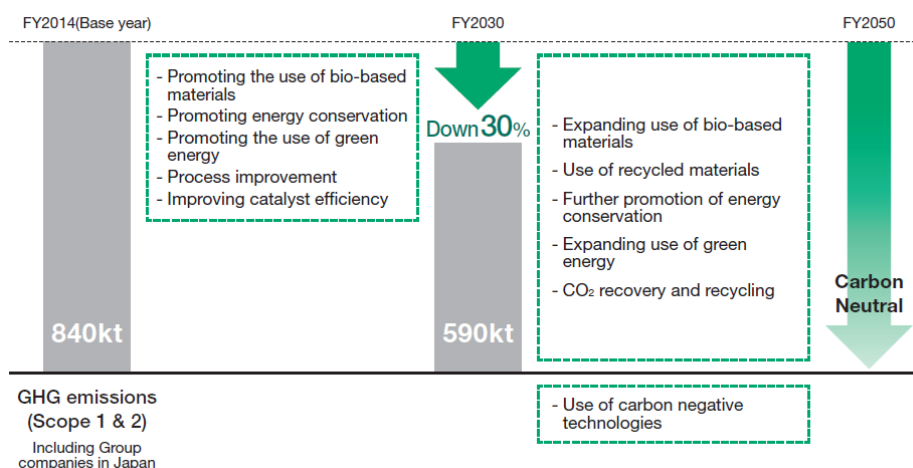
Formulating a roadmap for reducing GHG emissions

Nippon Shokubai formulated a roadmap for reducing GHG emissions by 2050 in terms of the “strategic transformation for environmental initiatives,” one of the “three transformations” set out in “TechnoAmenity for the future,” the Nippon Shokubai Group long-term vision published in April 2021. Regarding our GHG emissions reduction target for FY2030, the final year of our long-term vision, we set a target of reducing our GHG emissions in Japan, which constitute roughly 70% of Group-wide emissions, by at least 30% from FY2014 levels by FY2030.

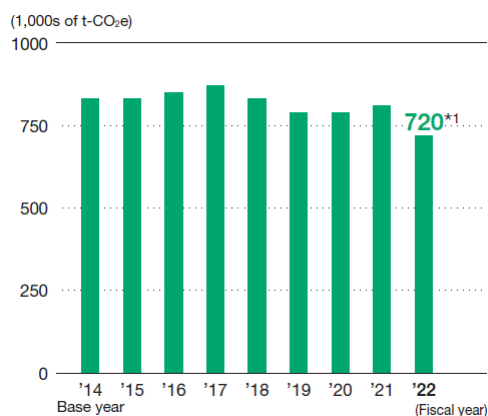
In FY2022, we started to buy carbon-neutral city gas. In FY2022, our GHG emissions in Japan, including those offset by the purchase of carbon-neutral city gas, amounted to 720,000 t-CO₂e,^{*1} a 14%^{*1} reduction from FY2014 levels. We are currently considering setting targets for GHG emission reductions at Group companies outside Japan.

The calculation of GHG emissions and energy consumption has undergone third-party verification (see [Third-party Verification Report on GHG](#) ).

Roadmap for Reducing GHG Emissions by 2050



Trend in GHG Emissions (in Japan)



Note: We partly changed the aggregation method of GHG emissions.

*1 Including a carbon credit offset of 61,000 tons of CO₂ emissions (7.3% reduction from the FY2014 level) due to the purchase of carbon-neutral city gas

Employee's Voice

CO₂ emissions eliminated by reducing the amount of wastewater

Superabsorbent polymers (SAP) are made from polymerized acrylic acid (AA) and other raw materials that are crushed and dried. Since the waste gases emitted during the process of drying contain traces of AA that did not polymerize, AA is removed by contact with recycling water in a waste gas washing tower, and wastewater that has absorbed AA is burned in the disposal facilities of the plant.

In the Himeji Plant, the operation of old-type SAP production facilities with low production efficiency has been terminated one by one to be replaced with facilities with high production efficiency. Although the amount of waste gases can be reduced by stopping the operation of those old-type facilities, the amount of wastewater cannot be reduced simply in proportion to the amount of waste gases.

If the amount of wastewater extracted from the waste gas washing tower is reduced to decrease the amount of wastewater generated by the tower, the wastewater containing AA will increase in concentration and its retention time will be longer, thereby bringing about the generation of gel and making it difficult to treat wastewater in a normal manner.

To address this issue, I collected detailed data on the concentration of AA and its retention time in the waste gas washing tower and considered how the operation of the tower could be optimized. As a result, I was able to establish the operation requirements for reducing the amount of wastewater in the tower, contributing to a reduction of about 120 tons of CO₂ emissions per year.



Makoto Saito
Superabsorbents
Production Department,
Himeji Plant

Reducing energy consumption and CO₂ emissions

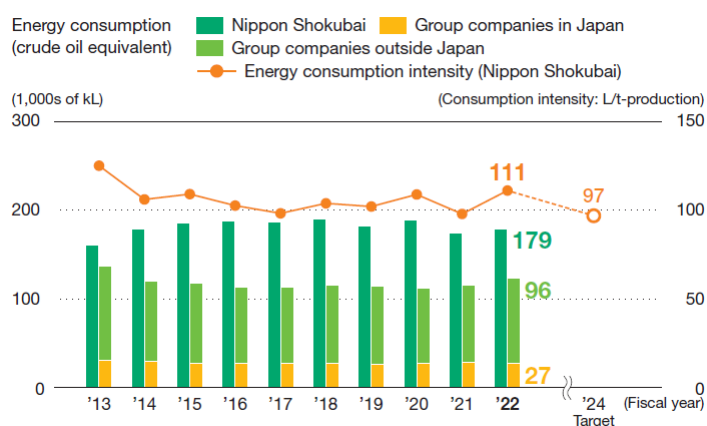
Our RC Promotion Committee, which is chaired by the Company President, formulated a Medium-Term RC Basic Plan based on the targets set out in JCIA's action plan for achieving a low carbon society. On the basis of this plan, each of our plants takes action to mitigate climate change under the

leadership of the committees responsible for promoting energy conservation activities and a reduction in CO₂ emissions.

In FY2022, despite the progress of energy conservation activities, energy consumption intensity changed for the worse due to a decline in the production volume of energy generation products. In addition, a decrease in production volume contributed to the worsening of CO₂ emission intensity, but CO₂ emissions were reduced partly due to the use of carbon-neutral city gas.

In FY2021, we started solar power generation (on-site PPA) at the Himeji Plant. In addition, we promote energy conservation activities through the collection of waste heat and the introduction of a co-generation system. We also collect part of the CO₂ generated in the manufacturing process and sell it as liquefied carbon dioxide to reduce CO₂ emissions.

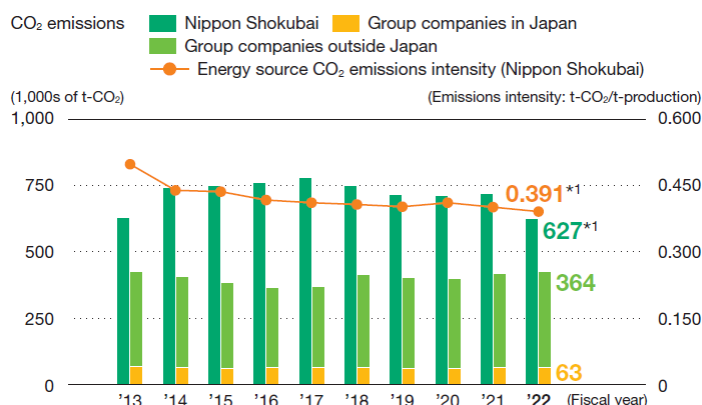
Trends in Energy Consumption and Energy Consumption Intensity



Note: Figures for neither energy consumption nor CO₂ emissions include those from the Head Offices, Research Centers, plant management buildings, or welfare facilities.

Note: In FY2022, energy consumption and CO₂ emissions for the Nippon Shokubai Head Offices, Research Centers, plant management buildings, and welfare facilities were 8,000 kL and 11,000 tons (including the emissions offset by buying carbon-neutral city gas), respectively.

Trends in CO₂ Emissions and Intensity



Note: Figures for CO₂ emissions are totals of energy-derived and non-energy-derived CO₂ emissions.

Note: We have changed the aggregation method.

*1 Including the emissions offset by buying carbon-neutral city gas

Employee's Voice

Realizing heat recovery in various operation conditions

The Kawasaki Plant has introduced a co-generation system, which effectively uses the heat generated at the plant to heat the steam generated at the ethylene oxide (EO) plant, thereby enabling highly efficient use of energy from the entire plant. Depending upon the operation conditions of the plant, however, it was difficult to use the generated heat.

In response, I proposed remodeling plant facilities so that the generated heat can be used effectively under a wide range of operation conditions. This idea of remodeling, which affects the basis of the EO plant, was considered from various angles, including risk management, with the cooperation of the technical department and the engineering department. Under circumstances where any mistakes or trial and error would be unacceptable, we were able to remodel the facilities, although we had difficulties stabilizing the steam temperature and reducing remodeling costs. Thanks to this effort, we were able to conserve about 3,000 kL of energy (crude oil equivalent) in FY2022.

We will continue to promote energy conservation activities by taking advantage of DX, while pursuing safe and stable production activities.



Kodai Naruse
Production No. 1 Section,
Kawasaki Plant

Fluorocarbon emission control

The Act on Rational Use and Proper Management of Fluorocarbons, which covers the entire lifecycle of fluorocarbons from production to disposal, went into effect in April 2015, and regulations for disposing of certain equipment were further tightened in April 2020.

As a manager of Class I specified products, the Company conducts the legally mandated simple inspections and routine inspections according to plans. Additionally, our calculations of leaked fluorocarbons in FY2022 revealed leakage of 112 t-CO₂e from the Himeji Plant, 5,135 t-CO₂e from the Kawasaki Plant, and 5,255 t-CO₂e Company-wide. We intend to make efforts to reduce leaked fluorocarbons—an activity that facilitates climate change mitigation—by intensifying inspections and maintenance, upgrading to equipment that uses coolants with low global warming and ozone depletion potential, and properly disposing of equipment.

Calculations of Leaked Fluorocarbons in FY2022

(t-CO₂e)

Himeji Plant	Kawasaki Plant	Others	Entire company
112	5,135	8	5,255

Promoting for the reduction of the CO₂ emissions resulting from our entire supply chain

Calculating Scope 3 emissions

The GHG Protocol classifies GHG emissions into three classes: Scope 1, Scope 2, and Scope 3, which are the total GHG emissions attributable to business activities throughout supply chains for all categories.

Scope 1

Direct GHG emissions by the reporting company itself (eg. fuel combustion, industrial process)

Scope 2

Indirect emissions from the use of electricity, heat, or steam supplied by others

Scope 3

Indirect emissions other than Scope 1 and Scope 2 (emissions by others related to the company's activities)

Nippon Shokubai will continue to calculate Scope 3 emissions and explore the possibility of reducing CO₂ emissions resulting from all corporate activities.

Trend in Scope 3 Emissions (Data for Nippon Shokubai alone)

(1,000 t-CO₂e)

No.	Category	Emissions		
		FY2020	FY2021	FY2022
1	Purchased goods and services	1,445	1,522	1,370
2	Capital goods	55	44	43
3	Fuel- and energy-related activities not included in Scope 1 or Scope 2	85	83	89
4	Upstream transportation and distribution	14	15	13
5	Waste generated in operations	7	8	5
6	Business travel	0.3	0.3	0.3
7	Employee commuting	0.9	0.9	0.9
12	End-of-life treatment of sold products	1,961	2,111	1,884
Total		3,567	3,783	3,405

Note: We partly changed the extent of calculation.

Initiatives for the reduction of Scope 3 emissions

In order to contribute to the reduction of Scope 3 emissions, the following items will also be strongly promoted.

- Development and expansion of Environmental Contribution Products (products that contribute to the reduction of CO₂ emissions when used, etc.)

- Development and dissemination of CO₂ recovery and recycling technology (carbon recycling technology)
- Development and social implementation of material recycling and chemical recycling

Internal Carbon Pricing (ICP)

We have implemented internal carbon pricing (ICP) to promote low carbonization / decarbonization in corporate management on February 1, 2023.

In utilizing the ICP, we will raise awareness of Group's commitment to decarbonization, promoting energy saving, and activate discussion about opportunities/risks concerning to CO₂ emission reductions.

This system is accelerating “Strategic Transformation for Environmental Initiatives” of our “three transformations” set forth in our long-term vision.

Outline of ICP

ICP	¥ 10,000 / t-CO ₂ Shadow price set with reference to domestic and international carbon prices.
Method of application	The costs will be calculated using ICP based on a change of CO ₂ emissions and used as a criterion for investment decision.
Range of application	Nippon Shokubai Group
GHG Scope	Scope 1 & 2

Efforts for Eco-Friendly Logistics

Promoting White Logistics to reduce environmental impact

To tackle climate change and prevent air pollution in logistics, we are making efforts to reduce fuel consumption intensity and CO₂ emission intensity and undertaking emissions countermeasures.

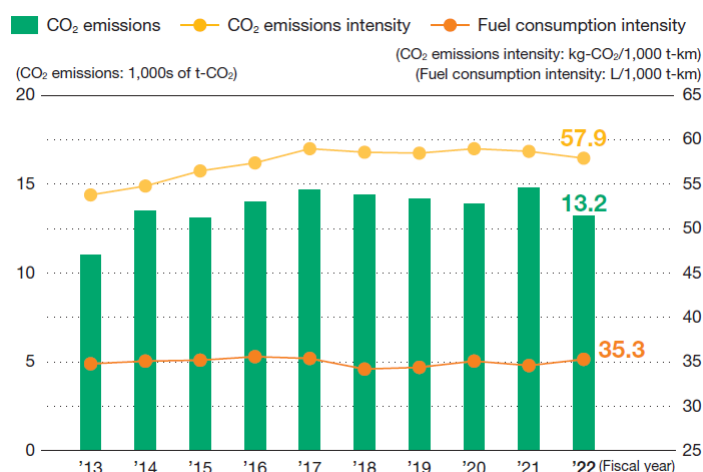
Although changes in traffic volume and the means of transportation resulting from economic conditions impact fuel consumption intensity and CO₂ emission intensity, we are deploying four measures to reduce CO₂ emission intensity: promoting modal shifts, improving transport efficiency, using digital tachographs linked to vehicle GPS and dashboard cameras, and saving energy in operations through efforts such as fitting vehicles with eco tires and switching engines off when vehicles are not in use.

As part of efforts to prevent air pollution, we are implementing three measures: eco-driving and displays indicating our commitment to eco-driving (eco-driving decals), avoiding the use of vehicles that do not satisfy the requirements of the Automotive NOx and PM Act, and proactively using low-pollution, fuel-efficient vehicles.

Also, given the increasing severity of the truck driver shortage in the logistics industry, we embrace and are working to promote the White Logistics movement that aims to realize more sustainable logistics. We are working to improve loading and unloading, streamline transport—for example shifting from long-distance trucking to roll-on/roll-off ship and railway transport and joint transport with competitors—and promote other efforts to improve productivity and create better working environments for women and older truck drivers.

Furthermore, we believe this movement concurrently helps reduce environmental impact.

Trends in Fuel Consumption Intensity and CO₂ Emissions/CO₂ Emission Intensity in Domestic Logistics





Example of a modal shift: Railway tank containers and loading and refilling facilities

Key Terminology

Modal shift

Changing the mode of transport to mass transport modes such as railways or ships in an effort to streamline transport while also saving energy and reducing environmental impact.

Roll-on/roll-off ship

A ship that transports loaded trucks and flatbeds.

Ton-kilometer

In transport, a ton-kilometer (t-km) is a unit of work that expresses the volume of freight transport in which the weight of transported freight in tons is multiplied by the distance the freight is transported in kilometers. As such, it is an accurate measure of transport as an economic activity.

Development and Expansion of Environmental Contribution Products

Environmental Contribution Products

To produce chemical and industrial products, we use natural resources, emit CO₂, and generate waste, all of which impact the environment. However, considering the entire lifecycle of products from raw material extraction to final product disposal, there are cases where the presence of these chemical and industrial products helps reduce the environmental impact.

The Nippon Shokubai Group's products are used throughout supply chains as well as in everyday products, the equipment used to produce those products, infrastructure, and elsewhere. Thus, we evaluate how our products contribute to reducing environmental impact.

Our internal certification committee examines checklists, numerical data, and other information to certify Environmental Contribution Products. In FY2022, we started to conduct a third-party review prior to examination by the internal certification committee, and to reflect the views and advice obtained from the review in examination materials. Five products were newly certified in FY2022.

Applications in parentheses



IONEL™ (Lithium-ion battery materials)



EPOMIN™ (Water treatment agents)



AQUALOC™ (Concrete admixtures)



VEEA™ (UV-curable reactive diluent)



Electrolyte sheets for solid oxide fuel cells



Waste gas treatment catalyst

Environmental Contribution Products

Preventing global warming/conserving energy

Types of contribution	Product life stage	Application	Certified product
Reducing GHG	Manufacturing	Binding agent for fish feed in aquaculture	AQUALIC™ H (for feed)
		Concrete admixtures	AQUALOC™
		Multifunctional hydrophilic treatment agent for synthetic fibers	PET-4G (product using recycled PET) [SINO-JAPAN CHEMICAL CO., LTD.]*
	Use	Material for rechargeable lithium-ion batteries	IONEL™
		Solid-state battery materials	ICPDAP™, ICPSEB™
		CO ₂ absorbent	Aminoalcohol (for absorbent) [NIPPON NYUKAZAI CO., LTD.]*
		FO (forward osmosis) system components for seawater desalination	Draw solute
	Disposal	Paint, adhesive materials, and reactive diluent	Isobornyl acrylate
		Paint and adhesive materials	Ethyl acrylate
Energy conservation	Manufacturing	UV-curable reactive diluents	VEEA™
	Use	Material for solid oxide fuel cells	Electrolyte sheets for solid oxide fuel cells
		Automotive damping materials	ACRYSET™ (for damping materials)
		Optical and electronic materials	ZIRCOSTAR™

*A product of our Group company

Reducing chemical emissions/preserving air quality

Types of contribution	Product life stage	Application	Certified product
Reducing chemical emissions	Use	Water-based paints	UWR™, ACRYSET™ (for water-based paints)
		Emulsifier for emulsion polymerization for water-based paints	NEWCOL™ (for emulsion polymerization) [NIPPON NYUKAZAI CO., LTD.]*
			Reactive surfactant (for emulsion polymerization) [SINO-JAPAN CHEMICAL CO., LTD.]*

		Water-based adhesives	EPOCROS™
		UV-curable paints	AOMA™
Preventing air pollution	Use	Removing hydrocarbons (HC), NOx, dioxins, and other pollutants from exhaust gas	Automotive catalysts
			Waste gas treatment catalysts
			Denitrification catalysts and equipment
			Dioxin decomposition catalysts and equipment

*A product of our Group company

Conserving water resources/water quality/biodiversity

Types of contribution	Product life stage	Application	Certified product
Preventing water pollution	Use	Oxidizing/decomposing hazardous substances in wastewater	Wastewater treatment catalysts for catalytic wet air oxidation
		Water treatment agents	EPOMIN™
		Polymer flocculants	Aminoalcohol (for flocculants) [NIPPON NYUKAZAI CO., LTD.]*
	Disposal	Detergent builders	AQUALIC™ L (for detergent)
Bio-degradability	Disposal	Detergent ingredients	SOFTANOL™
			HIDS™

*A product of our Group company

Reducing resource consumption

Types of contribution	Product life stage	Application	Certified product
Reducing resource consumption	Use	Hollow fiber membranes	Polyvinylpyrrolidone

Reducing waste

Types of contribution	Product life stage	Application	Certified product
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Reducing waste	Disposal	Concrete admixtures	AQUAGUARD™
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Promoting the reduction of CO₂ emissions throughout the entire lifecycle of products

We use the cLCA method to evaluate the best of our Environmental Contribution Products in terms of their contributions to reducing CO₂ emissions.

The cLCA method is an evaluation method for calculating net contributions to CO₂ emissions reduction; specifically, the difference between CO₂ emissions throughout the lifecycle of a chemical product-based finished product and those of the finished product based on comparable products is considered to be the amount of additional emissions of the finished product if the constituent chemical product were not used.

Products expected to contribute to reducing CO₂ emissions

AQUAGUARD™

4.05 million tons^{*1*2}

Calculation of CO₂ emissions avoided in one year when all apartments are built as long-lasting structures

We developed AQUAGUARD™ to limit cracking in concrete. Combining AQUAGUARD™ with high-performance AE water reducer should substantially prolong the useful lives of concrete structures.

^{*1} Assessment prerequisites

Service life: Assumed to be 100 years for long-lasting public housing and 50 years for ordinary public housing.

CO₂ emissions associated with the manufacturing, use, and demolition of public housing evaluated based on the “LCA Guidelines for Buildings” issued by the Architectural Institute of Japan.

^{*2} The prediction value used for this evaluation was recalculated based on conditions in recent years.

ACRYSET™ (for damping materials)

310,000 tons^{*3}

Calculation of CO₂ emissions avoided when an application-type vibration-damping material is installed in all automobiles manufactured in one year

We developed an emulsion for vibration-damping coating to be applied to the lower surface of a vehicle body to suppress vibrations and noise from engines and road surfaces. Using vibration-damping coating should make automobiles lighter and conserve fuel.

^{*3} Assessment prerequisites

Vehicles to be driven 10,000 km per year for 10 years. Compared to vehicles with asphalt sheet as the vibration-damping material.

ZIRCOSTAR™**220,000 tons*⁴**

Calculation of CO₂ emissions avoided when ZIRCOSTAR™ is incorporated in all smartphones manufactured in one year

With its high optical properties, this product can be used as an optical material for plastic lenses, displays, and other components of mobile phones and smartphones, helping conserve the energy consumed by the displays of the devices and lengthen the battery life.

*4 Assessment prerequisites

According to the usage time described in the Carbon Footprint Product Category Rules, the product was evaluated as being in use for two years. A smartphone incorporating ZIRCOSTAR™ in the optical material was evaluated as achieving a 3.6% reduction in power consumption as an energy-efficiency benefit.

VEEA™**330,000 tons*⁵**

Calculation of CO₂ emissions avoided by reduction expected from all the UV curable inks produced in one year

Using VEEA™ as a UV-curing reactive diluent in eco-friendly ink removes the need to use volatile solvents and the equipment associated with them, saving energy and improving productivity.

*5 Assessment prerequisites

3.2 g of ink per m² of full-size A-series paper (880 × 625 mm) on a four-color printer. Commercial offset and commercial UV printing presses were compared for evaluation.

**AQUALIC™ H
(for feed)****80,000 tons*⁶**

Calculation of CO₂ emissions avoided when all aquaculture feed produced in one year is replaced with moist pellets (MP)

With AQUALIC™ H as its binding agent, MP contains less fish meal—an ingredient that requires a lot of energy to source and dry—than dry pellets, helping reduce CO₂ emissions in aquaculture business.

*6 Assessment prerequisites

Fish feed produced in all aquaculture business in Japan in one year. Compared to dry pellets with no binding agents and high fish meal content.

**IONEL™
ICPDAP™
ICPSEB™
Electrolyte
sheets for
solid
oxide fuel cells****Total: 5.96
million tons*⁷**

(1) Calculation of CO₂ emissions avoided when solid batteries are utilized as a regulated power supply for the use of renewable-energy-derived electricity supplied in one year (not including electricity for electric vehicles and the like)
(2) Calculation of CO₂ emissions avoided from the use of fuel cells

IONEL™ and ICPDAP™/ICPSEB™ are used in storage batteries, which are expected to be used as regulating power sources to boost solar and wind power, which are the main sources of renewable energy but are characterized by widely fluctuating output. Additionally, solid oxide fuel cells are highly efficient at supplying power and heating water, contributing to reducing CO₂ emissions.

*7 Assessment prerequisites

The CO₂ reduction from using storage batteries is attributable to its regulation of fluctuations in power output for optimal economic efficiency in balancing supply and demand for electricity.

Due to the inability to forecast the supply of hydrogen, the CO₂ reduction from using fuel cells is based on household fuel cells that generate electricity by modifying municipal gas. Compared to thermal power generation.

**Aminoalcohol
(for
absorbent)
(Nippon
Nyukazai Co.,
Ltd.)*⁸**

**5.5 million
tons*⁹**

Calculation of CO₂ emissions avoided in one year when the CO₂ emitted from thermal power plants is collected and stored using a chemical absorption technique

While renewable energy is increasingly being used, thermal power plants continue to operate to achieve stable power supply. Aminoalcohol contributes to CO₂ emissions reduction because this product is used when these power plants trap CO₂ from waste gas through a chemical absorption technique.

*8 A product of our Group company

*9 Assessment prerequisites

Aminoalcohol was used as an absorbing solution when CO₂ was separated and collected, and the amount of energy required mainly for the separation and collection was evaluated. The comparison target was CO₂ emissions without the separation or collection.

Note: The assumptions above are expected values and do not guarantee actual service lives or performance.

Chemical Substance Control

Reducing chemical substance emissions

Since FY1995, we have participated in the voluntary PRTR investigations conducted by the JCIA in an effort to reduce emissions of chemical substances into the environment.

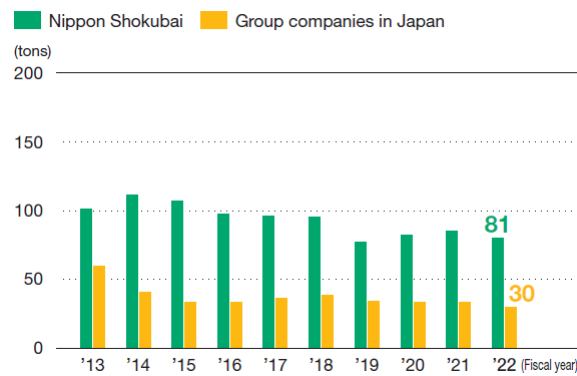
Our emissions of PRTR substances in FY2022 was 81 tons, a 24.6% reduction from the level in FY2015. We will continue to strive to systematically reduce chemical substance emissions toward the FY2024 objective of 25% reduction from the level in FY2015.

FY2022 Emissions of PRTR Substances (Top 10 Substances for Nippon Shokubai alone)

(tons)

Cabinet Order No.	Name of PRTR substance	Air emissions	Discharge into water areas	Total	Movement
405	Boron compounds	0.0	28.9	28.9	0.2
321	Vanadium compounds	0.0	12.7	12.7	0.1
4	Acrylic acid and its water-soluble salts	7.7	0.0	7.7	0.0
56	Ethylene oxide	6.2	0.0	6.2	0.0
12	Acetaldehyde	5.9	0.0	5.9	0.0
80	Xylene	3.7	0.0	3.7	6.4
300	Toluene	2.8	0.0	2.8	393.2
58	Ethylene glycol monomethyl ether	2.2	0.0	2.2	0.0
7	Butyl acrylate	2.0	0.0	2.0	0.0
20	2-Aminoethanol	0.1	1.7	1.8	0.0

Trends in Emissions of PRTR Substances



Key Terminology

Pollutant Release and Transfer Register (PRTR)

A system for registering the discharge and movement of pollutants. Under the system, operators report the release of chemical substances into the air, water, and soil and transfer of waste to government agencies that gather, organize, and publish the data.

Waste Reduction

Reducing the volume of waste sent to off-site landfills for disposal

Promoting waste reduction is vital among efforts to form a sound material-cycle society. Nippon Shokubai sorts, collects, and recycles waste in addition to making other efforts consistent with our goal of achieving and maintaining zero emissions (volume of waste sent to off-site landfills for disposal is 0.1% or less of the total volume of waste).

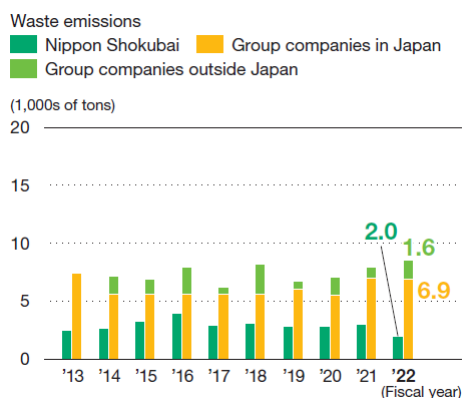
In FY2022, in addition to continuing to rigorously sort and collect and promote recycling, we reduced the volume of waste sent to off-site landfills for disposal and maintained zero emissions by improving processes such that they produce less waste, reusing by-products, and treating product residues on-site.

Diagram of waste treatment

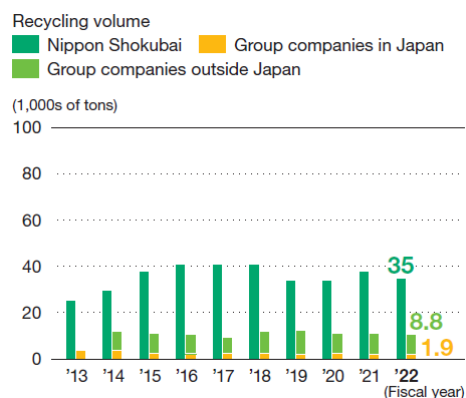


Note: We partly changed the aggregation method in fiscal 2021.

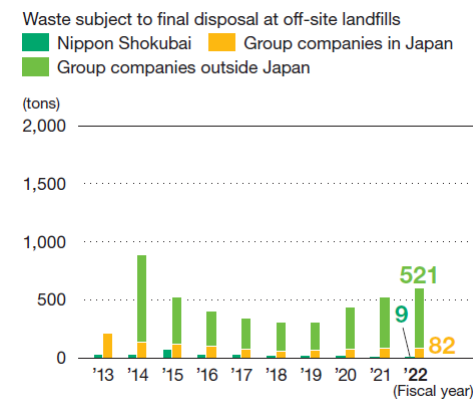
Trends in the Volume of Waste Generated



Trends in the Volume of Recycling



Trends in the Volume of Waste Sent to
Off-site Landfills for Disposal



Air Pollution Prevention

Efforts to Reduce Environmental Impact by Introducing Catalysts for Treating Exhaust Gas

We are making efforts to reduce emissions of SOx, NOx, and dust to prevent air pollution. We ascertained the emissions of the respective substances, and installed proprietary De-NOx equipment and scrubbers to reduce NOx and dust, respectively, and reduced fuel oil consumption and shifted to natural gas to reduce SOx. We also use proprietary catalysts for treating exhaust gas to purify unutilized materials and other emissions from our manufacturing processes.

None of our emissions exceed the values we agreed upon with the municipal and prefectural governments.

Nippon Shokubai

	(tons)					
Fiscal year	2017	2018	2019	2020	2021	2022
SOx emissions	2.8	3.5	3.5	3.7	3.1	3.0
NOx emissions	204	198	203	198	196	186
Dust emissions	6.4	6.3	6.5	5.7	7.4	6.0

Group companies in Japan

	(tons)					
Fiscal year	2017	2018	2019	2020	2021	2022
SOx emissions	1.5	1.6	1.4	1.6	1.4	0.7
NOx emissions	48	45	43	48	72	52
Dust emissions	2.3	2.2	3.3	2.1	2.1	1.9

Water Resource Conservation

The Nippon Shokubai Group manufactures a wide variety of chemical products, and water is indispensable in the manufacturing process. For example, water is used to prepare water solution products, heat or cool materials in the manufacturing process, clean products, and operate detoxifying facilities that remove chemicals generated in the manufacturing process as well as drainage facilities. Consequently, the continuity of our business depends on our ability to ensure the sustainability of water, which we see as our responsibility to society. In an effort to conserve water resources, we are working to use water efficiently and prevent water pollution by introducing a wastewater collection system that enables acrylic acid contained in wastewater to be collected and reused. In addition, we strive to provide solutions to water problems through our products and technology (see [Environmental Contribution Products](#)).

Reducing Water Consumption (Efficient Water Use)

The Group aims to reduce water usage in our plants by using and reusing recycled water and making other efforts to use water efficiently.

Trends in water usage (water withdrawal^{*1})

(million m³)

Fiscal year	2017	2018	2019	2020	2021	2022
Nippon Shokubai	15.8	15.0	14.9	14.7	14.8	14.4
Group Companies in Japan	5.6	5.8	5.9	6.0	6.0	6.0
Group Companies outside Japan	46.5	48.6	47.4	47.9	19.8	3.0

^{*1} Water withdrawal includes surface water, groundwater, seawater, and third-party sources (tap water, industrial water, etc.)

Trends in water discharge^{*2}

(million m³)

Fiscal year	2017	2018	2019	2020	2021	2022
Nippon Shokubai	8.1	7.9	7.7	8.0	8.2	7.7

Group Companies in Japan	5.4	5.5	5.6	5.8	5.8	5.8
Group Companies outside Japan	45.8	47.2	46.1	46.6	18.0	1.0

*2 Water discharge includes water discharged into rivers, lakes, the ocean, and sewage

Trends in water consumption*3

(million m³)

Fiscal year	2017	2018	2019	2020	2021	2022
Nippon Shokubai	7.7	7.1	7.1	6.7	6.6	6.7
Group Companies in Japan	0.2	0.3	0.3	0.2	0.2	0.1
Group Companies outside Japan	0.7	1.4	1.3	1.3	1.7	2.0

*3 Water consumption = Water withdrawal – Water discharge

Water Pollution Prevention

To prevent water pollution, we work to eliminate the environmental impact of wastewater at all plants through high-level purification of wastewater from manufacturing processes, specifically by introducing high-performance activated sludge treatment equipment, which is capable of consistently treating even heavy-duty wastewater.

All emissions of chemical oxygen demand (COD), total phosphorus, and total nitrogen for our wastewater are at levels below municipal and prefectural agreements.

Nippon Shokubai

(tons)


Fiscal year	2017	2018	2019	2020	2021	2022
COD of wastewater	54	55	50	50	56	45
Total phosphorus emissions	2.8	2.9	2.7	2.5	2.6	2.3
Total nitrogen emissions	47	58	55	52	56	57

Group companies in Japan

(tons)

Fiscal year	2017	2018	2019	2020	2021	2022
COD of wastewater	45	53	60	61	55	72

Products and Technologies Providing Solutions to Water Issues

We develop and sell water treatment agents and wastewater treatment catalysts for wet air oxidation and decomposing hazardous substances in wastewater (See [Environmental Contribution Products](#)), osmotic pressure-generating agents for seawater desalination and wastewater treatment (See Page 17 of the [TCFD Report \(April 2022\)](#) ) , and other products to help solve problems with water resources.

Water Risk Assessment

We have confirmed with the Aqueduct Water Risk Atlas, developed by the World Resources Institute (WRI), that none of our business locations are in the “Water Stress” area. We will continue to check on this matter and work on reducing water-related risks.


Biodiversity Preservation

The Nippon Shokubai Group believes biodiversity preservation is a key issue in efforts toward sustainability based on the realization that all business activities both benefit from and impact biodiversity. One of our Environmental Protection Policies is to work to minimize the negative impact of our business activities on ecosystems and strive to conserve biodiversity, which we believe we can accomplish by sustaining efforts to tackle climate change, conserve the environment through our products, control chemical substances, reduce waste, prevent air pollution, and conserve water resources.

We have also enjoyed the cooperation of local governments, NPOs, and other organizations in implementing volunteer activities by Nippon Shokubai Group employees to protect and restore natural environments in Japan and other countries. Through these activities, we learn the value of preserving biodiversity and aim to empower people to conceive of and take actions to help the environment.


Biodiversity Risk Assessment

We conducted a survey on the proximity of major production sites of the Nippon Shokubai Group to protected biodiversity areas located within a 3 km radius by using the Integrated Biodiversity Assessment Tool (IBAT^{*1}).

The survey has confirmed that all production sites are not in close proximity to IUCN Category^{*2} 1a, 1b, II, or III areas (required to be strictly protected), World Heritage Sites,^{*3} or Ramsar Convention Wetlands.^{*4} However, IUCN Category IV, V, and VI areas have been found adjacent to many of the production sites (see [attached table](#) ).

Fully aware of such an environment, we will continue to work to minimize the negative impact of our business activities on the ecosystem and strive to preserve biodiversity.

^{*1} [IBAT](#)  (Integrated Biodiversity Assessment Tool): developed and provided through a partnership of BirdLife International, Conservation International, International Union for Conservation of Nature (IUCN), and United Nations Environment World Conservation Monitoring Centre (UNEP-WCMC).

^{*2} [IUCN Categories](#)  : IUCN Protected Area Management Categories are assigned to legally protected areas by national government agencies to allow international comparison between national protected area networks, based on management objectives of a protected area. Ia – Strict Nature Reserve; Ib – Wilderness Area; II – National Park; III – Natural Monument or Feature; IV – Habitat/Species Management Area; V – Protected Landscape/Seascape; VI – Protected Area with Sustainable Use of Natural Resources

^{*3} World Heritage: A landmark or area which is selected by the UNESCO as having cultural, historical, scientific or other form of significance, and is legally protected by international treaties. The sites are judged important to the collective interests of humanity.

^{*4} Ramsar Wetlands: protected by national governments to fulfil their obligations under the Convention on Wetlands of International Importance (commonly called the “Ramsar Convention”).

Forest conservation activities

Creating the “Yugawara Myriad Leaves Forest”

Location: Kajiya, Yugawara-machi,
Ashigarashimo-gun, Kanagawa Prefecture
Description of activities: Forest maintenance,
nature observation events, etc.
Duration: Since November 2013

We have implemented forest maintenance and held nature observation events in the headwater forest of the Niizaki River in the town of Yugawara. In November 2022, employees engaged as volunteers, together with forest instructors, in the activity for the first time in three-and-a-half years since the COVID-19 pandemic.



Yugawara Myriad Leaves Forest

Forest and Water Resource Conservation Activities

Location: Akasai Valley at Hagacho-hara, Shiso
City, Hyogo Prefecture
Description of activities: Forest maintenance,
riparian organism studies, etc.
Duration: November 2008 – March 2023

We worked to manage and preserve the headwater forest in the Akasai Valley where the Ibo River that passes by our Himeji Plant originates.



Research on creatures in Akasai River

Japan-Indonesia Friendship Forests of Banten Bay for Biodiversity Preservation

Location: Serang, Banten Province, Republic of Indonesia

Description of activities: Planting seedlings to create mangrove forests

Duration: September 2018 – March 2023



Planting saplings

Nippon Shokubai conducted activities aimed at restoring mangrove forests in Banten Province in the Republic of Indonesia, where PT. NIPPON SHOKUBAI INDONESIA is located.

Japan-China Friendship Forest Development and Global Warming Prevention

Location: Ejin Horo Banner, Inner Mongolia

Autonomous Region, China

Description of activities: Planting and maintaining forests, etc.

Duration: October 2008 – March 2023



Trees firmly rooted and grown in the desert area

We traveled to inland China to plant trees with the aims of preventing desertification and restoring the expansive forests that used to exist there.

“Nojigiku” (*Chrysanthemum Japonense*) Preservation and Popularization

To rescue, preserve, and popularize the nojigiku (*Chrysanthemum japonense*)—the endangered prefectural flower of Hyogo—the Himeji Plant has dedicated roughly 2,000 m² of its greenery yard to cultivating 160 varieties of the flower (including foundation stocks).

The plant began cultivating the flowers in 1972, and has worked with the Hyogo prefectural government to distribute seedlings each year since 1974.

In FY2022, we distributed 23,000 seedlings to 303 organizations, including local governments, kindergartens, elementary and junior high schools and community associations.



The “nojigiku” preservation garden

Environmental Accounting

We base our environmental accounting on the *Environmental Accounting Guidelines for Chemical Companies* published in 2003 by the JCIA and the Japan Responsible Care Council. We also refer to the *Environmental Accounting Guidelines 2005* of the Ministry of the Environment.

Costs and benefits of environmental protection (Nippon Shokubai alone)

Duration: April 1, 2022–March 31, 2023

Category Key Activity	Investment (millions of yen)	Cost (millions of yen)	Outcome
Business area cost 1. Pollution prevention cost Preventing air/water pollution, controlling hazardous substance emissions	18	857	No pollution problems occurred.
Business area cost 2. Global environmental protection cost Energy-saving activities and activities to tackle climate change	50	3,798	Saved 8,314 kL (crude oil equivalent) during the period.
Business area cost 3. Resource circulation cost Properly treating/disposing of industrial waste	20	685	Achieved zero emissions through sorted collection and recycling of waste.
Upstream/downstream cost Reusing resources	0	60	Reusing some drums and containers.
Administration cost Operating environmental countermeasure systems, obtaining/maintaining ISO 14001 certification	0	604	Obtained certification for all plants, enhancing environmental management systems.
R&D cost Developing eco-friendly products, reducing environmental impact in manufacturing processes	0	3,354	Researching and developing Environmental Contribution Products.
Social activity cost Donating to environmental causes	0	20	Engaging in Nippon Shokubai Forest Conservation Activities.
Environmental remediation cost —	0	4	—

Total	88	9,382	
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Economic Benefit Associated with Environmental Protection Initiatives (Actual Benefits)

Details of Benefit		Amount (millions of yen)
Revenue	Operating revenue from the sale of recycled waste products and used products produced through key business activities	7
Cost reduction	Reductions in energy costs through energy conservation	1,343
	Reductions in waste disposal costs through resource	4,531
Total		5,881

Reference: Total investment during the period: 8,613 million yen Total R&D cost during the period: 14,448 million yen

Key Terminology

Environmental accounting

A system employed by companies and others seeking sustainable development to quantitatively understand, analyze, and publish the costs and benefits of environmental conservation activities in the context of business activities to the extent.

Initiatives for Society

Respect for human rights >	Developing/Promoting the Active Participation of Talents >
Diversity & Inclusion >	Process Safety and Disaster Prevention >
Occupational Safety and Health >	Chemical Safety >
Quality >	Supply Chain Management >
Corporate Citizenship >	

Respect for Human Rights

The Nippon Shokubai Group conducts business activities with respect for human rights as one of the foundations of business continuity. The Group promotes initiatives to respect human rights in line with human rights norms such as the Universal Declaration of Human Rights, the ILO Declaration on Fundamental Principles and Rights at Work, and the United Nations Guiding Principles on Business and Human Rights. In addition, in accordance with the Group's basic policy on human rights, we will strive to promote understanding of respect for human rights throughout our supply chain to ensure that we are not complicit in human rights violations.

Basic policy on human rights

1. Respect for human rights

- (i) We will respect the human rights of all people and will not engage in any acts of unfair discrimination or any act that offends individual dignity for any reason.
- (ii) We will comply with international norms on human rights and the laws and regulations of each country and region to prevent human rights violations. In the unlikely event of a human rights violation, we will respond fairly and appropriately.
- (iii) We will recognize the impact of our business activities on human rights and will not provide products, form partnerships, or purchase products or services from companies or organizations that violate human rights or encourage human rights violations.

2. Prohibition of discrimination

Under no circumstances will we discriminate on the basis of gender, age, nationality, race, ethnicity, social status, origin, ideology, creed, religion, physical characteristics, sexual orientation, gender identity, disease, or disability.

3. Respect for basic labor rights

- (i) We will respect the right to form or join labor unions and the right to engage in collective bargaining and peaceful assembly in accordance with the relevant laws and regulations of each country and region.
- (ii) We will ensure sound employment and labor practices, and will comply with the relevant laws and regulations of each country and region in the treatment of employees, including wages, working hours, and leave.

4. Prohibition of forced labor and child labor

Under no circumstances will we use forced labor or child labor, nor will we tolerate forced labor or child labor in our supply chain.

5. Prohibition of harassment

Under no circumstances will we engage in discriminatory, threatening or offensive language or behavior, whether mental or physical, toward others, including sexual harassment, abuse of power, or discrimination against women in the workplace based on pregnancy or the birth of a child.

6. Protection of personal information and privacy

We will respect the privacy of individuals and collect personal information only to the extent necessary and appropriate. We will also strictly manage the personal information collected and will not disclose it to any third party or use it for any other purpose, except as permitted by law or with the prior consent of the individual concerned.

7. Respect for diversity

- (i) We will create a workplace environment and culture, where everyone respects and recognizes each other's diversity, and where everyone can play an active role and grow together.
- (ii) Each of us, as a professional, will maximize our individuality and abilities, and create new value through the fusion of our strengths.

Management structure

We consider human rights initiatives as one of our sustainability activities, and the TechnoAmenity promotion committee, chaired by the president, determines policies and strategies and evaluates the performance of initiatives. We will promote initiatives to respect human rights in accordance with the basic human rights policy of our Group.

Human rights due diligence

We have rolled out our initiatives to implement human rights due diligence in accordance with the procedures of the United Nations Guiding Principles on Business and Human Rights. We have identified potential negative human rights impacts of our business activities by referring to human rights guidance and risk assessments, such as the United Nations Environment Programme Finance Initiative (UNEP FI) Human Rights Guidance Tool. We also take measures to prevent or reduce the types of negative impact we have identified, depending on the nature of the impact. We will evaluate the effectiveness of measures taken and make improvements when deemed necessary.

In the event that human rights issues are found to have arisen as a result of the Group's business activities, we will promptly correct and remedy them through appropriate procedures.



Awareness-raising and development activities

With the aim of understanding and practicing respect for human rights, we deal with human rights-related topics in our compliance training, and provide training by job level and in each workplace. We also conduct harassment prevention training for managers on a timely basis. We will continue to provide training on respect for human rights in order to promote and consolidate employee understanding of the issue.

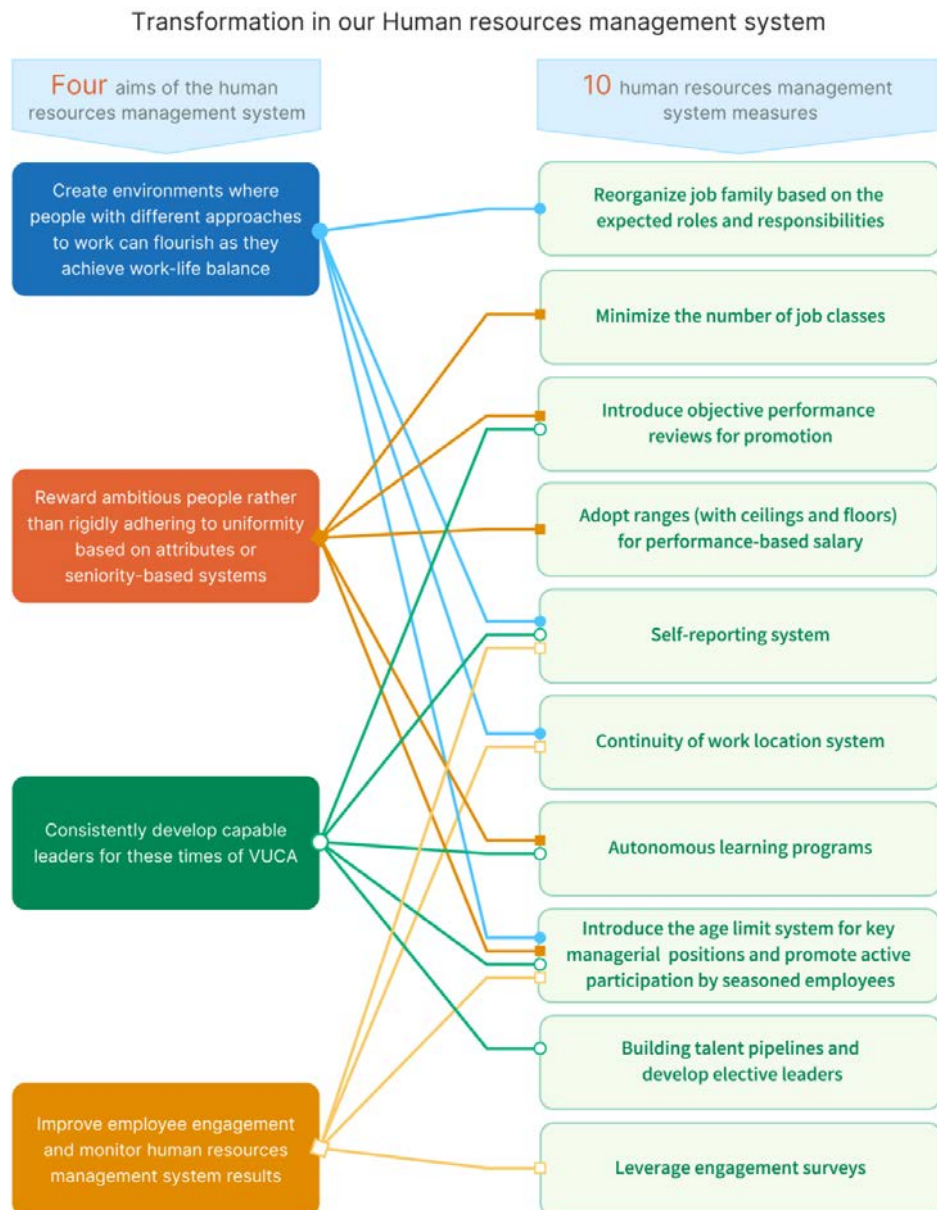
Internal reporting system

We have established an internal reporting system as part of our practice of corporate ethics and legal compliance. In the event that a fact of human rights violation is revealed through internal reporting, etc., we will promptly take corrective measures. We will also strive to prevent recurrence by reporting to management and disseminating information within the Group.

Developing/Promoting the Active Participation of Talents

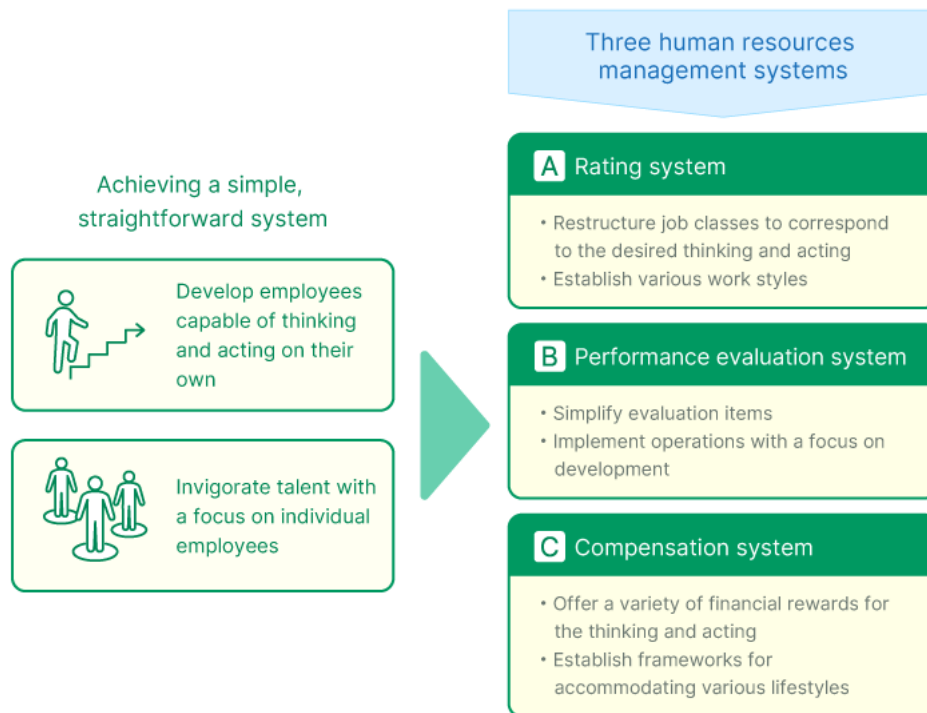
Human resources management system

To promote our transformation into a company where diverse talent can flourish as they work in a constantly growing organization, we have established a human resources management system that encourages employees to think and act on their own and leverages their individual qualities and attributes. Our system aims to foster the personal motivation to grow by empowering ambitious, skilled employees to pursue more important roles and greater responsibilities as soon as they wish to.



Concept of our Human resources management system: “think and act” and diversity

We have established three core human resources management systems based on the concept of “think and act” and diversity.



Systems that promote the invigoration of human resources with a focus on individual employees

Self-reporting

Each employee writes down own vision of career development and has a consultation with supervisor once each year.

This provides opportunities for employees to think about their careers in addition to helping the Company understand employees’ thoughts and circumstances, information the Company can use to develop employees and examine ways to get them more actively involved.

The continuity of work location

We have introduced the continuity of work location system as a measure to promote diverse work styles and to secure talent.

Employees who would like to avoid changing work locations for childcare, nursing care, or other personal reasons may continue to work at their current office for as long as they wish.

Administering engagement surveys

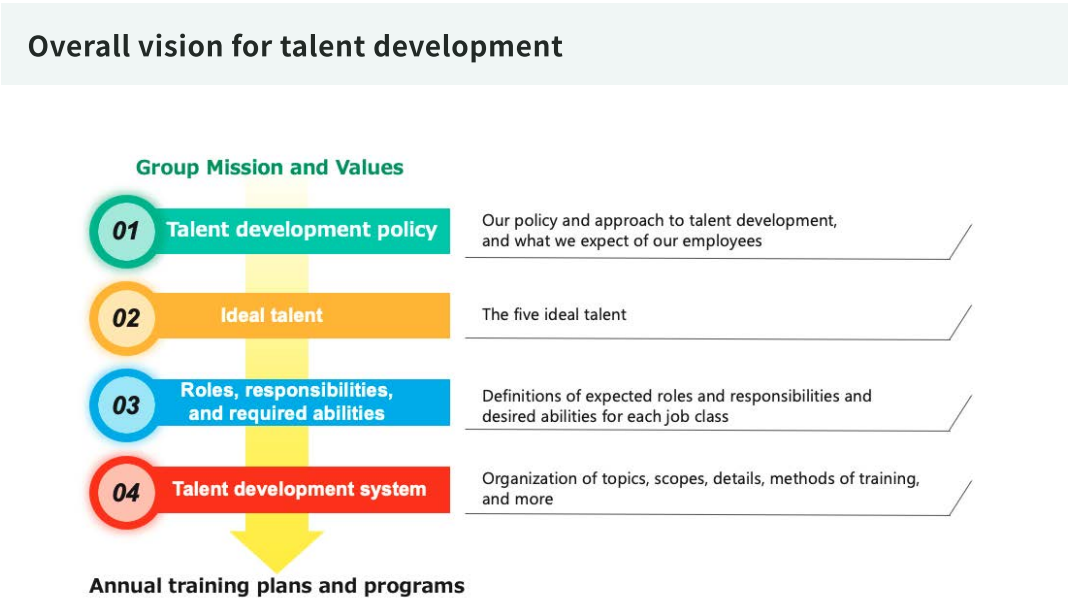
Once each year, we administer an engagement survey to all employees to enhance their engagement by providing assistance for group invigoration activities at each workplace. The survey results are

used to quantitatively evaluate the circumstances of each organization, and division leaders clarify organizational challenges and take steps to improve on them. This leads to the improvement of organizations and engagement as we administer progress surveys to verify the impact of the measures.

Promoting active participation by seniors

We provide training that helps seasoned employees reflect on their careers and consider ways to exhibit their strengths to the fullest to enable them to work independently over the long term as we approach an era in which people live for 100 years. We are also working on measures to support career independence, for example enrolling employees in a practical program that allows them to experience working for other companies without giving up their current positions.

Talent development



Talent development policy

The Nippon Shokubai Group **views employees as essential assets based on the recognition that people are the source of constant value creation.**

The following three points are the focus of our talent development.

1. **Utilizing the individuality, willingness, and abilities of diverse talent**
2. **Providing support to talent who think, act, and grow on their own initiative**
3. **Fairly evaluating and rewarding employees under company systems**

To become a chemical company that continuously evolves based on an acute awareness of changes in society, **we implement and promote the invigoration of talent with a focus on individual employees so that they can exhibit their individual strengths to the fullest.**

Ideal talent

In talent development, the Company and employees are on equal footing; the Company provides employees with opportunities for growth and expects them to have high aspirations and motivation to grow as well as to contribute to the Company.



Definition of ideal talent

Respect for Diversity & Inclusion

People who respect and acknowledge each other's differences and can contribute organizations where everyone can grow and flourish. People who can improve productivity by enhancing the psychological safety of organizations.

Collaboration

People who as members of an organization can create synergy by cooperating with other members to achieve a goal. People who can work to maximize organizational value through effective communication within the organization.

Challenge & Action

People who interpret things positively and can think and take action on their own. People who can facilitate individual and organizational development by taking on challenges without fear of failure.

Professional

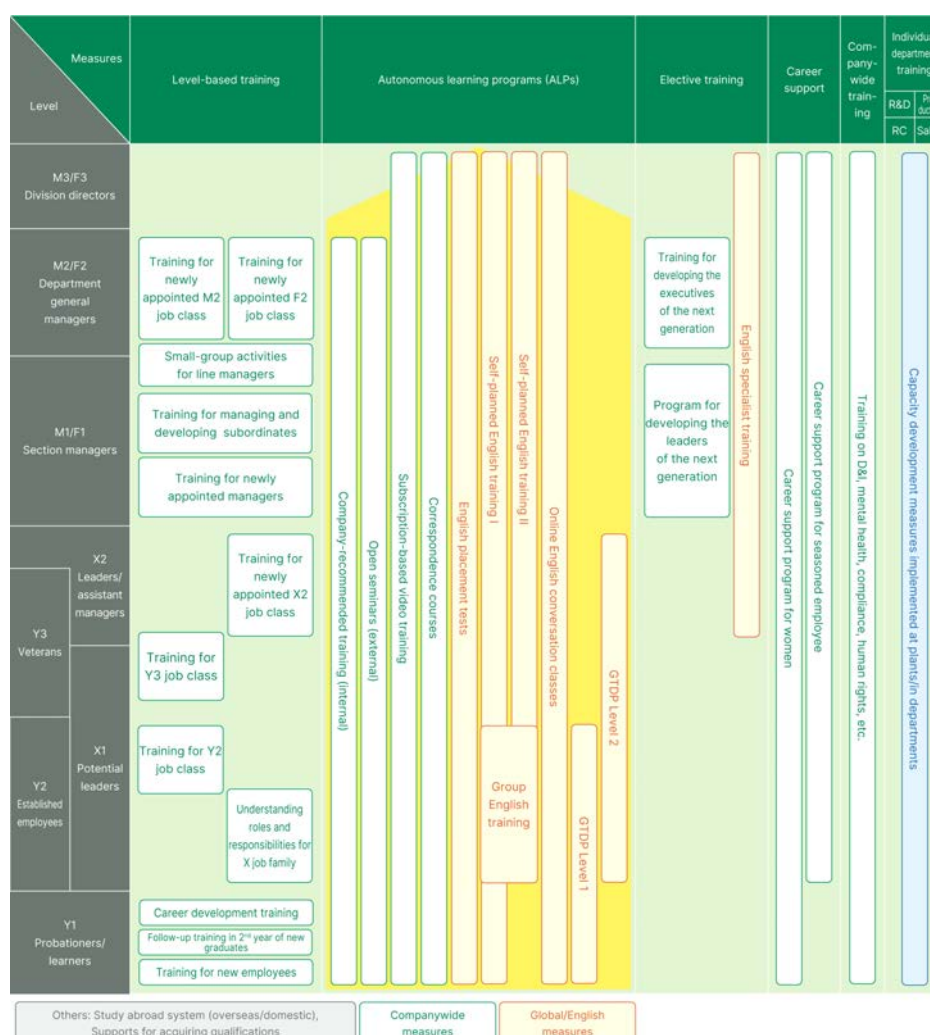
People who can contribute to the organization as professionals with a sense of pride and responsibility for their job. Also, people who proactively work to improve their skills with the aim of becoming professionals.

Globalization

- People who can adapt flexibly to changes in the external environment based on an awareness and understanding of global standards (e.g. international standards, rules, ideas, systems).
- People who can use their understanding of foreign cultures as well as their linguistic ability and other components of effective communication to expand their fields of expertise in addition to creating opportunities and produce results for organizational development.

Talent development system

On-the-job training (OJT) is the basis of employee growth and the foundation of learning from working experience in actual positions and workplaces. The process promotes growth as trainees receive support from their supervisors and fellow employees. We concurrently create opportunities for off-the-job training—learning from training and other experiences outside the workplace—to foster among each and every employee the motivation to create a vision of the person they want to be in terms of ideal talent and to enhance their own value to achieve that vision.



Developing autonomous talent

We promote the development of autonomous talent who find their own purpose and take the initiative to work toward solutions rather than waiting for instructions. We visualize the skills required for each job family and advancement in terms of the definition of the different job classes under the Human resources management system and the matters considered for advancement. In addition to ongoing level-based training, we provide opportunities for each and every employee to apply their skills in systematic learning to progress toward the next level. Specifically, we have enhanced Company-recommended training named “autonomous learning programs (ALPs)” in which employees can choose and participate in order to improve their skills and abilities, and have made other efforts to establish a system allowing everyone to develop their capacities effectively and efficiently.

Developing talent for leaders

We are implementing a variety of measures to cultivate leaders who can drive the organization.

Specifically, we offer training to develop the executives and leaders of the next generation who will bring innovation to the Company. We have also extended invitations to roundtable management discussions—previously conducted for general managers throughout the Company—to section managers as well, and are conducting manufacturing manager training, which lasts 18 months and specializes in developing potential section managers for manufacturing divisions.



Leaders training

Developing talent who will be active Globally

Nippon Shokubai has over 14 overseas affiliated companies, in which over 50 Japanese expatriates are working. As our overseas sales revenue accounts for around 50% of our Group's total sales, it is increasingly important to develop talent who can play active roles on a global scale. We have a program to dispatch young employees to our overseas affiliates as trainees for short periods of time, and also use foreign trainers to provide training for employees who are likely to be seconded overseas to give them various multicultural skills, such as cross-cultural communication, presentation and negotiation skills.



Global talent development program

Promoting work-life balance

Providing balanced assistance for work, child care and nursing care

To create a better environment that supports employees with their parenting and nursing responsibilities while employed, we are working to establish systems and raise the awareness of our employees. We have published a guidebook that summarizes our balanced support system to keep the users of the system informed, while working to improve the system so that users can easily obtain the understanding of and cooperation from their superiors and coworkers.

We have also introduced a 15-day paid leave system to encourage men to take childcare leave.

- * Number of persons taking childcare leave of absence: 50 (FY 2022 total)
- * Percentage of male employees taking childcare leave : 51% (FY 2022)
- * Return rate from child care leave of absence : 100% (FY2022)



The Osaka Labour Bureau of the Ministry of Health, Labour and Welfare granted us an authorization for complying with Standards for General Employers under the Next Generation Nurturing Support Measures Promotion Law.

Reducing overtime work hours and encouraging the taking of leave

At Nippon Shokubai, the Working Hours Management Committee has been established by both labor and management to check the monthly overtime work hours of each employee and endeavor to reduce them by enhancing the teleworking and flextime systems. Employees who have worked long hours are encouraged to speak with an industrial physician or receive a health check via a medical questionnaire every month. Based on the results of the health check, the employee's supervisor receives guidance or instructions from the industrial physician.

To encourage employees to take paid leave, the company has introduced a system to allow paid leave to be taken by the hour. We will continue to make efforts to create a working environment friendly to employees by paying attention to their work-life balance.

* Average monthly overtime hours per person: 15 hours (FY2022)

* Percentage of annual paid leave taken: 88% (FY2022)

Promoting mental and physical health management

To maintain and improve the mental and physical health of our employees, we have introduced various measures to help them to manage their health. Administered by our industrial physicians and occupational health staff, these efforts revolve around the health promotion office in each of our business offices. Specifically, we conduct general and specialized health examinations and provide tailored health advice in cooperation with the Nippon Shokubai Health Insurance Union. Together, we arrange health checks with dentists in addition to family health checks and the like. We also offer educational activities such as in-house lectures and physical strength measurement sessions on a regular basis.

We have formulated a Mental Health Plan aimed at staving off mental and physical illnesses. At the same time, we are working to improve productivity and create a bright and lively workplace by providing stress checks and level-based training focusing on mental health education for all employees. In FY2019, we held 10 sessions of line care training targeting around 550 managers throughout the company. In FY2021 and FY2022, we provided web video training to young people and mid-career employees, respectively.



Mental health training

Toward a sound labor-management relationship

Nippon Shokubai and the Nippon Shokubai Labor Union, a member of the Japanese Federation of Energy and Chemistry Workers Unions, maintain a dialogue based on mutual respect as their basic stance. Respecting the three rights of labor and through a good labor-management relationship based on mutual understanding and trust, we are addressing the resolution of various issues and achievement of goals through cooperation. Regarding collective bargaining, we have specified the scope of negotiations, procedures, the method of settlement, and other matters in collective labor agreements so that various issues can be properly solved and overcome through dialogue. Moreover, meetings of the central labor-management council and meetings of the branch labor-management council at each plant are held periodically as forums for exchanging opinions between labor and management. The company and the union have concluded a union shop agreement under which all our general employees join the union.

Diversity & Inclusion

Message from the Management on Diversity and Inclusion(D&I) Promotion

Diversity & Inclusion in our company means that diverse employees, not only diverse in race, nationality, gender, age, or disability, but also diverse in ability, individuality and values of each individual, respect each other, demonstrate and integrate their abilities, and create new value.

The environment surrounding the Nippon Shokubai Group has constantly been changing, with factors including soaring raw fuel prices, movements toward carbon neutrality, and the reorganization of the petrochemical industry. These changes will continue to occur, making it increasingly difficult to predict what is going to happen next.

Under these circumstances, I believe that what is important is flexibly responding to changes, helping customers resolve increasingly diverse issues from their perspectives and offering multiple technologies and product lines as solutions to them. D&I will play a key role to achieve our long-term vision “TechnoAmenity for the future”, and this is why “Promote the active participation of diverse human resources” was positioned as one of the initiatives for organizational transformation.

In the 80-year history of Nippon Shokubai, an environment has not been developed until recently, which enables women to play an active role at manufacturing sites, so the ratio of men in workplaces is extremely high. Also, a very small number of foreign employees are working in the company in Japan. I fear that we may lose our competitive advantage if we continue to allow our existing, homogenous workplaces to develop products and businesses. When employees with diverse backgrounds, regardless of gender, age, nationality, individuality, and sense of value, gather, speak from different viewpoints, and share ideas, we can have in-depth discussions and findings, and make it leads to the creation of innovation.

In addition, we declare “developing autonomous talent” for organizational transformation in the long-term vision. This means fostering individuals who are capable of paving their way and walking on their own. I also believe that it is important to develop autonomous talent by promoting D&I and thereby transform ourselves into an autonomous organization.



The D&I Promotion Policy was established in August 2020. And in April 2021, we established the D&I Promotion Group within our Human Resources Department.

These three policies are required to reach solutions to some of the management challenges facing Nippon Shokubai, but it also reflects the proposal to the president by the “Women’s Empowerment Project,” in which five women in core managerial positions served as project members in FY2019.

Its proposal to the president was not only focusing on women’s participation but also promoting the active participation of broader employees. And this aim was developed into these three policies which aim at developing a workplace environment where diversity is ensured, respected, and fully utilized.

In the new human resources management system introduced in April 2022, we have introduced a grade and evaluation system that appropriately evaluates individual abilities and performance and leads to promotions, which is not based on educational background and seniority standards. We have also introduced the self-reporting system that provides opportunities for employees to autonomously think about their career plans and share them with their superiors, and the continuity of work location system that leads to flexible work styles according to individual circumstances. In addition, we expanded open application-based learning support programs in order to encourage all employees to develop their own career plans and actively acquire knowledge, including employees who were not provided enough opportunities before. We also have created a work environment that allows highly flexible work styles through a flextime system without core hours and a teleworking system.

In our current situation, I believe that the first indicators to measure the progress of D&I promotion are the ratio of women hires, the ratio of women in managerial positions, and the ratio of men taking childcare leave. The ratio of women hires is 24.1% in FY2022, and the ratio of women in managerial positions increases from 1.6% in 2015 to 4.4% in 2022. Since around the year 2000, we have been increasing the number of women in workplaces, and the area of playing an active role has gradually expanded. We are also working to ensure having excellent talent through mid-career recruitment regardless of gender or nationality.

We support the target set by Japan Business Federation for 30% of executives to be women by 2030. Although the target is extremely far from now, we believe it is important to walk toward these milestones, even if little by little, and have started considering various measures with an eye to the future.

We continue to promote D&I, so that strive for the mutual growing and development of Nippon Shokubai and its employees and to provide new value to society in the future.

Member of the Board, Managing Executive Officer
Administration, HR, Finance, Accounting, General Affairs & HR Division.
Kuniaki Takagi

Respecting diversity

D&I Promotion Policy

We have formulated a D&I Promotion Policy in order to respect the diversity of our employees. We recognize diverse ability, individuality, and value of each individual and unify them to enhance collective strength of Nippon Shokubai Group. We are implementing various measures to become an organization in which everyone can flourish in their own way.

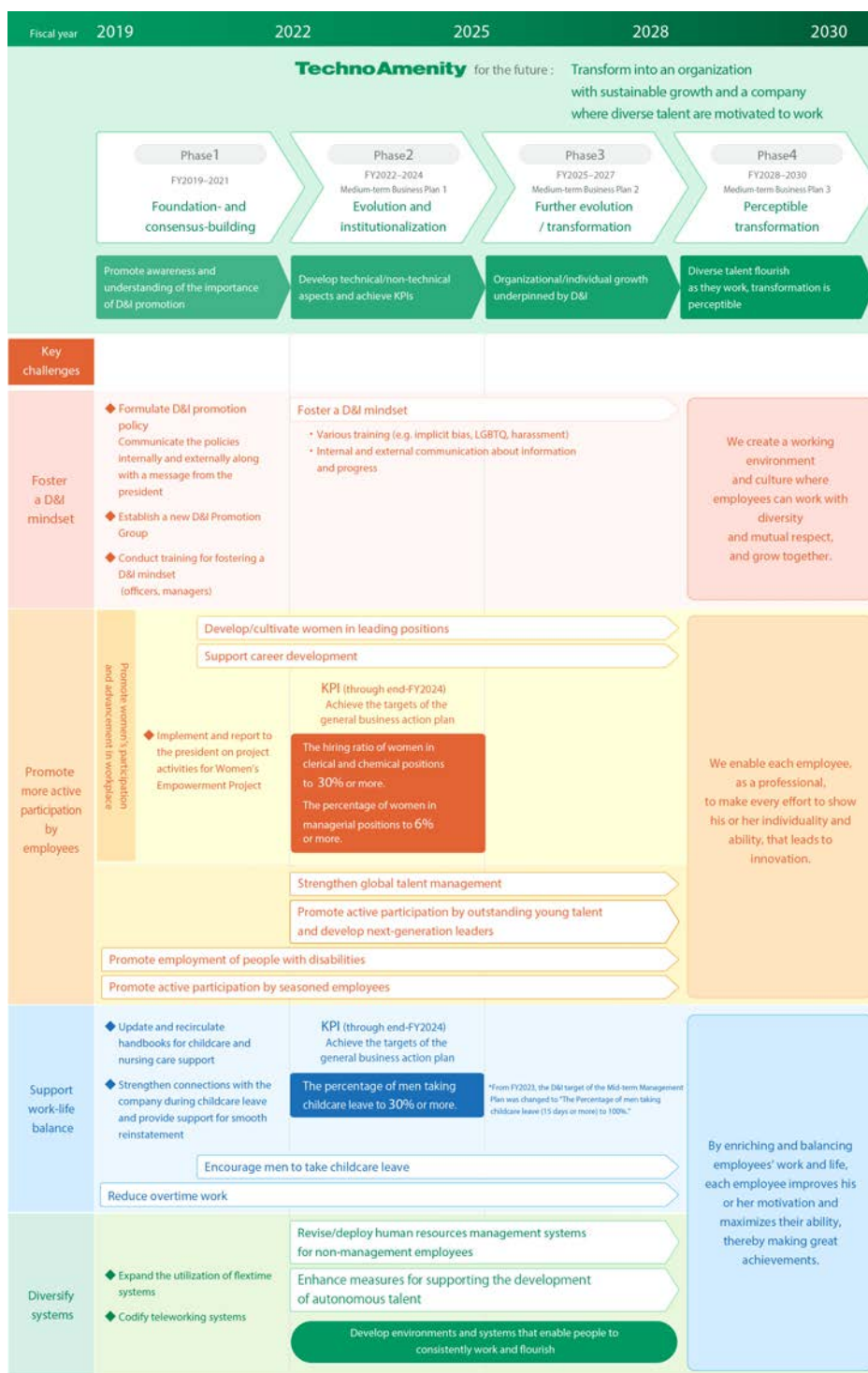
< D&I Promotion Policy >

1. We will create a working environment and culture where employees can work with diversity and mutual respect, and grow together.
2. Each employee, as a professional, will make every effort to show his or her individuality and ability, that will lead to innovation.
3. By enriching and balancing employee's work and life, each employee will improve his or her motivation and maximize their ability, thereby make great achievements

Promoting active participation of diverse talent

D&I Promotion Roadmap (to FY2030)

We formulated a roadmap to FY2030 after setting out four key challenges for promoting D&I (fostering a D&I mindset, promoting the further empowerment of employees, supporting work-life balance, and the diversification of the corporate system). The human resources department's D&I Promotion Group established in April 2021 is leading our planning and implementation of various measures.



We conduct D&I management training targeting officers and managers with the aim of the “fostering a D&I mindset”. Through work and discussions, the participants deepen their understanding of the importance of managing diverse talent, unconscious bias, and psychological safety. In addition, we provide lectures and work on D&I in training for new employees and other Level-based training to foster a D&I mindset.



D&I management training

As part of the “Supporting work-life balance” initiative, we are also working to create an environment where it is easier to take leave for nursing care or child care, by deepening understanding of these topics through the enhancement of the work-life balance support guidebook and its dissemination within the workplace.

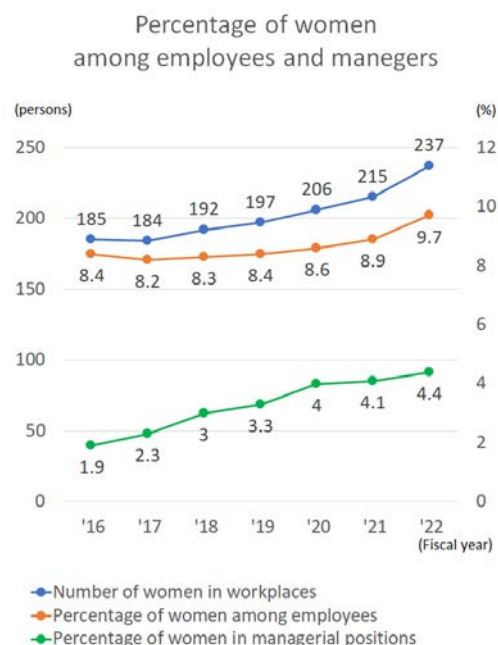


Guidebook on providing balanced assistance for work, child care and nursing care

Women Employee Network Training Program	
Session 1	Introduction Lecture: “Working in My Own Way – Vitalizing the Company and Enriching Life”
Session 2	Career Training (Career Design) Proactively directing yourself to lead a professional life that is uniquely your own
Session 3	Career Training (Self-Leadership) Learning the elements of leadership that engage others in problem-solving at the workplace and in your career
Session 4	Exchange with internal and external role models
Session 5	Declaration of action by participants

Promoting women’s participation and advancement in workplaces

Nippon Shokubai has been working actively to ensure gender neutral talent promotion and institutional development. In FY2019, a team of women implemented a project to identify and recommend solutions to the president regarding challenges against the active participation of women at the Company. The project eventually led to our current efforts to promote D&I. As one of the measures, a women employee network training program was launched in FY2021. Through the training, we are not only helping participants develop their skills and shape their careers in a way that allows them to be themselves while finding fulfillment and job satisfaction, but we are also facilitating networking among women employees.



Effective use of re-employment system

Aiming to help stabilize the lives of retired employees, we set the period of re-employment until the age of 65, ensuring employment in a familiar work environment. This initiative, intended to provide employees with a sense of security and improved motivation for work, has encouraged over 100 experienced seasoned employees to contribute to the handover of core techniques and the development of young talent.

* Re-employment rate of retired employees: 83% (FY2022)

Promoting employment of people with disabilities

We are committed to employing people with disabilities, who are playing active roles in various jobs at each of our workplaces.

Moreover, NS Green Co., Ltd., our designated Group subsidiary established from the perspective of promoting the employment of people with disabilities, is in charge of the management of green spaces of manufacturing plants, and also grows seedlings of chrysanthemum in small pots every year. The pots are distributed to approximately 300 organizations for free, thereby supporting the urban greening project by the prefectural government.

Employment of foreign nationals

In anticipation of further expansion of our business across the globe, we continue to hire foreign nationals in Japan as well as in our Group companies in other countries.

Ensuring the diversity of talent

The Nippon Shokubai Group searches far and wide for diverse talent to underpin our sustained growth. Our hiring policy is to open our doors to everyone—regardless of gender, age, nationality, race, ethnicity, social status, origin, ideology, beliefs, religion, physical attributes, sexual orientation, gender identity, or the presence or absence of illness or disabilities—and to engage in fair and equitable hiring practices based solely on applicants' aptitude and abilities.

Initiatives under the Next-Generation Children Act and the Women's Participation and Advancement Promotion Act

Based on the Act on Advancement of Measures to Support Raising Next-Generation Children (Next-Generation Children Act) and the Act on Promotion of Women's Participation and Advancement in the Workplace (Women's Participation and Advancement Promotion Act), we set goals and an action plan for the period from April 1, 2021 to March 31, 2025.

Target 1

Increasing the hiring ratio of women
in clerical and chemical position to **30%** or more.

Challenge

Low percentage of women among employees

FY2022 figure

percentage of women among employees ...9.7%

percentage of women in clerical and chemical position ...24.1%

Example measures

- Proactively profile women who are actively participating and the work they do to serve as models
- Develop environments and systems that enable people to consistently work and flourish

Target 2

Raising the percentage of women
in managerial positions to 6% or more. **6%** or more.

Challenge

Low percentage of women in managerial positions compared to the percentage of women among employees

FY2022 figure

percentage of women in managerial positions ...4.4%

Example measures

- Develop/cultivate women in leading positions
- Enhance career design seminars

Target 3

Increasing the percentage of men
taking childcare leave to **30%** or more.

Challenge

Low percentage of men take childcare leave

FY2022 figure

percentage of men take childcare leave ...51.1%

Example measures

- Foster a D&I mindset in managerial positions
- Inform eligible male employees and their superiors of childcare leave systems

Process Safety and Disaster Prevention

All Nippon Shokubai employees engage in various activities to ensure safety based on our Safety Philosophy, “Safety takes priority over production.”

- [RC Policy](#)
- [RC Promotion Organization](#)

Basic Approach to Safety Issues

We have incorporated the lessons learned from the accident at the Himeji Plant in 2012 to reinforce our basic approach to safety issues. We have clarified our Safety Philosophy, Safety Oath, and the safety management principles presented below, as well as the roles of the company at each organizational level, and are ensuring that all employees stay fully informed.

Principles for safety management

The Company’s “Rules for Safety Management” set out the basic principles for safety management, guidelines for manufacturing activities, and more, which we put into practice.

Excerpt from basic principles for safety management

(1) Ensure safety based on our Safety Philosophy, “Safety takes priority over production.”

Guidelines for manufacturing activities

(1) When you detect anything out of the ordinary during operations, immediately shut down operations. You are not responsible for the consequences of the shutdown.



Safety Philosophy, “Safety takes priority over production”



Safety Oath

Message from the President on Safety

With FY2022 marking the 10th anniversary of the explosion and fire at the acrylic acid production facilities, the President re-emphasized in his speech that we should not let the memory of the accident fade away. In response, safety discussions were held in every workplace during Safe Operation Month (September 16 to October 15), in which employees looked back at the accident and discussed what should be done to prevent such an accident from occurring again.

In addition, the President visited the Himeji and Kawasaki Plants to energetically conduct safety inspections. He had a lively dialogue with the employees and re-emphasized the importance of continuing to pursue safe and stable production activities with the company's Safety Philosophy "Safety takes priority over production" deeply in mind.



Inspection of Kawasaki Plant by President



Inspection of Himeji Plant by President

Promoting Voluntary Safety Activities

Since our founding, we have promoted voluntary safety activities with the aims of ensuring safe manufacturing under proprietary technology and completely avoiding Class A and Class B process safety accidents.

Preventing trouble

Our efforts to prevent trouble include adopting HAZOP as our method of identifying potential risks at plants and systematically implementing it (including both routine and non-routine situations) in addition to consistently implementing change and non-routine work management.

We also implement small group activities—HMI activities at the Himeji Plant and TPM activities at the Kawasaki Plant—to identify deficiencies and promote improvement.

We intend to continue implementing broad-ranging activities to prevent trouble.

Systematically implementing safety measures

When accidents occur, we analyze the causes from various perspectives and implement countermeasures in addition to reflecting and systematically implementing permanent measures for facilities in maintenance plans. We also systematically promote measures to counter the age-related deterioration of facilities.

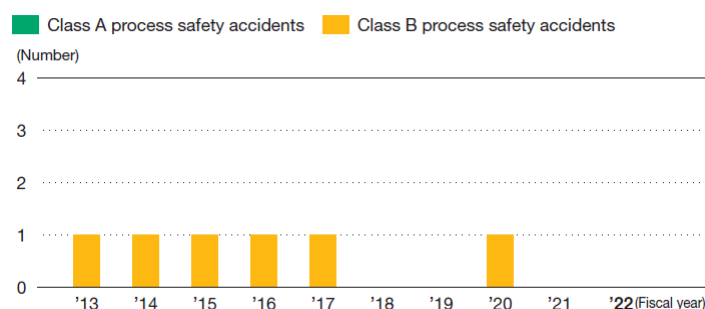
Seismic countermeasures

In light of our experience with the Great East Japan Earthquake in 2011, we have reviewed and undertaken both technical and non-technical measures to prepare for massive earthquakes and tsunami. We also periodically revise and strengthen the measures.

Regarding existing measures to improve the earthquake resistance of high-pressure gas facilities, we have already verified that our spherical tanks with steel pipe braces and gas holders—critical high-pressure gas facilities in terms of seismic design—satisfy earthquake-resistance standards, and have reported that fact to the relevant administrative agencies. We will also continue to implement earthquake resistant measures for piping in FY2023.

Recent history of process safety accidents

In FY2022, we had zero Class A or B process safety accidents. We will continue efforts to prevent process safety accidents while continuously improving safety activities.



Enhancing education and training

We are striving to enhance training for chemical plant risk management in an effort to strengthen skills and abilities pertaining to safety.

With all due attention to measures to prevent COVID-19 infections, courses on risk management and other related topics were given in FY2022, as usual, by instructors from the Sanyo Association for Advancement of Science & Technology, in which a total of 48 employees participated.

We also collect and organize “Know-Why” information for use in training to enable trainees at both plants to inherit techniques and understand the basis for procedures and rules.

We intend to continue internal and external training while incorporating the views of our employees in an effort to improve their knowledge and awareness of safety.



A course titled “What Accidents Can Teach Us about Risk Management”



“Chemical plant accident prevention based on actual case study” class

Maintaining and improving safety management activities

RC inspections are conducted by management personnel at the Himeji and Kawasaki Plants each year. In FY2022, which marked the 10th anniversary of the 2012 accident, the management checked the status of fostering a safety culture, in addition to the safety management activities, at each plant. The Head Office also conducted safety audits led by the officer in charge of the Responsible Care Division in an effort to continuously improve safety management activities.

Certified high-pressure gas plants

The Chidori and Ukishima Plants of the Kawasaki Plant were certified by the Ministry of Economy, Trade and Industry in 1989 and 1991, respectively, as entities capable of conducting completion and safety inspections for high-pressure gas certification, and each undergoes screenings for renewal every five years.

This certification allows plants with outstanding voluntary safety systems to continuously operate high-pressure gas manufacturing facilities and conduct their own safety inspections. The certification of the Chidori Plant was renewed in June 2022.

Improving emergency drills

Each plant has established a disaster risk reduction system and systematically conducts emergency drills for different types of disasters and accidents each year.

In FY2022, workarounds were required to conduct the drills with due attention to measures to prevent COVID-19 infections.

By reflecting the issues identified in disaster prevention drills into subsequent drills, we revise and strengthen our disaster risk reduction system as well as education and training.



Comprehensive emergency drill at the Kawasaki Plant



Comprehensive emergency drill at the Himeji Plant



Comprehensive emergency drill at the Suita Research Center



Strengthening the culture of prioritizing safety

Each plant engages in distinct initiatives—for example, self-checks of basic safety behaviors at the Himeji Plant and checks of safety behaviors at the Kawasaki Plant—in an effort to strengthen the culture of prioritizing safety.

Additionally, in November 2022, the Kawasaki Plant underwent a third-party evaluation of safety competency (safety culture) conducted by the Japan Industrial Safety Competency Center. The plant will reflect the recommendations in its RC plan in an ongoing effort to improve safety competency.

Preserving memories of accidents

To prevent memories and lessons learned from the 2012 accident from fading and to demonstrate our determination to avoid similar accidents, we held another Safety Oath Ceremony in front of the Safety Oath monument at the Himeji Plant in FY2022 to recommit ourselves to improving our safety capacity.



Safety Oath Ceremony

Commendations

At the 40th Safety Promotion Meeting and the 13th Safety Award Ceremony of the Japan Petrochemical Industry Association, an employee of the Kawasaki Plant was commended for his years of efforts and achievements in ensuring workplace safety.



Commendation at the Safety Award Ceremony of the Japan Petrochemical Industry Association

Key Terminology

Hazard and Operability Study (HAZOP)

A method of evaluating safety in which potential risks at plants are exhaustively identified and corresponding safety measures are systematically investigated for sufficiency.

Himeji Manufacturing Innovation (HMI) activities

Activities to promote improvement and transformation at the Himeji Plant.

Total Productive Maintenance (TPM) activities

Improvement activities aiming to actualize manufacturing methods in pursuit of the utmost comprehensive efficiency in manufacturing systems.

Occupational Safety and Health

Consistent with its goal to completely avoid industrial injuries at the Company and its contractors, Nippon Shokubai implements occupational safety and health activities to improve working environments, reduce risk factors, and promote the creation of comfortable workplaces.

- [RC Policy](#)
- [RC Promotion Organization](#)

Basic Approach to Occupational Safety and Health

We promote occupational safety and health activities that prevent industrial injuries and health problems in the workplace, ensure safety and health for our employees, and create comfortable working environments.

Continuously Improving Occupational Safety and Health

We work to continuously improve occupational safety and health, mainly through our Occupational Safety and Health Management System (OSHMS). We also engage in hazard prediction (KY), *hiyari hatto* (near miss) analysis, 5S activities, and other basic safety activities on a daily basis, and systematically conduct training and drills in an effort to reduce industrial injuries. When industrial injuries occur in the workplace, we explore the causes at the scene, draft countermeasures, and have the Safety and Health Committee evaluate the countermeasures from the perspectives of labor and management to prevent the same or similar injuries from occurring again.

Risk assessment

We work to reduce and eliminate the risks of tasks and substances we work with by assessing them based on our Occupational Safety and Health Management System.

Basic safety initiatives

We recognize the importance of daily safety activities in preventing industrial injuries. Accordingly, we devote energy to KY activities preceding tasks, documenting near misses, and implementing 5S activities in the workplace. We aim to improve daily safety activities by regularly conducting KY training and seminars to maintain and improve risk awareness. Another effort aiming to prevent industrial injuries is posting posters and conducting training to thoroughly inform employees and ensure the rigorous implementation of the three basic safety behaviors: (1) Think before you act; (2) Pointing and calling; and (3) Hold the handrail when stepping on stairs.



On-site training sessions

Aiming to improve employees' sensitivity and ability to predict potential risks in the field, we provide hands-on training using a VR simulator (see [Himeji Plant Site Report](#)), in addition to conventional drills in which participants are exposed to chemical liquids.

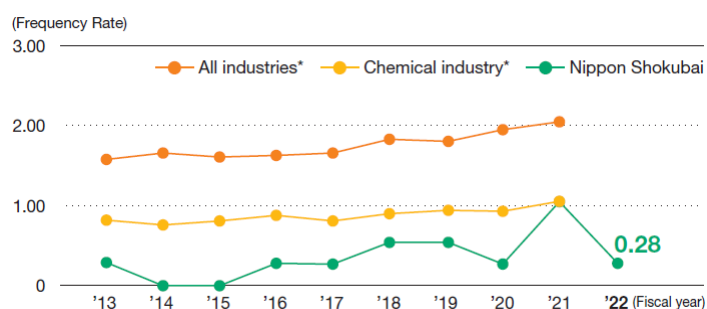


VR training (experience with a caught-in incident)

Status of industrial injuries

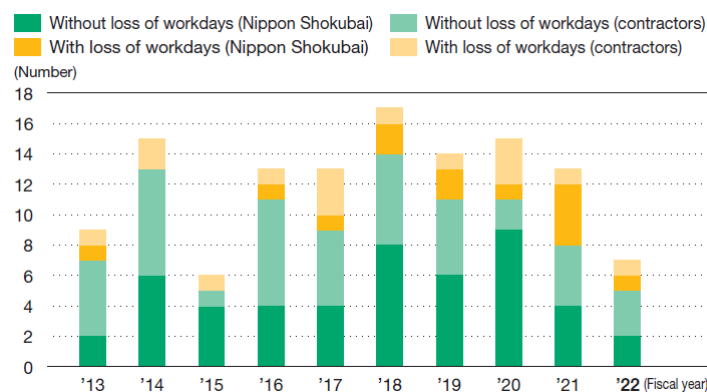
In FY2022, one injury with loss of workdays and two injuries without loss of workdays occurred at the Company, while our affiliates experienced one injury with loss of workdays and three without. In the past several years, industrial injuries at the Company have often involved younger employees. Similarly, our affiliates report many injuries among relatively inexperienced workers. We intend to enhance safety training to improve risk awareness among younger and less-experienced employees.

Trends in Lost-time Injury Frequency Rate




Note: Lost-time injury frequency rate: Number of casualties in industrial injuries per 1 million actual working hours
 * Source: "Survey on Industrial Accidents," Ministry of Health, Labour and Welfare

Trends in Total Number of Industrial Injuries (with Loss of Workdays and without Loss of Workdays)



Health-related accommodations for retirees from the Company

Although we have never manufactured asbestos products in our history, some of the insulation materials and sealants we used contained asbestos. Therefore, we respond to health-related consultations from retirees from the Company and set up medical examinations for all who desire them. For more information, please visit our [website](#) .

Key Terminology

Hazard prediction (KY activity)

An activity involving holding meetings before starting tasks to identify potential hazards (unsafe behaviors and conditions) and undertake countermeasures in an effort to prevent injuries.

Near miss analysis

Reflecting on near misses in everyday operations to identify why they occurred and how they could have been avoided, and undertaking safety measures in terms of both facilities and behavior.

5S activities

Promoting and practicing the 5S: sort, set in order, shine, standardize, and sustain.

Chemical Safety

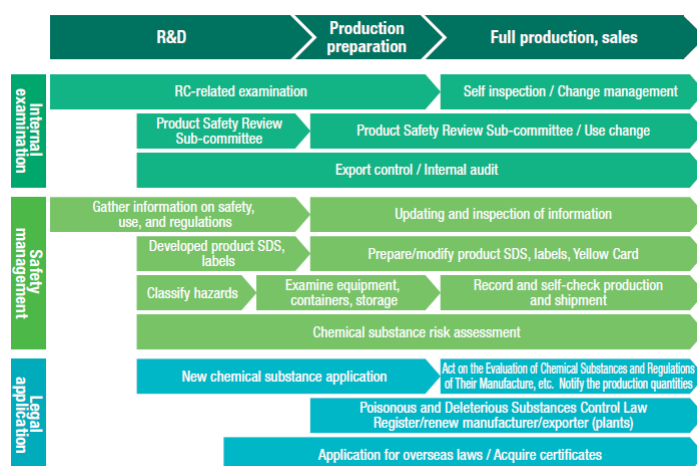
Nippon Shokubai promotes chemical product control by complying with laws and regulations, disseminating information, and engaging in other efforts to completely avoid legal and social problems with chemical products throughout their lifecycles.

- [RC Policy](#)
- [RC Promotion Organization](#)

Rigorous Chemical Product Control throughout Product Lifecycles

We establish internal systems for compliance with domestic and foreign laws and regulations pertaining to chemical products, disseminate information about product safety and applicable laws and regulations to customers, and undertake other efforts to promote chemical product control with the aim of completely avoiding legal and social problems with chemical products throughout their lifecycles, from research and development to disposal after they are used.

Chemical Management System



Efforts toward product safety

We strive to ensure the safety of new products and swiftly put them on the market by appropriately and promptly examining the safety and compliance status throughout the chemical product lifecycles at each stage, from research and development to commercialization.

Product safety initiatives

We create GHS-compatible Safety Data Sheets (SDS), warning labels, and Yellow Cards to promote the dissemination of information to our customers and the education of our employees. We also conduct strict checks of products intended for different end-uses (e.g. active pharmaceutical ingredients, pesticides, cosmetics, food additives) that include action by the Product Safety Review Subcommittee to comply with the Product Liability Act (PL Act).



Example of an SDS



Example of a warning label

Operating our chemical substance control system

We established a chemical substance control system to centrally manage information on chemical substances, raw materials, product-related hazards, laws and regulations, and more, and use the system for many purposes, including evaluating risks, preparing SDS, and responding to customers' inquiries about the chemical substances in products. We are also sustaining efforts to update information and improve the functionality of the system, and in FY2020 launched an automatic warning label-creating function based on the system, that we began using for products in development.

Accommodating chemical registration requirements within and outside Japan

We work with specialized agencies and Group companies outside Japan to comply with laws and regulations, for example the Chemical Substances Control Act and the Industrial Safety and Health Act of Japan, TSCA in the USA, and REACH in the EU.

We also hold training on laws and regulations and briefings on new systems pertaining to chemical product control on a regular basis to inform our employees and foster in them a sense of respect for the laws and regulations.

Additionally, regarding acrylic acid—a priority assessment chemical substance under the Chemical Substances Control Act—an organization to which we belong conducts safety tests for aquatic life, and we submit information and otherwise respond proactively to risk assessments by the central government.

Import and export control initiatives

To ensure faithful compliance with import and export regulations, we establish and maintain Company rules, inform everyone in the Company of decisions as to controlled items, establish and maintain a shipping management system tied to our central accounting system, and conduct internal training on a regular basis. Additionally, our annual internal audit revealed no problems with exports during CY2022.

Promoting a voluntary initiative of the JCIA

We participate in GPS/JIPS, a voluntary initiative for strengthening chemical management promoted by the Japan Chemical Industry Association (JCIA), which prepares and releases a safety summary to the public.

Key Terminology

GHS

An abbreviation for Globally Harmonized System of Classification and Labeling of Chemicals, GHS reflects the physical, health and environmental hazards of chemicals determined in accordance with international standards. Under this system, chemical products identified as presenting a hazard are categorized according to international standards and displayed on containers and in the respective SDS. Countries around the world have also introduced this system on the recommendation of the United Nations. This system is enforced in Japan through the Industrial Safety and Health Act.

SDS (Safety Data Sheet)

The Safety Data Sheet lists a chemical's properties as well as data on its hazards, applicable laws, proper handling and transportation requirements, and specific emergency response measures in a prescribed format. We prepare an SDS for each of the products we manufacture and develop and provide them to our customers. We are implementing a system for distributing these documents to all employees through our chemical substance management system.

Yellow Card

The yellow card is a unique initiative in Japan, which lists a product's hazards, first aid procedures in an accident, and emergency contact information. As part of its promotion of RC, the JCIA prepares and manages guidelines on the procedures for preparing a yellow card in order to strengthen first aid measures in the event of an accident. Carriers transporting dangerous goods are encouraged to carry a yellow card to report information about the cargo to the fire brigade in the event of an accident.

Quality

We make efforts to maintain and improve quality under a basic quality policy of consistently providing products and services that satisfy customers and are worthy of their trust.

- [RC Policy](#)
- [RC Promotion Organization](#)

Continuous Improvement of Quality

Customer satisfaction initiatives

All our plants and all Group companies both inside and outside of Japan engaged in manufacturing have introduced quality management systems. We implement our quality assurance initiatives from the customer's perspective from the product development stage through manufacturing and delivery.

We are dedicated to the continuous improvement of our quality management system to ensure our customers are satisfied with the stable high quality of our products and services.



Quality control convention

Promoting activities to prevent problems with quality

We respond quickly to any complaints or inquiries from customers concerning our products. At the same time, we prevent quality issues from occurring through company-wide distribution of case studies. In FY2022 as well, we shared information about complaints and problems at meetings of division leaders and took permanent measures for the prevention of recurrence. We share information about the complaints and problems we had in FY2022 at meetings of division leaders, and take permanent measures for the prevention of recurrence. The information on quality complaints and issues are also distributed to our Group companies in Japan, with the aim of preventing similar quality problems.

Initiatives toward gaining greater public trust

We maintain quality systems that preserve the feelings of safety and security our products deliver. The quality assurance departments at our Head Offices conduct quality audits at our plants and Group companies and engage in other efforts to monitor the state of quality assurance systems and quality control at all Group manufacturing facilities.

In quality audits for FY2022, a Lot traceability exercise of the products with quality problems that have occurred in the past was used to check whether countermeasures against past quality issues had been taken on an ongoing basis, and to confirm that there was no problem with the quality system.

These audits did not reveal any problems that were considered to constitute non-conformance. We will conduct quality audits on a continual basis to check that measures to meet customer requests and countermeasures against past quality issues are taken properly.

Introducing products with halal certification

Parts of Southeast Asia, most notably Malaysia and Indonesia, are home to many Muslims, and demand for halal-certified ingredients and production processes from food-related businesses has been increasing. In response to this situation, we have acquired halal certification for products for which acquisition of the certification is strongly urged by customers. Specifically, in 2014, the Himeji Plant acquired halal certification for organic acids (maleic anhydride, succinic acid, and disodium succinate), and Sino-Japan Chemical Co., Ltd. acquired halal certification for some products. In 2015, the Himeji Plant acquired halal certification for sodium polyacrylate (AQUALIC™ H series), too. Furthermore, PT. Nippon Shokubai Indonesia (NSI) acquired halal certification for all products in 2019. With these certifications, we can expect further expansion of demand for these products in Southeast Asia. We will make continuous efforts to provide prosperity and comfort to people and society by responding to the needs of society.

Note: Examples of products for which the Nippon Shokubai Group has acquired halal certification

(as of April 1, 2023)

Succinic acid, Disodium succinate,

Maleic anhydride,

AQUALIC™ FH (Food additive use),

AQUALIC™ MH (Feed additive use)

and AQUALIC™ IH (Industrial use),

and All products produced at NSI

- Acrylic acid (AA)
- Acrylates (AES)
- Superabsorbent polymers (SAP)



NSI Halal certification

Key Terminology**Halal Certification**

A certification with religious relevance, granted by the relevant organizations when certain standards are satisfied, for products and services targeted at Muslim customers.

Supply Chain Management

In our supply chain, from the procurement of raw materials to the manufacture, sale, use, and disposal of products, we are promoting various sustainable procurement initiatives with the aim of putting into practice our Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology”.

Sustainable Procurement Policy

We recognize our suppliers as important partners, and we will build a relationship of mutual understanding and trust with them. We will also conduct fair and impartial business transactions in compliance with laws and regulations and with high ethical standards for the sustainable development of both parties.

With the cooperation of our suppliers, we will also promote sustainable procurement initiatives that take human rights and environmental preservation into consideration.

CSR Procurement Guidelines

We are committed to sustainable procurement to fulfill our social responsibility throughout the supply chain. We strongly believe that the understanding and cooperation of our suppliers are indispensable in promoting such efforts. Based on this belief, we have compiled a set of CSR Procurement Guidelines that we invite our suppliers to collaborate on with our Group companies. These guidelines are published on our corporate website and distributed during our CSR supplier survey. We kindly request our suppliers to provide a written confirmation of their agreement with the guidelines. We also encourage our business partners to understand these guidelines and take appropriate actions.

[CSR Procurement Guidelines](#) 

Green Procurement Initiatives

Nippon Shokubai promotes initiatives to ensure supplies of safe and reliable products throughout the entire supply chain, from procurement of raw materials to manufacture and sales of products. In accordance with our regulations for green procurement management, we have independently assigned substances that are regulated or highly hazardous to two categories: “prohibited substances” and “restricted substances.” We are promoting the development of green products and the procurement of raw materials with low environmental impact while controlling the inclusion of such substances in our products. For information transmission sheets, we have introduced chemSHERPA*.

*chemSHERPA: This shared system for transmitting information about chemicals contained in products to supply chains was developed under the initiative of the Ministry of Economy, Trade and Industry in Japan. Full-scale utilization began in April 2018.

Responsible Procurement of Minerals Policy

To fulfill our social responsibilities, we continue to confirm that we do not procure so-called conflict minerals*. We continuously monitor the actual situations at our suppliers, and stop procurement promptly if the use of conflict minerals is discovered.

*Gold (Au), tantalum (Ta), tungsten (W), tin (Sn), and cobalt (Co) are mined under conditions of conflict, human rights violations, etc. and sold in the Democratic Republic of Congo and its surrounding countries, and CAHRAs (Conflict and High Risk Areas). Risks include Annex II risks of the OECD Guidance and global environmental impacts.

Conduct of CSR Supplier Survey

To promote sustainable procurement, we have been conducting CSR questionnaire-type survey of our major suppliers since fiscal year 2021. The survey takes place every 2 years, using the CSR Procurement Self-Assessment Questionnaire that is prepared by GCNJ (Global Compact Network Japan). By requiring suppliers to response to the survey, we are able to confirm whether they have conducted business activities in accordance with our “CSR Procurement Guidelines”.

In fiscal year 2023, based on the survey conducted during the year, major suppliers (equivalent to 95% of raw material purchases) participated and responded from 96% of them. For suppliers whose response do not meet our company’s standards, we will conduct hearings to confirm their current situation of their activities and provide support for improvement. We will continue to strengthen cooperation with our suppliers and promote sustainable procurement initiatives.

Initiatives to Promote Responsible Procurement

We endeavor to steadily respond to human rights, labor practices, health and safety, environment and Fair Operating Practices in Nippon Shokubai and our group companies, while we also implement a variety of initiatives to ensure responsibility on the supply chain. We utilize Supply Chain Ethical Information Sharing Platform, such as Sedex*¹ and EcoVadis*² to disclose sustainability information. We have acquired RSPO*³ (Roundtable on Sustainable Palm Oil) certification.

- *1 An online platform is organized by non-profit organization Sedex, for storing and accessing data regarding ethical and responsible business practices. Enterprises in the global 35 industries, including food, automobile, cosmetics and amenity over 180 countries and regions, have joined Sedex.
- *2 The supply chain ethical information sharing platform is operated by the French CSR rating agency EcoVadis. The platform is used by over 100,000 multinational companies in about 175 countries.
- *3 RSPO stands for Roundtable on Sustainable Palm Oil, a non-profit organization promoting the sustainable production and use of palm oil.

Logistics Initiatives

Nippon Shokubai outsources all logistics operations to Nisshoku Butsuryu Co., Ltd. The company works closely with the environmental safety and quality assurance divisions at the Himeji and Kawasaki Plants to ensure safety and quality and prevent accidents in logistics. We regularly conduct drills for responding to accidents while products are in transit to make it possible to respond swiftly and minimize the damage in the rare occasions when such accidents occur.

We also endorse the White Logistics movement promoted by the Ministry of Land, Infrastructure, Transport and Tourism and others with the aim of realizing sustainable logistics. We issued our own White Logistics Declaration in April 2020 and have been implementing activities accordingly since then.



A drill for responding to accidents while products are in transit



CSR Procurement Guidelines

Based on our Group Mission "TechnoAmenity - Providing prosperity and comfort to people and society, with our unique technology", we are engaged in business activities to contribute to the achievement of a sustainable society.

In our procurement activities, we strive to fulfill our social responsibilities throughout the supply chain and to ensure sustainable procurement, and we believe that the understanding and cooperation of our suppliers are indispensable in promoting such efforts.

Based on this belief, we have compiled a set of CSR Procurement Guidelines that we would like our suppliers to work on together with our Group companies. We ask our business partners to understand these guidelines and take action accordingly.

1. Compliance

(1) Observance of the relevant national and local laws, ordinances, and regulations and business ethics

We will observe the relevant laws, ordinances and regulations in the countries and regions where we do business. We will behave with integrity, fairness, good will, in a self-directed fashion, and law-abiding spirit.

(2) Prevention, early detection and correction of misconduct

For the prevention, early detection and correction of misconduct, we will establish a system that allows concerned parties who become aware of misconduct to report it directly. In doing so, we will protect the confidentiality of whistleblowers and treat them fairly so that they will not be disadvantaged.

2. Fair and honest business dealings

(1) Fair disclosure of information

We disclose timely and accurate information about ourselves in accordance with the relevant legislation, and we are transparent in our explanations.

(2) Fair and free dealings

We will observe the relevant laws, ordinances, and regulations concerning fair and free competition and business activities in other countries and regions where we do business. We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.

(3) Prevention of bribery and corruption

- a. We will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value, to public officials.

- b. We will not aid, abet or authorize any of such illegal conduct by any third party.
- c. We will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/from clients, customers and other business partners.

(4) Respect for trade-related laws and ordinances

- a. In trading raw materials and products, we will follow proper trade procedures in accordance with the relevant laws and ordinances and will not trade in contraband.
- b. We will not export technology that will be used as information, materials, or products in the production of weapons of mass destruction that would interfere with the preservation of international peace and safety, including nuclear, chemical, and biological weapons.

(5) Responsible procurement

Because our business activities are dependent on the cooperation of the many people and companies in our supply chain, we will promote responsible procurement practices and engage in transactions that are honest and proper.

(6) Respect for and use of intellectual property

- a. We will strive to protect our intellectual property rights and use them in effective way, as we believe that patents, trademarks, designs, knowhow, trade secrets, and publications are key corporate assets and the source of our competitive strength.
- b. In the manufacture and sale of our products, research and development, provision of service, and other business activities, we will respect the intellectual property rights of others and will not infringe on them.

(7) Information security

- a. We will closely control access to our information assets and data systems in order to prevent unauthorized access, loss, leaks, manipulation, destruction, and hacking.
- b. We will formulate measures to counter threats to our computer network and endeavor to minimize any damage to ourselves and others.

(8) Management of confidential information

- a. We will strictly manage the confidential information of others obtained in the course of business.
- b. We will not allow unauthorized disclosures or leaks, and we will not permit such information to be used for purposes other than those intended, nor will we permit viewing by uninvolved parties.

(9) Protection of personal information and privacy

We respect individuals' privacy and collect personal information to the extent necessary and appropriate. We will also strictly manage and protect personal information collected.

(1 0) Dealing with antisocial forces

- a. We will have absolutely nothing to do with antisocial forces that threaten public order and safety or the stable business of the company, whether it is through business relations, money laundering, and other means of providing profits to those involved in such forces.
- b. We will take a firm stance in rejecting improper demands from antisocial forces.

3 . Respect for human rights

(1) Respect for human rights

- a. We will respect everyone's human rights and will not engage in any conduct that unfairly discriminates or harms the dignity of an individual, regardless of the reason.
- b. We will prevent human rights violations by respecting international human rights standards, and the laws and ordinances of each country and region. In the event of a violation, we will respond appropriately and with fairness.
- c. Recognizing that our business activities have an impact on human rights, we will not provide products to firms or groups that commit or promote human rights violations, and we will not take part in purchasing any products or services from such firms or groups.

(2) Prohibition against forced labor and child labor

Under no circumstances will we ever engage in forced labor or child labor, and we will not allow forced labor or child labor to take place in our supply chain.

(3) Prohibition against discrimination

Under no circumstances will we ever engage in discrimination based on gender, age, nationality, race, ethnicity, social status, place of origin, beliefs, creed, religion, physical characteristics, sexual orientation, sexual identity, or disease or disability.

(4) Prohibition against harassment

Under no circumstances will we ever engage in sexual harassment, abuse of power, pregnancy discrimination, or other discriminatory behaviors against another person, or do anything that threatens them or makes them uncomfortable, regardless of whether such threat is physical or emotional.

4 . Fair hiring, labor, and compensation

(1) Payment of appropriate wages and proper management of working hours

We will maintain sound hiring and labor practices, and our treatment of employees regarding wages, work hours, vacations, and the like will conform to the relevant laws and ordinances of the respective countries and regions.

(2) Respect for employees' freedom of association and collective bargaining rights

In accordance with the relevant laws and ordinances of each country and region, we will respect the right to form or participate in labor unions, the right to engage in collective bargaining, and the right to assemble peacefully.

(3) Provision of equal opportunities

We will treat everyone fairly in accordance with their work skills and performance.

5. Preserving the environment

(1) Harmony with the global environment

Based on the desire to leave a better global environment to the next generation, we are controlling emissions of hazardous materials and are taking initiatives to address environmental issues.

(2) Climate change initiatives

Besides reducing emissions of carbon dioxide and other greenhouse gases in our business activities, we are helping to reduce emissions throughout the supply chain, thus contributing to bringing about carbon neutrality.

(3) Efficient use of resources

We are actively involved in resource and energy conservation, waste reduction, and recycling efforts, so that our limited and precious resources can be used more efficiently.

(4) Preserving biodiversity

Recognizing that our business activities do affect biodiversity, we are promoting a deeper understanding and awareness of preserving biodiversity and biodiversity-friendly programs.

6. Ensuring product safety and quality

(1) Providing safe and reliable products and services

We will comply with the laws and regulations of the countries and regions in which we operate, and provide products and services that meet the quality standards of our customers.

(2) Providing safe, high-quality information

When providing products and services, we will properly furnish the necessary information regarding quality and safe usage in an easily understandable way.

(3) Proper management of chemical substances

- a. In the manufacturing process, we will manage chemical substances specified by the laws and regulations of the country in which they are located.
- b. We will manage chemical substances specified by the laws and regulations of each country for all products.

7. Security, disaster prevention, and safety and health

(1) Comprehensive process safety and disaster prevention

We will comply with laws, regulations, and rules related to security and disaster prevention, and thoroughly implement various measures to prevent accidents and disasters that may affect the environment and society, such as explosions, fires, and leaks of hazardous substances. We will also prepare an emergency response plan and make it known to all employees throughout the workplace.

(2) Workplace health and safety

- a. We will strive to eliminate work-related disasters, and we will observe all laws, ordinances, and regulations concerning workplace health and safety.
- b. We will consider our health as well as the health of those working with us and will strive to maintain and enhance a workplace environment in which everyone can be assured of safety and comfort.

(3) Business continuity

We will establish operational structures, including a business continuity plan (BCP), to ensure early recovery in the event of natural disasters such as earthquakes and floods, infectious diseases, cyber attacks, and other threats.

8. Contributing to local communities

(1) Respecting local culture

We will respect the natural surroundings, culture, traditions, and customs of the countries and regions where we do business, and we will work together with local communities and contribute to their development.

End

Established in March 2022

Nippon Shokubai CSR Procurement Guidelines

Corporate Citizenship

Community Co-Creation →

Developing the Next Generation →

Realization of 'Leave No One Behind' →

Philosophy

The Nippon Shokubai Group aims to contribute to the realization of a sustainable society by putting into practice its corporate philosophy “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology,” we are deepening and strengthening its sustainability initiatives in the areas of business activities, human capital (talents), which are the source of value creation in business activities, and organizational foundation. At the same time, companies are expected not only to contribute in their business activities, but also to fulfil their responsibilities as members of society in various aspects of their relations with society.

From this perspective, our Group’s corporate citizenship activities are aimed at resolving social issues that are difficult to solve through business activities alone, and are promoted in accordance with the Corporate Citizenship Policy set out below.

Corporate Citizenship Policy

1. We will work to resolve social issues that lead to the realization of a sustainable society.
2. We will take an international perspective, such as the SDGs, while at the same time correctly recognizing the social issues that need to be tackled, taking into account local characteristics.
3. We respect local nature, culture, traditions and customs, and promote initiatives tailored to the needs and actual conditions of the local community based on the “three actuals” principle, which means go to the site, make a direct observation, and determine the facts.
4. We will develop activities that make use of the Group’s management capitals, such as talents and technology.
5. We aim for the most effective initiatives through dialogue and partnerships with NGOs, NPOs, specialist organizations, public administration and local authorities.

Priority Areas of Corporate Citizenship

Of the themes related to Corporate Citizenship, three themes of high importance and strong relevance to the Group Mission Framework (Mission, Values and Code of Conduct), business characteristics (components of value creation) and Materiality have been set as priority areas to be addressed.

Community Co-Creation →

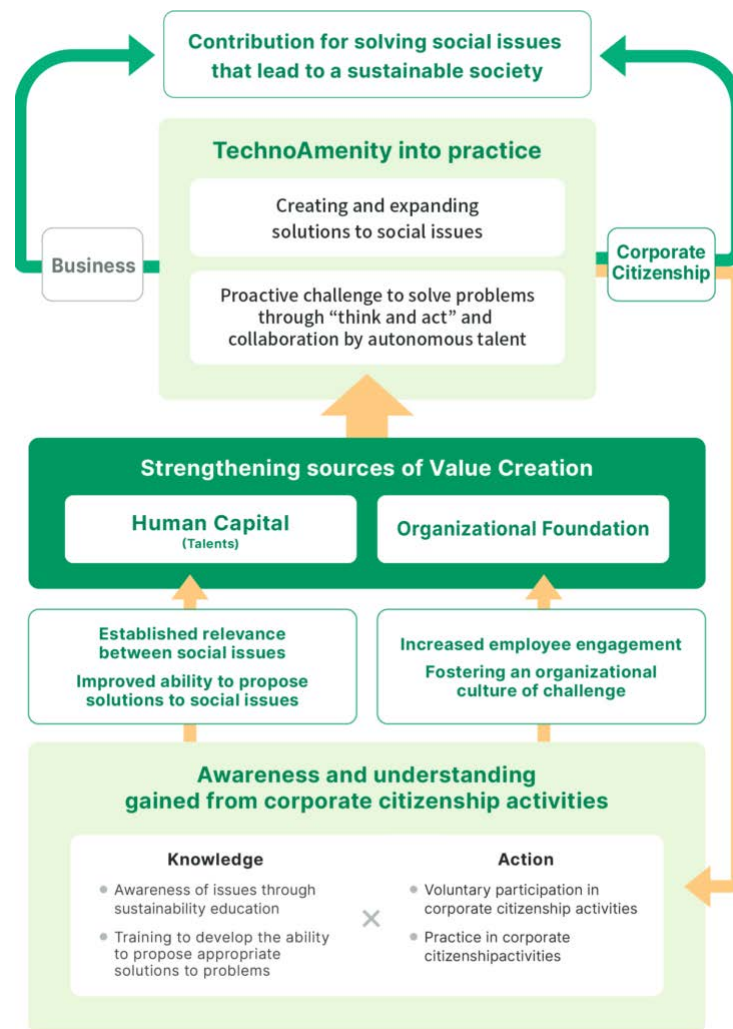
Developing the Next Generation →

Realization of 'Leave No One Behind' →

Strengthening Value Creation through Corporate Citizenship Activities

The corporate citizenship activities we undertake contribute to improving the sustainability of society, which is the basis for the sustainability of our business, while at the same time strengthening talents and organizational foundation, which are the source of our value creation -by establishing relevance between social issues and talents, improving our ability to propose solutions, fostering an organizational culture that challenges and improving employee engagement.

By strengthening our ability to create value through corporate citizenship activities, we aim to realize a virtuous circle in which solutions to social issues are expanded in both our business activities and corporate citizenship activities.



Management System for Promoting Corporate Citizenship

The Sustainability Planning Department of Nippon Shokubai is responsible for formulating the concept and priority areas of corporate citizenship activities for the company and the Group as a whole, and consolidating the results of these activities. In carrying out these activities, the department collaborates with relevant divisions and offices, as well as domestic and overseas Group companies, to promote activities in line with the actual situation in each region.

The results and status of our corporate citizenship activities are fed back to management through the TechnoAmenity Promotion Committee, and effective corporate citizenship activities are carried out based on the opinions of management.

Collaboration with Stakeholders

We will actively disclose and share our Corporate Citizenship Policy and the details of our corporate citizenship activities through our corporate website and reports, and work for continuous improvement through communication with our stakeholders.

Community Co-Creation

Activity Policy

Our business activities belong to and with the local community. Mutual understanding between we companies and local communities is essential for stable business operations. We engage, connect and cooperate with a diverse range of people in local communities, utilizing their unique characteristics to help solve problems and promote activities that create new value.

Our Activities

Contribution to SDGs :



Cleanup activities

We regularly clean up areas around our plants and cooperate with community beautification efforts. Each year in the Suita district, we participate in the Kanzaki River Cleanup Activities, which is implemented as part of the Adopt-a-River Program promoted by the Osaka prefectural government.



Potato harvesting

We grow sweet potatoes in a potato patch in the greenery yard at the Himeji Plant, and children from nearby preschools and nursery schools enjoy digging them up at harvest time. We have done this every year since 1971, and it has enriched our connections with the community—some of the children have even gone on to join the company when they grew up. In FY2022, about 670 children and their parents took part.



Dialogue with local communities

We participate in the community dialogue undertaken by the JCIA Responsible Care Committee in the areas in which our plants are located to explain and communicate our RC activities to the neighborhood associations, local governments, NPOs, industrial associations, companies, and other participants in pursuit of mutual understanding. The dialogue was held in writing, rather than in-person, as a means of preventing the spread of COVID-19 infections.



Dialogue with local communities Proceedings of the dialogue held in writing (cover)

[Corporate Citizenship TOP →](#)

Developing the Next Generation

Activity Policy

As a company that provides materials and solutions needed by society in various fields and aims for sustainable development together with society, the development of the next generations who will create future is an indispensable and important initiative. Through programs that utilize the characteristics of our business, we help young people to acquire the knowledge and thinking that will enable them to carve out their own future and lead independent lives as members of society. In this context, we will promote activities that will help young people become familiar with and foster interest in manufacturing in chemistry, which is difficult to see in daily life, and promote girls' participation in STEM (Science, Technology, Engineering and Mathematics) education, which is a major issue in the promotion of D&I in the chemical industry.

Our Activities

Contribution to SDGs :



Riko challenge (Supporting Girls' Challenges in STEM Fields)

The Riko challenge* is an initiative led by the Gender Equality Bureau of the Japanese Cabinet Office to encourage female students interested in STEM fields to make career path choices (challenge) by clearly imaging their future work in STEM fields.



Riko challenge

Nippon Shokubai joined the “Riko challenge Supporting Organization” to support this initiative.

*Riko means science and engineering in Japanese.

Demonstrations of Chemistry Experiments for Children

We put on demonstrations titled “Superabsorbent Polymers: Mysterious Powders.” Children find these demonstrations to be a fun, interesting introduction to chemistry.



Experiment Show

The number of participants in our company's booth

- FY2022 : Kawasaki Science Challenge (about 90 people), Science Booth Exhibit (about 100 people)
- FY2019 : Chemistry Day Kids' Chemistry Experiment Show 2019 (about 450 people), Kawasaki Science Challenge (about 430 people), Science Booth Exhibit (about 330 people)
- FY2018 : Chemistry Day Kids' Chemistry Experiment Show 2018 (about 400 people), Science Booth Exhibit (about 280 people)
- FY2017 : Chemistry Day Kids' Chemistry Experiment Show 2017 (about 300 people), Science Booth Exhibit (about 250 people)

Internship Program

We have created internship opportunities for technical college students.



Internship

[Corporate Citizenship TOP →](#)

Realization of 'Leave No One Behind'

Activity Policy

The society we aim for is a sustainable society in which all people have not only material and economic wealth, but also spiritual and social wealth, and can live in harmony with nature and various cultures, in a healthy, convenient and secure manner. We promote 'Leave No One Behind' initiatives so that children, the elderly, people with disabilities and their families, disaster victims and all those who need support due to poverty and other various reasons can create and enhance their communities, livelihoods and purpose in life together.

Our Activities

Contribution to SDGs :



We have set "Realization of 'Leave No One Behind'" as a priority area from fiscal 2023. New activities are being prepared in addition to those that have been carried out so far.

Donation

We are making donations for disaster recovery support and support for COVID-19 countermeasures.

Donation activities such as resource recycling

We make donations that lead to vaccinations for children in developing countries and donations to local welfare groups, etc., based on earnings from collecting PET bottle caps and sales commissions from vending machines.

Governance

Corporate Governance



Compliance



Risk Management



Tax Policy



Information Security



Intellectual Property Activities



Corporate Governance

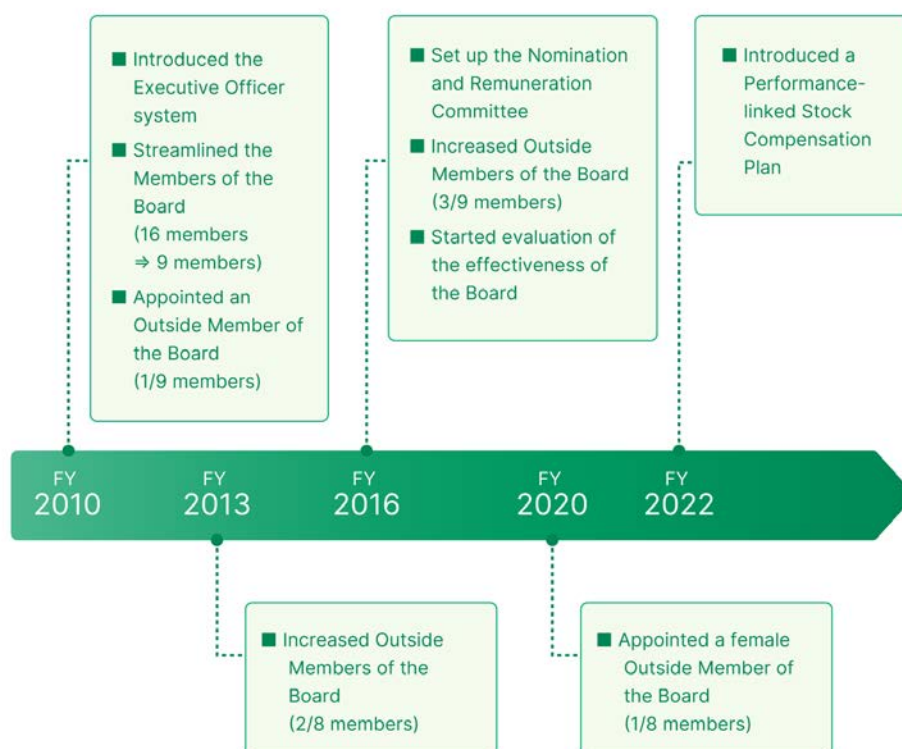
We are working on continuously improving our systems and their operation to strengthen and enhance a viable corporate governance.

Our basic approach to corporate governance

Under the Nippon Shokubai Group Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology," we will increase our corporate value and achieve sustainable growth.

We consider viable corporate governance to be essential and have adopted initiatives toward that end. We ensure the rights and equality of our shareholders and maintain an open dialogue, collaborate with various stakeholders as appropriate, disclose information as appropriate and ensure transparency, ensure that the roles of Board Meeting and management teams relate to the appropriate execution of duties, ensure appropriate supervision of the execution of these duties and strengthen and enhance our internal control systems.

Initiatives to strengthen governance



Our basic information on corporate governance system

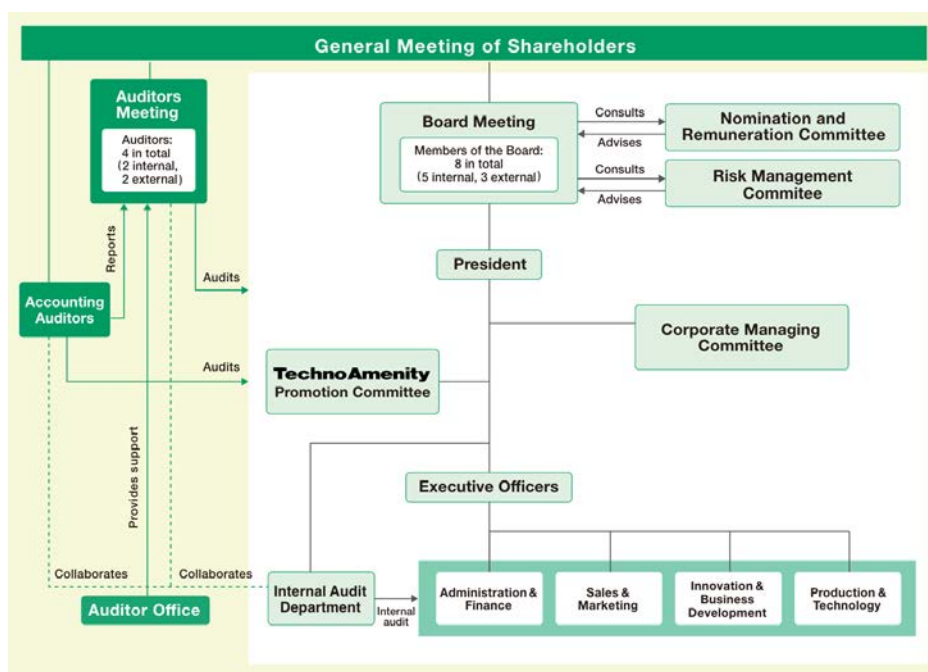
(as of June 21, 2023)

Main Items	Content
Institutional design	Company with an Auditors Meeting
Number of Members of the Board	8 (5 internal, 3 external), including a female Member of the Board
Ratio of Outside Members of the Board (Independent Officers)	38%
Term of office of the Members of the Board	1 year
Number of Board Meetings (FY2022) (Average attendance rate of Outside Members of the Board / External Statutory Corporate Auditors each)	15 times (100% / 100%)
Number of Statutory Corporate Auditors	4 (2 internal, 2 external)
Ratio of External Statutory Corporate Auditors (Independent Officers)	50%
Term of office of Statutory Corporate Auditors	4 years
Number of Auditors Meeting (FY2022) (Average attendance rate of External Statutory Corporate Auditors)	15 times (100%)
Executive Officer system	Have already been introduced
Number of Executive Officers	16, including 5 who concurrently serve as a Members of the Board
Advisory body to the Board Meeting	Nomination and Remuneration Committee established

*The ratios are rounded to the nearest unit.

Our corporate governance system

(as of November 1, 2023)



Roles and Functions of Various Bodies and Committees

Board Meeting

Comprising eight Members of the Board, including three Outside Members of the Board, Board Meeting reports, deliberates and resolves important matters related to business operations, and supervises the business operations of each Member of the Board. In general, meetings are convened monthly under the chairmanship of a Member of the Board selected from members by a resolution of the Board Meeting. Four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, also attend to give advice and state their opinions when necessary.

Corporate Managing Committee

Comprising the President and executive officers, this committee generally convenes once a month to deliberate on items related to the implementation of basic policies and important management issues. Among proposals discussed by the Corporate Managing Committee, important issues are forwarded to Board Meeting for consideration.

Auditors Meeting

Comprising four Statutory Corporate Auditors, including two External Statutory Corporate Auditors, the Auditors Meeting usually convenes monthly, submits reports and engages in discussions and deliberations on important matters related to audits.

Accounting Auditor

Nippon Shokubai is audited by Ernst & Young ShinNihon LLC.

Nomination and Remuneration Committee

An advisory body to the Board Meeting, this is a voluntary organization comprising three or more Members of the Board (including a majority of Outside Members of the Board). It advises on the election/dismissal of the President and Member of the Board, as well as draft nominations of candidates for Members of the Board and Statutory Corporate Auditor positions and on remuneration and bonuses for Members of the Board.

Nomination and Remuneration Committee members

Name	Status	Attendance rate
Kazuhiro Noda	President and Member of the Board	100%
Tetsuo Setoguchi	Outside Member of the Board	100%
Miyuki Sakurai	Outside Member of the Board	100%

Risk Management Committee

An advisory body to the Board Meeting, this is an organization consisting of the president and members appointed by the president. It advises the Board meeting on matters related to identification, response policies, response measures, and the person responsible for management of serious Group-wide risks, etc.

TechnoAmenity Promotion Committee

We promote sustainability activities based on our belief that promoting sustainability means implementing the Nippon Shokubai Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.” We consider promotion of sustainability activities as a core theme of our corporate management. The Committee is responsible for deciding policies and strategies therefor, providing instructions to relevant departments, and evaluating the results of the activities.

Internal Audit Department

The Internal Audit Department (6 members) conducts audits on the effectiveness and efficiency of each operational process, compliance and other matters from a standpoint independent from other executive sections, and thereby verifies the appropriateness of internal control of the Company. The Internal Audit Department strives to improve the effectiveness of internal audits by working in close cooperation with Statutory Corporate Auditors and the Accounting Auditor through mutual exchange of information and opinions.

In addition, the results of internal audits are regularly reported to the President, the Board Meeting, Statutory Corporate Auditors, and the Auditors Meeting.

Policy and procedure for election/dismissal of Members of the Board and Statutory Corporate Auditors

The Board Meeting, including three independent Outside Members of the Board, decides on election/dismissal of management executives and nomination of candidates for Members of the Board and Statutory Corporate Auditors, taking thoroughly into account their expertise, experience, achievements, qualities, abilities, personalities and the like. Also, the Nomination and Remuneration Committee, a voluntary organization consisting mainly of independent Outside Members of the Board, has been established to receive advice on election/dismissal of the President and Member of the Board and nomination of candidates for Members of the Board and Statutory Corporate Auditors, thereby ensuring transparency and fairness in election/dismissal of the President and Member of the Board, and nomination of candidates for Members of the Board and Statutory Corporate Auditors.

Specialty and Experience of Members of the Board and Statutory Corporate Auditors

	Name	Corporate management	Internationality	Sustainability	Compliance / Governance	Finance / Accounting	Production technology / R&D	Sales and marketing	Other
Members of the Board	Kazuhiro Noda	●	●			●			
	Kuniaki Takagi		●		●	●			
	Masahiro Watanabe	●						●	● (SCM)
	Yasutaka Sumida			●			●		● (Intellectual property)
	Yukihiro Matsumoto	●					●		● (DX)
	Outside Shinji Hasebe			●			●		● (Academic experience)
	Outside Tetsuo Setoguchi	●	●					●	
	Outside Miyuki Sakurai				●				● (Internal control / Audit)
Statutory Corporate Auditors	Takashi Kobayashi	●	●			●			
	Teruhisa Wada				●				● (HR / Labor relations)
	External Yoritomo Wada	●	●			●			
	External Tsukasa Takahashi				●				

*1 In the table above, up to three main areas of specialty and experience are marked for each person.

*2 Sustainability referred to in the above list represents mainly expertise and experience in the environmental aspect.

*3 SCM is an acronym for Supply Chain Management and DX is an acronym for Digital Transformation.

Evaluation of the effectiveness of the Board Meeting

1.Process of evaluating the effectiveness of the Board Meeting

As an initiative to improve the effectiveness of the Board Meeting, the Company conducts surveys such as questionnaires to both of the Members of the Board and Statutory Corporate Auditors once a year to evaluate the effectiveness of the Board Meeting. In FY2022, we have implemented the evaluation through a third-party.

Evaluation Process of Board Meeting Effectiveness for FY2022

1. Attendance of the Board Meeting and survey of materials of the Board Meeting by a third-party organization
2. Questionnaire for all Members of the Board and all Statutory Corporate Auditors
3. Third-party interviews with all Members of the Board and all Statutory Corporate Auditors
4. Opinion exchange meeting between all Members of the Board (independent Outside Members of the Board) and the President, Member of the Board.
5. Summary of the result of the effectiveness evaluation at the Board Meeting

2.Items for improvement

The items for improvement identified in the evaluation of the previous fiscal year are as follows:

- Enhancing discussions regarding management policies and strategies at the Board Meeting
- Strengthening the supervisory/advisory function for business execution
- Developing a skill matrix for the Board Meeting
- Nurturing candidates for an officer in charge of sustainable growth

3.Evaluation results and initiatives for the future

- It was confirmed that all the systems that support the composition, operation, deliberations/reports and the supervision of business execution of the Board Meeting were functioning properly and that the effectiveness of the Board Meeting was ensured. It was also confirmed that the measures taken based on the items for improvement identified in the evaluation of the effectiveness of the Board Meeting in the previous fiscal year had been implemented properly.
- To steadily achieve “stronger corporate governance” to foster sustainable growth and enhance medium- to long-term corporate value set forth in “TechnoAmenity for the Future-I” launched in fiscal 2022, we are currently making the following efforts:

«Enhancing discussions regarding management policies and strategies»

- Selection of appropriate themes for discussion at the Board Meeting
- Enhancing information provision and training for Outside Officers regarding the status of internal considerations and discussions, and industry environment, etc.

«Strengthening of supervisory functions related to nomination and remuneration»

- Enhancing discussions on important themes, such as the desired skill set of the Board Meeting, at the Nomination and Remuneration Committee

Outline of the executive remuneration system

1.Basic Policy

- To have Members of the Board put the Company’s mission into practice and provide an incentive to sustainably enhance corporate value
- To have Members of the Board share interests with shareholders according to the Company’s business results and commensurate with their responsibilities
- To set the executive remuneration system at a reasonable level in light of the Company’s business results, the level of employee salaries, and that of other companies
- To have the Nomination and Remuneration Committee, consisting mainly of independent Outside Members of the Board, deliberate on the matter, thereby ensuring transparency and fairness

2.Components of the Remuneration

The remuneration for Members of the Board (excluding Outside Members of the Board) consists of basic remuneration, which is fixed remuneration, and bonuses and stock compensation, which are performance-linked remuneration. Outside Members of the Board receive only basic remuneration as fixed remuneration because they oversee business operations from an independent standpoint.

The Ratio of remuneration for the Members of the Board (excluding Outside Members of the Board)



*The above ratio is only a guide and is subject to change according to the Company's business results, stock market conditions, and degrees of achievement of targets by each individual as assessed by the target management system.

Outline of remuneration

	Fixed remuneration	Performance-linked remuneration	
	Basic remuneration	Bonuses	Stock compensation
Type	Fixed remuneration	Short-term incentive	Medium- and long-term incentive
Persons to be paid	Members of the Board	Members of the Board (excluding Outside Members of the Board)	Members of the Board (excluding Outside Members of the Board)
Method of payment	Money	Money	Shares and Money
Time of payment	Monthly	Paid at a certain time after the Ordinary General Meeting of Shareholders each year	Paid upon the retirement of a Member of the Board
Description	<ul style="list-style-type: none"> • Paid based on the position and responsibilities. • The amount of remuneration for Outside Members of the Board is determined by comprehensively considering the level of remuneration of the Company's officers, and that of other companies. 	<ul style="list-style-type: none"> • Bonuses are paid according to evaluation indicators: the degree of achievement of key performance indicators (KPIs) and the degrees of achievement of targets by each individual as assessed by the target management system. • KPIs consist of "profit before tax" and "ROA (return on assets before tax)," with achievement ratings ranging from 0 to 150%. 	<ul style="list-style-type: none"> • Utilizing the share benefit trust mechanism for officers, payments shall be made according to the total cumulative number of performance-linked points, which are linked to the achievement level of the mid-term management plan, and fixed points, which are for the purpose of holding shares to share stock value. • Performance-linked points and fixed points shall be granted at a ratio of 1:1. • Performance-linked points vary depending on the degree of achievement of KPI results in the final year of

		the mid-term management plan against the targets of the mid-term management plan set as KPIs. • KPIs consist of “operating profit” and “ROE (return on equity attributable to owners of parent)”, with evaluation weights of 50% for “operating profit” and 50% for “ROE”. In addition, each achievement rating shall be in the range of 0 to 150%.
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3. Process for Determining Remuneration

- The Nomination and Remuneration Committee, a voluntary advisory organization consisting mainly of independent Outside Members of the Board, has been established. The Committee deliberates on policies, systems, and issues related to the determination of remuneration for Members of the Board, as well as the appropriateness of the level of remuneration and the amount of remuneration for individual Members of the Board, and reports back to the Board Meeting.
- Based on the Committee’s report, the Board Meeting determines the policy for determining the details of remuneration, etc. for each individual Member of the Board and details of remuneration, etc. within the framework of the amount of remuneration approved by the General Meeting of Shareholders. After the determination of the Board Meeting, the President and Member of the Board is entrusted with decisions regarding the amounts of basic remuneration and bonuses, excluding stock compensation, for individual Members of the Board in light of the contents of the Committee’s report.

Aggregate Amount of Remuneration to Members of the Board and Statutory Corporate Auditors

Category of positions	Aggregate amount of remuneration (million yen)	Aggregate amount of remuneration by type (million yen)			Number of persons to be paid (persons)
		Fixed remuneration	Performance-linked remuneration		
			Basic remuneration	Bonuses	
Members of the Board (Outside Members of the Board)	429 (39)	259 (39)	131 (－)	39 (－)	9 (3)
Statutory Corporate Auditors (External Statutory Corporate Auditors)	72 (20)	72 (20)	－ (－)	－ (－)	5 (2)
Total (Outside Officers)	501 (59)	331 (59)	131 (－)	39 (－)	14 (5)

*1 The number of persons and the amounts of remuneration above include one Statutory Corporate Auditor who retired during the fiscal year 2022.

*2 The basic remuneration includes 8 million yen of basic remuneration of the performance-linked remuneration for the period from April 2022 to June 2022. The amount of such performance-linked remuneration was calculated in accordance with the determination policy for the contents of remuneration, etc. for individual Members of the Board, which was resolved at the Board meeting held on February 26, 2021.

*3 The amount of bonuses represents the amount of provision for directors' bonuses for the current fiscal year.

*4 The amount of stock compensation is the amount posted for the current fiscal year.

Cross shareholding

Under the Nippon Shokubai Group Mission "TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology," we are willing to further advance our contributions to industry and society. To this end, Nippon Shokubai, as a chemical manufacturer, with a view to continuously improving its corporate value, believes that long and stable relationships of trust with business partners are important in development, production, sales and other activities. Based on this belief, we own shares of our partners for the purpose of cross share holding when deemed necessary. Each year, the Board Meeting, including three independent Outside Members of the Board, comprehensively examines all the listed shares we own by issue in light of the above purpose, taking into consideration the capital costs, and confirms the importance of the shareholding. We sell shares if it is judged no longer important to hold such shares.

In fiscal 2022, we sold all shares of three issues. As a result, the number of issues of crossheld shares as of March 31, 2023 decreased from 70 as of the end of the fiscal year before the introduction of the Corporate Governance Code (March 31, 2015), to 35.

Compliance

We are committed to various group-wide initiatives intended to further improve and strengthen compliance system in accordance with our Corporate Code of Compliance.

Compliance system

In order to reinforce our compliance, our Board Meeting has established group-wide compliance policies, “Code of Conduct” and the other codes of conduct, and the executive officer responsible for compliance decides medium- to long-term and annual action plans.

Under the supervision of the executive officer responsible for compliance, the Legal Department promotes various group-wide initiatives for the entire Group including affiliated companies.

Activities to improve compliance

Level-based training

We provide systematic training courses on compliance for new employees, promoted mid-level employees, and promoted managerial employees, depending on their respective job positions and roles.

We also provide periodic training courses on compliance for employees depending on their levels to instill and establish compliance awareness.

Awareness initiatives in each workplace

To ensure the penetration and adoption of compliance throughout the workplace, we conduct training courses on compliance for each workplace once every six months. This training has become a forum for active discussion within each workplace based on a training program that covers violations of corporate ethics and legal violations and similar actions prepared based on situations that actually arose at other companies. We have been implementing this program also at our Group companies in Japan.

Awareness activities on our portal

Our corporate intranet hosts a portal. It lists various kinds of manuals including the manuals as to basic information on contracts, competition laws in various countries, observance of anti-bribery laws and subcontract law, links to websites covering related laws and regulations, and a FAQ page. This site presents the latest available information, and it is updated whenever the relevant laws and regulations are revised.

Whistleblower System

As part of our initiatives to implement compliance, we have established the Whistleblower System under which facts or suspicions of compliance violations inside the company can be freely reported to the internal reporting desks we have set up both inside and outside the company. The intention of the whistleblower is always respected in determining whether or not to disclose the details of the information and the name of the whistleblower, with the objective of protecting the whistleblower.

Compliance with Anti-Bribery Laws and Competition Laws

For Compliance with Anti-Bribery Laws (Nippon Shokubai Group's Code of Conduct)

Nippon Shokubai Group Companies strictly prohibit any corruptions in breach of applicable laws in our business activities.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

[Group Code of Conduct](#) 

For Compliance with Competition Laws (Nippon Shokubai Group's Code of Conduct)

Nippon Shokubai Group Companies will conduct all business transactions based on free and fair market competition principle.

In order to express and give shape of such group policy, we adopt the group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

[Group Code of Conduct](#) 

For Compliance with Anti-Bribery Laws (Nippon Shokubai Group's Code of Conduct)

For the past several years, the relevant authorities all around the world have shown their aggressive policies against corruptions. Especially, in case of bribery of foreign public officials, huge amount of fines are imposed on the companies and individuals in violation of the relevant laws and some of such individuals are punished by imprisonment. News report on mass-media about the violation of laws would lead to deterioration of reputation of the company and have severe adverse effect on the company's business activities.

In our business activities, our decision should always be made based upon "what is right and what is wrong" rather than the profit/loss perspective. The fair business transactions and activities respecting all relevant laws and rules will, in the long run, contribute to Nippon Shokubai Group Companies' acquisition of reliance from stakeholders and increase of business interests.

Nippon Shokubai Group Companies strictly prohibit any corruptions in breach of applicable laws in our business activities. In order to express and give shape of such group policy, we adopt the following group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

Nippon Shokubai Group Companies, in our business activities,

Will not commit any violation of anti-bribery laws of any country, including making inappropriate payoff, offering or promising to pay money/anything of value, to public officials or will not make any illegal facilitation payment, and

Will not aid, abet or authorize any of such illegal conduct by any third party, and

Will not provide with or accept any entertainment and gifts, which go beyond the bounds of socially accepted limits, to/from clients, customers and other business partners.

Needless to say, any individual within Nippon Shokubai Group Companies in violation of the relevant laws or our code of conduct will be subject to strict discipline procedures in accordance with the relevant organization's internal rules, which might lead to dismissal or other discipline actions.

For the individuals working for Nippon Shokubai Co., Ltd., we prepared and published the Compliance Manual on Anti-Bribery Laws, which contains the summary explanation of the relevant laws, points of attention and practical measures to take so that they could refer to in doing business. The president of each Nippon Shokubai Group Companies are hereby requested to comply with our group code of conduct, prepare compliance manual taking the relevant circumstances of their own into consideration and take necessary actions to prevent the violation, including provision to their employees with educational opportunity and/or implementation of audit.

Masanori Ikeda
President
Nippon Shokubai Co., Ltd.

**For Compliance with Competition Laws
(Nippon Shokubai Group's Code of Conduct)**

In recent years, aggressive prosecution has been seen in the field of Competition Laws (Japanese Anti-Monopoly Law and equivalences in other countries) in many foreign countries or regions. More and more competent authorities are developing enforcement regimes, and leading authorities impose severe sanctions such as huge amount of fines and imprisonment.

An investigation or prosecution in one country in violation of Competition Laws relating to global business activities can lead to another enforcement in other countries and spread throughout an industry, as the international auto parts cartel case illustrates. Therefore, Nippon Shokubai Group Company should build up the compliance program as a team, irrespective of the country of its establishment.

Nippon Shokubai Group is aiming to be “A company that everybody can be proud of”; “A company that people can be proud to work for.” To achieve this aim, a decision in our business activities should always be made based upon “what is right and what is wrong” rather than the profit/loss perspective.

Nippon Shokubai Group Companies will conduct all business transactions based on free and fair market competition principle. In order to express and give shape of such group policy, we adopt the following group code of conduct, which all the individuals working for Nippon Shokubai Group Companies should comply with.

We will avoid any conduct which restricts free and fair market competition (abuse of market dominant position, cartel, and unfair trade practice) in every business activity including sales, procurement, research and development, and manufacturing, in order to ensure free and fair business activities.

Needless to say, any individual within Nippon Shokubai Group Companies in violation of the Competition Laws or our code of conduct will be subject to strict discipline procedures in accordance with the relevant organization's internal rules, which might lead to dismissal or other discipline actions.

All individuals are hereby requested to comply with our group code of conduct and follow internal rules in relevant organization, to prevent the violation of the Competition Laws.

Masanori Ikeda
President
Nippon Shokubai Co., Ltd.

Risk Management

We are implementing a variety of measures to accurately identify and respond to risks that accompany changes in the management and business environments and that could impact the long-term continuation of our Group, in accordance with our Risk Management Regulations.

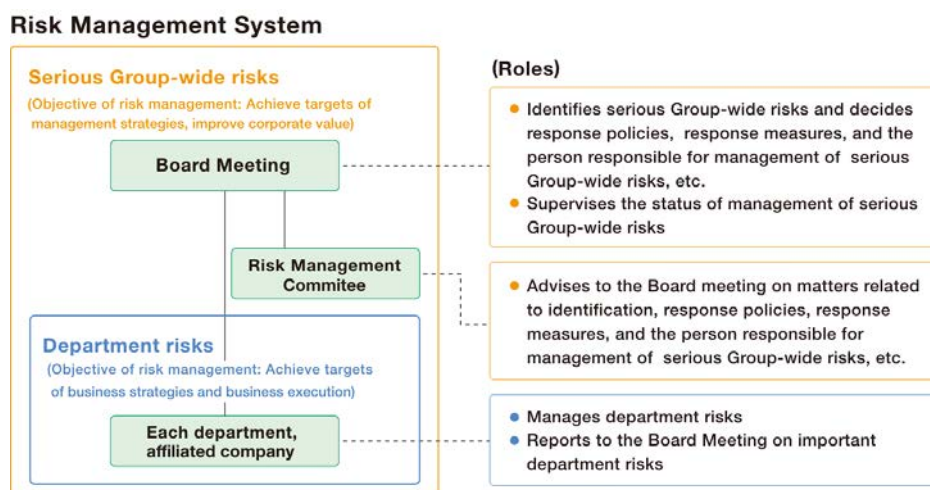
Risk Management System

At the Nippon Shokubai Group, we classify various internal and external risks that threaten our Group into “serious Group-wide risks” and “department risks,” and we develop a risk management system appropriate for each risk category, thereby maintaining and improving our corporate value.

For “serious Group-wide risks,” potential serious risks underlying execution of the Group’s management strategies, sustainable improvement of corporate value, and acquisition of trust from stakeholders are subject to risk management, and we have established a system in which the Board Meeting receives advices from the Risk Management Committee, an advisory body, identifies and assesses the risks, decides whether they should be addressed, and supervises the status of risk management by the executive section.

For “department risks,” on the other hand, potential risks underlying execution of business strategies or business operations by each department or affiliated company are subject to management, and we have established a system in which each department or affiliated company is responsible for risk management, thereby promptly responding to the risks.

With these two systems, we aim to develop and enhance the Group-wide risk management system, which includes our affiliated companies.



Business Continuity Management (BCM)

We have established a Business Continuity Plan (BCP) with countermeasures for earthquakes, influenza outbreaks and other incidents. We are working to strengthen Business Continuity Management (BCM) by regularly reviewing our BCP, as well as by implementing earthquake response training and other measures.

Most recently, we revised the BCP in line with the improvement of IT tools and workplace environment. We are working to strengthen our crisis management system for large-scale earthquakes by making employees fully aware of the revised countermeasures through e-learning and conducting periodic training.

Tax Policy

We have established the Nippon Shokubai Group Code of Conduct as a guideline for all officers and employees of Nippon Shokubai Co., Ltd. and its Group companies to follow when taking specific actions. It enables us to ensure the trust of all stakeholders and promote sustainable business activities aimed at putting our corporate philosophy into practice. Following this Code of Conduct means making tax compliance a top priority. That's why we have established the following Tax Policy for the Nippon Shokubai Group that ensures compliance with the corporate tax laws and regulations of each country and region where we operate as well as all tax treaties, and international tax rules as we work to ensure that we pay our fair share of taxes as required.

This Tax Policy has been approved by the TechnoAmenity Promotion Committee (which is chaired by the President and composed of inside Members of the Board and Executive Officers appointed by the President).

[Nippon Shokubai Group Code of Conduct](#) 

Tax Policy

1. Tax compliance system

Nippon Shokubai's Accounting Department works with the accounting departments of Group companies to enhance overall tax compliance across the Group. In order to achieve this, we have our Accounting Department's tax personnel take part in external training to acquire the necessary expertise, staff the department with a specified number of employees with long-term practical experience, and take other measures as we endeavor to maintain and strengthen our tax governance system.

We also make sure that important matters, such as those related to tax audits and transfer pricing, are reported on at regularly scheduled Corporate Managing Committee meetings.

2. Tax planning

The Nippon Shokubai Group seeks to improve the cash flow from its operating activities through proper tax planning, but does not undertake tax planning that is out of step with its actual business substances, use tax havens for tax avoidance purposes, or transfer profits to low-tax jurisdictions without an economic rationale.

3. Response to transfer pricing taxation

We set intergroup transaction prices in accordance with the OECD Guidelines and other relevant international regulations. We also assess foreign subsidiaries based on functional and risk analysis to determine whether the distribution of profits is appropriate. At the same time, we maintain transfer pricing documents in accordance with the tax laws and related regulations of each country in order to identify transfer pricing risks on our own. However, since it is difficult to completely eliminate the risk that a transaction price determined to be appropriate by our Group will not be recognized by the tax authorities of each country, we seek advice from outside experts, use the Advance Pricing Arrangement, etc. to minimize such a risk. In the event of double taxation, we will endeavor to resolve it through tax treaties or mutual consultation.

4. Relationship with tax authorities

We will respond to requests from tax authorities to provide information, submit materials, etc., and provide the basis for decisions on tax treatment carried out by our Group in tax audits, etc., as we strive to maintain and build a good relationship with tax authorities. We will also endeavor to promptly take measures to prevent any recurrence with respect to deficiencies identified by the tax authorities in past tax audits, etc. However, if the decision of the tax authorities is unreasonable in light of laws and regulations, we will file for relief via an appeal hearing, mutual consultation, etc. if it is appropriate to do so.

Information Security

The Nippon Shokubai Group recognizes that ensuring information security is a corporate social responsibility and considers it an important management issue that affects business continuity. We have established an Information Security Policy to manage and protect the information we handle as important assets, and we will use such information appropriately in our business activities.

Information Security Policy

The Nippon Shokubai Group handles its information assets as well as information assets provided by third parties in compliance with all relevant laws, regulations, and internal rules. We strive to maintain and improve appropriate information management and information security in order to protect information assets from the risks associated with accidents, disasters, and crime as we work to earn the trust of stakeholders and the public at large with an eye to minimizing the potential impact of any security incidents on our business operations.

Our information management and information security initiatives cover all business activities of our Group and are designed to ensure that all officers and employees correctly recognize the importance of information security and take appropriate actions.

Management System

We are working to maintain, manage, and improve information security. We have established a management organization needed to achieve systematic and continuous information security operations so that we can implement more appropriate information security measures in response to the growing complexity of our business activities on a global scale and preserve the public's trust while ensuring safety and security.

The DX Promotion Division is responsible for information security, and the head of the DX Promotion Division serves as the chief information security officer under the supervision of the Member of the Board/Executive Officer in charge. We have established a dedicated team to manage and protect information in the Information Technology Management Department as a headquarters organization. The team works with the departments in charge of information security at business offices and Group companies to strengthen information security.

Security Measures

We have defined basic information security measures (e.g., the introduction of virus scanning software, access control, and external storage device control) that should be implemented in order to protect the information assets we handle from external threats and periodically monitor their implementation status. We also conduct vulnerability assessments by outside experts and examine appropriate responses to enhance network security. In order to prevent information leaks from inside the company, we check the information system operation logs of all officers and employees and take other measures to strengthen our monitoring system. In the event of any violation of internal rules on information security, we will take strict action in accordance with the rules of employment and disciplinary procedures.

Information Security Education

We believe that the awareness of all officers and employees is important to ensure information security and protect information assets. As an information security awareness activity, we provide all officers and employees with targeted attack email training and information security education on an ongoing basis. Providing regular education in this way enables us to improve the information literacy and ethics of each individual and train them to correctly understand information security and information handling. While it is most important to prevent incidents from occurring, we have made it a rule to immediately report any incidents to our security team, so that we can take swift and appropriate action to minimize damage.

Intellectual Property Activities

Consistent with our recognition of intellectual property as essential assets of the company and sources of competitive advantages, our business and research and development divisions are united in their promotion of intellectual property strategies to expand and strengthen existing businesses and create new businesses. We also minimize intellectual property risks by conducting patent surveys as we engage in development and move toward commercialization to show our respect for the intellectual property of other companies and avoid unnecessary disputes.

Promoting inventions

We file high-quality patent applications, and retain useful patent for the new technology we produce in the course of carrying out everyday research and production activities by actively working to unearth new inventions, regularly holding patent review meetings, and applying for patents with the intent to obtain and take advantage of the exclusivity they grant. We also strategically apply for defensive patents and seek to acquire rights with an eye on competitors in our core businesses to ensure our advantages in terms of patents and otherwise quickly adapt to changes in the circumstances surrounding intellectual property.

Furthermore, we are working to reform and improve awareness of intellectual property among our people in research and development sections by training them in intellectual property, specifically through internal patent seminars featuring original training and workshops for R&D agreements to more effectively engage in co-creation with outside entities.

Employee Inventions

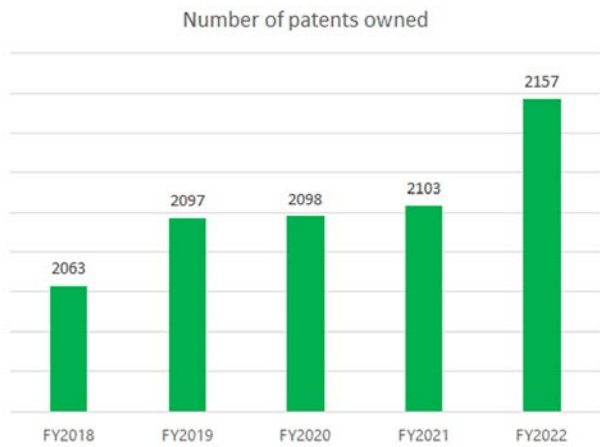
To incentivize our employees to create intellectual property, we established an employee invention program under which we compensate employees for inventing things worthy of applying for patents. We also give rewards to the inventors of inventions that contribute significantly to the company. Since instituting the invention reward program in 2001, we have received and approved more than 10 applications. We also give an annual award to employees who contribute to effective intellectual property activities.

Licensing

Although the foremost use of our proprietary technology is to develop our own business, we also license it to other companies based on our business and research and development strategies—the aim is to leverage the resulting synergy into further development of the company. We also work to increase business opportunities and enhance our presence by proactively introducing the best technology from outside the company and stepping up collaboration with partner companies.

Number of patents owned

We take steps to improve our intellectual property portfolio and properly maintain patents based on research and business policies in an effort to protect the company, enhance collaboration with outside entities through open innovation, and recover research investments through licensing.



Sustainability Data

Policies	Editorial Policy
Initiatives and Organizations	Status of Certification Acquisition
ESG Data	Sustainability Library
GRI Standards Comparison Table	

Policies

Group Mission Framework / Safety Philosophy

- [Group Mission Framework / Safety Philosophy](#)

Sustainability Management

- [Sustainability Policy](#)

Responsible Care

- [RC Policy](#)

Initiatives for Environment

- [Environmental Protection Policy](#)

Initiatives for Society

- [Basic policy on human rights](#)
- [D&I Promotion Policy](#)
- [Basic Approach to Safety Issues](#)
- [Basic stance on occupational safety and health](#)
- [Sustainable Procurement Policy](#)
- [CSR Procurement Guidelines](#)
- [Responsible Procurement of Minerals Policy](#)
- [Corporate Citizenship Policy](#)

Governance

- [Our basic approach to corporate governance](#)
- [For Compliance with Anti-Bribery Laws\(Nippon Shokubai's Group Code of Conduct\)](#)
- [For Compliance with Competition Laws\(Nippon Shokubai's Group Code of Conduct\)](#)
- [Tax Policy](#)
- [Information Security Policy](#)

Investor Relations

- [Disclosure Policy](#)

Other Information

- [Privacy Policy](#)
- [Cookie Policy](#)

Editorial Policy

Editorial Policy

The Nippon Shokubai Group Sustainability Website describes our initiatives to realize a sustainable society under the Nippon Shokubai Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.” For the purpose of gaining the understanding of our stakeholders, we have posted details of our group’s general approach to sustainability, as well as initiatives related to the environment, society, and governance.

We will periodically archive the sustainability website and record it as a sustainability report for the relevant fiscal year.

In addition, the integrated report “TechnoAmenity Report” reports on the Group’s vision, strategies, and initiatives for medium- to long-term value creation. We hope that you will also read the RC Report, which introduces the details of Responsible Care initiatives, and the TCFD Report, which contains information based on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Data related to the environment, society, and corporate governance are posted in the ESG Data.

- [Sustainability Library](#) 
- [ESG Data](#) 

Reporting Scope

Organizational boundary

“Nippon Shokubai Group” and “our Group” refer to Nippon Shokubai and its domestic and overseas consolidated subsidiaries, and “Nippon Shokubai”, “the company” and “we” refer to Nippon Shokubai alone.

Reporting targets for Responsible Care initiatives are as follows.

NIPPON SHOKUBAI CO., LTD.

Osaka Office

Tokyo Office

Himeji Plant

Kawasaki Plant

Suita Research Center

Himeji Research Center

Group Companies in Japan

NIPPOH CHEMICALS CO., LTD.

TOKYO FINE CHEMICAL CO., LTD.

CHUGOKU KAKO CO., LTD.

NIPPON POLYMER INDUSTRIES CO., LTD.

NISSHOKU TECHNO FINE CHEMICAL CO., LTD.

NIPPON NYUKAZAI CO., LTD.

Nisshoku Butsuryu Co., Ltd.

Group Companies outside Japan

Nippon Shokubai America Industries, Inc.

PT. NIPPON SHOKUBAI INDONESIA

NIPPON SHOKUBAI EUROPE N.V.

SINGAPORE ACRYLIC PTE LTD

NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.

SINO-JAPAN CHEMICAL CO., LTD.

- [Business Locations](#) 

Reporting Period

April 1, 2022 to March 31, 2023

Some topics in and after April 2023 are also contained in the website.

Reporting Cycle

Annually



Publication date

Publication date : December 2023

Previous publication: January 2023

Next scheduled publication: December 2024

Referenced Guidelines

- Global Reporting Initiative (GRI) Sustainability Reporting Standards
 - [GRI Standards Comparison Table](#) 
- Recommendations of the Task Force on Climate-related Financial Disclosures (TCFD)
 - [TCFD Report](#) 

- Environmental Reporting Guidelines 2018, Environmental Accounting Guidelines 2005, Ministry of the Environment, Government of Japan
- Environmental Accounting Guidelines for the Chemical Industry, Japan Chemical Industry Association and Japan Responsible Care Council
- IIRC (International Integrated Reporting Council) International Integrated Reporting Framework

Third-party Verification

The calculation of GHG emissions has undergone third-party verification.

- [Third-party Verification Report on Greenhouse Gas Emissions](#) 

Contact

Contact



Greenhouse Gas Emissions Verification Report

To: NIPPON SHOKUBAI CO., LTD.

1. Objective and Scope

Japan Quality Assurance Organization (hereafter “JQA”) was engaged by NIPPON SHOKUBAI CO., LTD. (hereafter “the Company”) to provide an independent verification on “FY2022* calculation report of GHG emissions” (hereafter “the Report”). The content of our verification was to express our conclusion, based on our verification procedures, on whether the Report was correctly measured and calculated, in accordance with the “Calculation manual of GHG emissions” (hereafter “the Rule”) developed by the Company. The purpose of the verification is to evaluate the Report objectively and to enhance the credibility of the Report.

*The fiscal year 2022 of the Company ended on March 31, 2023.

2. Procedures Performed

JQA conducted verification in accordance with “ISO 14064-3” for GHG emissions, and with “ISAE3000” for energy consumption and Carbon Neutral City Gas purchase quantity. The scope of this verification assignment covers Scope 1, 2 as GHG (CO₂, CH₄, N₂O, CFC, HCFC, HFCs and PFCs) emissions, energy consumption and Carbon Neutral City Gas purchase quantity. The verification was conducted to a limited level of assurance and quantitative materiality was set at 5 percent of the total emissions in the Report. The organizational boundaries of this verification include ten production sites and four non-production sites of the Company and its group companies in Japan.

Our verification procedures included:

- Performing validation of integrated functions to check the Rule prior to the on-site assessment.
- Holding on-site verification at the Company’s two domestic sites. The location of sampling sites for on-site assessment was selected by the Company.
- On-site assessment to check the Report’s boundaries, source of GHG, monitoring points, monitoring and calculation system and its controls.
- Vouching: Cross-checking the GHG emissions, energy consumption and Carbon Neutral City Gas purchase quantity data against evidence for all sampling sites.

3. Conclusion

Based on the procedures described above, nothing has come to our attention that caused us to believe that the statement of the information regarding the Company’s FY2022 GHG emissions, energy consumption and Carbon Neutral City Gas purchase quantity in the Report, is not materially correct, or has not been prepared in accordance with the Rule.

GHG Emissions	Scope1	Scope2	Total
	626 thousand t-CO ₂ e	157 thousand t-CO ₂	784 thousand t-CO ₂ e
Carbon Neutral City Gas purchase quantity	28,000 thousand Sm ³ (15°C, atmospheric pressure)		

4. Consideration

The Company was responsible for preparing the Report, and JQA’s responsibility was to conduct verification of GHG emissions, energy consumption and Carbon Neutral City Gas purchase quantity in the Report only. There is no conflict of interest between the Company and JQA.



Sumio Asada, Board Director

For and on behalf of Japan Quality Assurance Organization

1-25, Kandasudacho, Chiyoda-ku, Tokyo, Japan

September 6, 2023

Initiatives and Organizations

Major initiatives which we support and organizations which we belong to

United Nations Global Compact (UNGC)

The UNGC is a sustainability initiative that brings together the United Nations and the private sector (companies and organizations) to build a healthy global society.

Each company and organization acts as a good member of society by exercising responsible and creative leadership, and takes voluntary initiatives to achieve sustainable growth.

Signatory companies and organizations are required to continue their efforts to achieve ten principles in the areas of the protection of human rights, the elimination of unfair labor practices, environmental responsibility, and anti-corruption, based on the commitment of their top management themselves to these principles.




The Ten Principles of the UNGC

Human Rights	Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and Principle 2: make sure that they are not complicit in human rights abuses.
Labour	Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining; Principle 4: the elimination of all forms of forced and compulsory labour; Principle 5: the effective abolition of child labour; and Principle 6: the elimination of discrimination in respect of employment and occupation.
Environment	Principle 7: Businesses should support a precautionary approach to environmental challenges; Principle 8: undertake initiatives to promote greater environmental responsibility; and

	Principle 9: encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Related links

- [United Nations Global Compact \(UNGC\)](#) 
- [News Release \(October 26th, 2020\) – Nippon Shokubai Signs United Nations Global Compact](#)
- [Sustainability Management](#)


Task Force on Climate-Related Financial Disclosures (TCFD)

The TCFD is a task force established by the Financial Stability Board (FSB), an international organization of central banks and financial regulators from major countries and regions around the world.

It provides a framework for disclosing information on climate change-related risks and opportunities.



Related links

- [Task Force on Climate-Related Financial Disclosures \(TCFD\)](#) 
- [News Release \(March 30th, 2021\) – Nippon Shokubai to Support the Recommendations of the Task Force on Climate-related Financial Disclosures \(TCFD\)](#)
- [Tackling Climate Change](#)
- [TCFD Reports](#)

Responsible Care Global Charter

Responsible Care (RC) is an activity in which companies handling chemical substances engage in dialogue and communication with society by voluntarily ensuring the environment, safety, and health in all processes from development, manufacturing, distribution, use, and final consumption to disposal and recycling of chemical substances, and by disclosing the results of these activities.

The International Council of Chemical Associations (ICCA) published the Responsible Care Global Charter, which was revised in 2014 to promote activities internationally.



President's signature on the RC Global Charter (Revised 2014 version)

Related links

- [Responsible Care Initiatives](#)

Japan Clean Ocean Material Alliance (CLOMA)

The CLOMA is a platform in Japan to accelerate innovation by strengthening collaboration among a wide range of stakeholders across industries to solve the global issue of marine plastic waste.



Related links

- [Japan Clean Ocean Material Alliance \(CLOMA\)](#)

Long-range Research Initiative(LRI)

The LRI is an international initiative that provides long-term support for research on the effects of chemical substances on human health and the environment. The Japan Chemical Industry Association (JCIA) is promoting this initiative in Japan.

Related links

- [Long-range Research Initiative\(LRI\)](#)

Keidanren Initiative for Biodiversity Conservation

This is an initiative by the Japan Business Federation (Keidanren) to “realize a sustainable society through building a society in harmony with nature”.

The initiative has seven action guidelines, including management responsibility, voluntary efforts, and partnership.

Related links

- [Keidanren Initiative for Biodiversity Conservation](#)
- [Biodiversity Preservation](#)

“White Logistics” Movement

This is an initiative promoted by the Ministry of Land, Infrastructure, Transport and Tourism, and other ministries. This movement aims to ensure the stable logistics necessary for people’s daily lives

and industrial activities as well as to contribute to the growth of the economy by improving productivity and logistics efficiency of truck transportation and achieving a “white” working environment for drivers and other workers.

Related links

- [“White Logistics” Movement](#) 
- [Logistics Initiatives](#)

Challenge Initiative for 30% of Executives to Be Women by 2030 – #Here We Go 203030 –

The initiative was announced by the Japan Business Federation (Keidanren) in 2021. The initiative aims to “increase the proportion of women on the board of directors to at least 30% by 2030” and is working to “promote the active participation in the workforce by diverse people” in order to achieve inclusion and co-creation of diverse value that are the keys to sustainable capitalism.

Related links

- [Challenge Initiative for 30% of Executives to Be Women by 2030 – #Here We Go 203030 –](#) 

EcoVadis

EcoVadis is an online platform for supply chain sustainability performance management operated by French company EcoVadis. The platform serves over 100,000 companies in some 175 countries.

Related links

- [Initiatives to Promote Responsible Procurement](#)

Sedex

Sedex, a non-profit organization, operates an online platform for companies to store and view data on ethical and responsible business practices. The platform is adopted in 180 countries and regions across 35 industry sectors, including food, agriculture, financial services, clothing, garments, packaging, and chemicals.

Related links

- [Initiatives to Promote Responsible Procurement](#)

Roundtable on Sustainable Palm Oil (RSPO)

The RSPO is a not-for-profit organization to promote the sustainable production and use of palm oil. It unites a wide range of stakeholders involved in palm oil and facilitates them working together to consider the impact of palm oil on the environment and human rights through two systems: certification of sustainable production and certification of systems for the proper distribution of certified palm oil.

Related links

- [Roundtable on Sustainable Palm Oil \(RSPO\)](#) 
- [Initiatives to Promote Responsible Procurement](#)

Other major organizations which we belong to

- Japan Business Federation (Keidanren)
- Japan Chemical Industry Association (JCIA)
- Japan Petrochemical Industry Association (JPCA)
- Kansai Chemical Industry Association (Kankakyo)
- Battery Association for Supply Chain (BASC)
- Clean Fuel Ammonia Association (CFAA) etc.

Status of Certification Acquisition

Nippon Shokubai Group has obtained the following certifications for the environmental and quality management system.

Environmental management system

As of October, 2023

NIPPON SHOKUBAI CO., LTD.

Name of manufacturing site	Applicable standard	Registration number	Acquisition date
Kawasaki Plant	ISO 14001:2015	JCQA-E-0157	June 2000
Himeji Plant	ISO 14001:2015	JCQA-E-0273	July 2001

Group Companies in Japan

Name of group company	Applicable standard	Registration number	Acquisition date
NIPPOH CHEMICALS CO., LTD.	ISO 14001:2015	C2021-05330	February 2007
CHUGOKU KAKO CO., LTD.	Eco-Action 21	0001926	October 2007
NIPPON NYUKAZAI CO., LTD.	ISO 14001:2015	JCQA-E-0908	May 2003
TOKYO FINE CHEMICAL CO., LTD.	Eco-Action 21	0003559	April 2009
NISSHOKU TECHNO FINE CHEMICAL CO., LTD.	ISO 14001:2015	EMS517539	August 2007
NIPPON POLYMER INDUSTRIES CO., LTD.	ISO 14001:2015	JCQA-E-0477	June 2003

Group Companies outside Japan

Name of group company	Applicable standard	Registration number	Acquisition date
SINGAPORE ACRYLIC PTE LTD.	ISO 14001:2015	10410011	January 2007
PT. NIPPON SHOKUBAI INDONESIA	ISO 14001:2015	118973	November 2002
Nippon Shokubai America Industries, Inc.	ISO 14001:2015	141948.00	March 2020
NIPPON SHOKUBAI EUROPE N.V.	ISO 14001:2015	10469752	September 2004
NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.	ISO 14001:2015	CN041409	November 2007
SINO-JAPAN CHEMICAL CO., LTD.	ISO 14001:2015	TW15/10557	June 2006

Quality management system

As of October, 2023

NIPPON SHOKUBAI CO., LTD.

Name of manufacturing site	Applicable standard	Registration number	Acquisition date
Kawasaki Plant	ISO 9001:2015	JCQA-0235	July 1997
Himeji Plant	ISO 9001:2015	JCQA-0515	July 1999

Group Companies in Japan

Name of group company	Applicable standard	Registration number	Acquisition date
NIPPOH CHEMICALS CO., LTD	ISO 9001:2015	C2021-05329	December 2001
CHUGOKU KAKO CO., LTD	ISO 9001:2015	C2023-03659	September 2002
NIPPON NYUKAZAI CO., LTD.	ISO 9001:2015	JCQA-0377	October 1998

TOKYO FINE CHEMICAL CO., LTD.	ISO 9001:2015	JCQA-1580	December 2005
NISSHOKU TECHNO FINE CHEMICAL CO., LTD	ISO 9001:2015	FM 81150	March 2004
NIPPON POLYMER INDUSTRIES CO., LTD.	ISO 9001:2015	JCQA-1038	January 2002

Group Companies outside Japan

Name of group company	Applicable standard	Registration number	Acquisition date
SINGAPORE ACRYLIC PTE LTD	ISO 9001:2015	10350850	May 2006
PT. NIPPON SHOKUBAI INDONESIA	ISO 9001:2015	118972	November 2001
Nippon Shokubai America Industries, Inc.	ISO 9001:2015	111948.00	March 2020
NIPPON SHOKUBAI EUROPE N.V.	ISO 9001:2015	10469752	October 2004
NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD.	ISO 9001:2015	CN0414098	December 2007
SINO-JAPAN CHEMICAL CO., LTD.	ISO 9001:2015	TW15/10538	July 2000

ESG Data

The data sheets include environmental data, social data, corporate governance data.

FY2022

FY2022 ESG Data Sheet (FY2018-FY2022) Last updated : September 25, 2023



Back numbers

FY2021 ESG Data Sheet (FY2017-FY2021)



FY2020 ESG Data Sheet (FY2016-FY2020)



FY2019 ESG Data Sheet (FY2015-FY2019)





ESG Data Sheet

FY2022

[Aggregation Period]

April 1 – March 31 of each fiscal year, and March 31 of each fiscal year

[Last Updated]

September 25th, 2023

Environment

[Scope of Data Aggregation]

"Nippon Shokubai"	NIPPON SHOKUBAI CO., LTD.
"Nippon Shokubai (manufacturing sites)"	Manufacturing sites of NIPPON SHOKUBAI CO., LTD. (Himeji Plant / Kawasaki Plant)
"Group companies in Japan"	NIPPOH CHEMICALS CO., LTD. / TOKYO FINE CHEMICAL CO., LTD. / CHUGOKU KAKO CO., LTD. / NIPPON POLYMER INDUSTRIES CO., LTD. / NISSHOKU TECHNO FINE CHEMICAL CO., LTD. / NIPPON NYUKAZAI CO., LTD. / Nisshoku Butsuryu Co., Ltd.
"Group companies outside Japan"	Nippon Shokubai America Industries, Inc. / PT. NIPPON SHOKUBAI INDONESIA / NIPPON SHOKUBAI EUROPE N.V. / SINGAPORE ACRYLIC PTE LTD / NISSHOKU CHEMICAL INDUSTRY (ZHANGJIAGANG) CO., LTD. / SINO-JAPAN CHEMICAL CO., LTD.
"Nippon Shokubai Group"	The above Nippon Shokubai, Group companies in Japan, and Group companies outside Japan
"Nippon Shokubai Group in Japan"	The above Nippon Shokubai and Group companies in Japan

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Aspect	Classification		Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Prevention of global warming	Energy consumption		Nippon Shokubai Group	1,000 kL (crude oil equivalent)	316	306	309	299	309
				GWh	2,455	2,431	2,443	2,406	2,536 ^{*1}
			Nippon Shokubai		198	191	197	184	187
			Nippon Shokubai (manufacturing sites)	1,000 kL (crude oil equivalent)	190	182	189	175	179
			Group companies in Japan		27	26	27	28	27
			Group companies outside Japan		91	89	85	88	96
	Energy intensity		Nippon Shokubai (manufacturing sites)	L/tons-production volume (crude oil equivalent)	104	102	109	98	111
	GHG emissions *2	Scope 1+2 *3*4	Nippon Shokubai Group	1,000 tons-CO ₂ e	1,196	1,150	1,145	1,173	1,087 ^{*1*5}
			Nippon Shokubai		784	748	739	755	654 ^{*1*5}
			Group companies in Japan		68	64	68	70	68
			Group companies outside Japan		344	338	338	349	364
		Scope 1 *3*4	Nippon Shokubai Group	1,000 tons-CO ₂ e	798	809	803	839	727 ^{*1*5}
			Nippon Shokubai		604	607	596	627	521 ^{*1*5}
			Group companies in Japan		39	37	43	45	44
			Group companies outside Japan		154	165	164	168	161
		Scope 2	Nippon Shokubai Group	1,000 tons-CO ₂	398	341	343	334	360
			Nippon Shokubai		180	141	143	128	133
			Group companies in Japan		29	27	25	25	24
			Group companies outside Japan		189	173	174	181	203
		Scope 3	Nippon Shokubai	1,000 tons-CO ₂ e	3,813 ^{*4}	3,701 ^{*4}	3,567 ^{*4}	3,783 ^{*4}	3,405
		Cat. 1: Purchased goods and services *6			1,556	1,510	1,445	1,522	1,370
		Cat. 2: Capital goods *6			31	37	55	44	43
		Cat. 3: Fuel- and energy-related activities not included in Scope 1 or Scope 2 *6			61	63	85	83	89
		Cat. 4: Upstream transportation and distribution *6			14	14	14	15	13
		Cat. 5: Waste generated in operations *6			7	7	7	8	5
		Cat. 6: Business travel *6			0	0	0	0	0
		Cat. 7: Employee commuting *6			1	1	1	1	1
		Cat. 8: Upstream leased assets *6			—	—	—	—	—
		Cat. 9: Downstream transportation and distribution *6			—	—	—	—	—
		Cat. 10: Processing of sold products *6			—	—	—	—	—
		Cat. 11: Use of sold products *6			—	—	—	—	—
		Cat. 12: End-of-life treatment of sold products *6			2,142	2,068	1,961	2,111	1,884
		Cat. 13: Downstream leased assets *6			—	—	—	—	—
		Cat. 14: Franchises *6			—	—	—	—	—
		Cat. 15: Investments *6			—	—	—	—	—
	Estimated value of avoided emissions in the supply chain by Environmental Contribution Products *6		Nippon Shokubai Group	10,000 tons-CO ₂	—	—	—	104	114

Environment
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Aspect	Classification		Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022	
Environmental conservation for logistics	CO ₂ emissions attributable to domestic logistics		Nippon Shokubai	1,000 tons-CO ₂	14.4	14.2	13.9	14.8	13.2	
	CO ₂ emissions intensity attributable to domestic logistics		Nippon Shokubai	kg-CO ₂ /1,000 ton-km	58.6	58.5	59.0	58.7	57.9	
Water	Water withdrawal	Surface water (rivers, lakes, etc.)	Nippon Shokubai Group	million m ³	0.0	0.0	0.0	0.0	0.0	
			Nippon Shokubai		0.0	0.0	0.0	0.0	0.0	
			Group companies in Japan		0.0	0.0	0.0	0.0	0.0	
			Group companies outside Japan		0.0	0.0	0.0	0.0	0.0	
		Groundwater	Nippon Shokubai Group	million m ³	3.3	3.3	3.3	3.3	3.4	
			Nippon Shokubai		0.0	0.0	0.0	0.0	0.0	
			Group companies in Japan		3.3	3.3	3.3	3.3	3.4	
			Group companies outside Japan		0.0	0.0	0.0	0.0	0.0	
		Sea water	Nippon Shokubai Group	million m ³	46.4	45.4	45.8	17.1	0.0	
			Nippon Shokubai		0.0	0.0	0.0	0.0	0.0	
			Group companies in Japan		0.0	0.0	0.0	0.0	0.0	
			Group companies outside Japan		46.4	45.4	45.8	17.1	0.0	
		Third-Party sources (tap water, industrial water, etc.)	Nippon Shokubai Group	million m ³	19.7	19.5	19.5	20.0	19.9	
			Nippon Shokubai		15.0	14.9	14.6	14.8	14.4	
			Group companies in Japan		2.6	2.6	2.7	2.6	2.6	
			Group companies outside Japan		2.2	2.1	2.1	2.6	3.0	
		Total	Nippon Shokubai Group	million m ³	69.3	68.2	68.6	40.5	23.3	
			Nippon Shokubai		15.0	14.9	14.6	14.8	14.4	
			Group companies in Japan		5.8	5.9	6.0	6.0	6.0	
			Group companies outside Japan		48.6	47.4	47.9	19.8	3.0	
		Water use intensity *6	Nippon Shokubai (manufacturing sites)	m ³ /tons-production volume	—	—	8.45	8.26	8.96	
		Water Stress sites *7	Nippon Shokubai Group	numbers	0	0	0	0	0	
		Consumption in water-stressed regions	Nippon Shokubai Group	million m ³	0.0	0.0	0.0	0.0	0.0	
	Water discharge	Water discharge	Surface water (rivers, lakes, etc.)	Nippon Shokubai Group	million m ³	4.5	4.5	4.6	4.7	4.8
				Nippon Shokubai		0.0	0.0	0.0	0.0	0.0
				Group companies in Japan		3.9	3.9	4.0	4.0	4.0
				Group companies outside Japan		0.6	0.6	0.7	0.7	0.8
			Subsurface	Nippon Shokubai Group	million m ³	0.0	0.0	0.0	0.0	0.0
				Nippon Shokubai		0.0	0.0	0.0	0.0	0.0
				Group companies in Japan		0.0	0.0	0.0	0.0	0.0
				Group companies outside Japan		0.0	0.0	0.0	0.0	0.0
			Ocean	Nippon Shokubai Group	million m ³	55.8	54.7	55.5	27.0	9.4
				Nippon Shokubai		7.8	7.7	7.9	8.1	7.7
				Group companies in Japan		1.6	1.6	1.7	1.7	1.8
				Group companies outside Japan		46.4	45.4	45.8	17.1	0.0
			Third Party Dischargers (sewage, etc.)	Nippon Shokubai Group	million m ³	0.3	0.3	0.3	0.3	0.2
				Nippon Shokubai		0.0	0.0	0.0	0.0	0.0
				Group companies in Japan		0.1	0.1	0.1	0.1	0.0
				Group companies outside Japan		0.2	0.2	0.2	0.2	0.2
			Total	Nippon Shokubai Group	million m ³	60.6	59.5	60.4	32.0	14.5
				Nippon Shokubai		7.9	7.7	8.0	8.2	7.7
				Group companies in Japan		5.5	5.6	5.8	5.8	5.8
				Group companies outside Japan		47.2	46.1	46.6	18.0	1.0
		Water consumption *8	Total	Nippon Shokubai Group	million m ³	8.7	8.7	8.2	8.6	8.8
				Nippon Shokubai		7.1	7.1	6.7	6.6	6.7
				Group companies in Japan		0.3	0.3	0.2	0.2	0.1
				Group companies outside Japan		1.4	1.3	1.3	1.7	2.0
Raw material		Purchased raw materials		Nippon Shokubai	1,000 tons	1,067	1,032	969	1,047	924

Environment
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Aspect	Classification	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Prevention of air and water pollution	SOx emissions	Nippon Shokubai Group *4	tons	9.9	9.9	8.6	7.9	8.6
		Nippon Shokubai		3.5	3.5	3.7	3.1	3.0
		Group companies in Japan		1.6	1.4	1.6	1.4	0.7
		Group companies outside Japan *6		4.8	5.0	3.3	3.5	4.9
	NOx emissions	Nippon Shokubai Group *4	tons	283	313	307	328	308
		Nippon Shokubai		198	203	198	196	186
		Group companies in Japan		45	43	48	72	52
		Group companies outside Japan *6		41	67	61	61	70
	Dust emissions	Nippon Shokubai Group in Japan	tons	8.6	9.8	7.8	9.4	8.0
		Nippon Shokubai		6.3	6.5	5.7	7.4	6.0
		Group companies in Japan		2.2	3.3	2.1	2.1	1.9
	VOC emissions	Nippon Shokubai	tons	82	89	57	59	62
	COD emissions	Nippon Shokubai Group in Japan	tons	108	110	111	110	116
		Nippon Shokubai		55	50	50	56	45
		Group companies in Japan		53	60	61	55	72
	Total phosphorous	Nippon Shokubai	tons	2.9	2.7	2.5	2.6	2.3
	Total nitrogen emissions	Nippon Shokubai	tons	58	55	52	56	57
Waste reduction	Quantity of off-site waste *9	Nippon Shokubai Group	1,000 tons	11.3	9.5	9.8	11.0	10.6
		Nippon Shokubai		3.1	2.8	2.8	3.0	2.0
		Group companies in Japan		5.6	6.0	5.5	7.0	6.9
		Group companies outside Japan		2.6	0.7	1.6	0.9	1.6
	Quantity of recycling	Nippon Shokubai Group	1,000 tons	52	47	45	49	46
		Nippon Shokubai		40	34	34	38	35
		Group companies in Japan		3	2	2	2	2
		Group companies outside Japan		9	10	9	9	9
	Quantity of final off-site landfill	Nippon Shokubai Group	tons	328	322	494	568	611
		Nippon Shokubai		13	11	11	9	9
		Group companies in Japan		60	71	108 ^{*1}	118 ^{*1}	82
		Group companies outside Japan		255	240	376	442	521
	Quantity of final off-site landfill / Total amount of waste generated Objective: ≤0.1%	Nippon Shokubai	%	0.018	0.016	0.016	0.016	0.018
Chemical management	Substances subject to the PRTR law *10	Nippon Shokubai Group in Japan	tons	135	113	117	121	112
		Nippon Shokubai		96	79	83	86	81
		Released into atmosphere		47	41	38	40	37
		Released into water		49	37	45	46	45
		Group companies in Japan		39	35	34	35	30

Environment
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Aspect	Classification	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Environmental management *6	Ratio of plants with environmental management system (EMS) certification *11	Nippon Shokubai Group	%	100	100	100	100	100
Environmental accounting	Environmental protection cost (Investment)	Nippon Shokubai	million yen	2,403	2,960	327	105	88
	Environmental protection cost (Expense)	Nippon Shokubai	million yen	8,666	9,678	9,471	9,508	9,382
	Economic effect resulting from environmental protection initiatives	Nippon Shokubai	million yen	2,649	2,577	2,484	6,722	5,881
Violation of environmental laws and regulations	Number of significant fines and penalties for violations of environmental laws and regulations *2	Nippon Shokubai Group	numbers	0	0	0	0	0

*1 Fixed calculation errors

*2 Revised disclosure method

*3 Calculated based on the GHG Protocol and includes GHG emissions from non-energy sources not subject to calculation under the Act on Promotion of Global Warming Countermeasures.

*4 Review some of the range of aggregation

*5 Includes 61,000 tons-CO₂ offset from the purchase of carbon-neutral city gas.

*6 Added new contents

*7 To conduct water risk assessments, we used the Aqueduct Water Risk Atlas of World Resources Institute (WRI).

*8 Water consumption is calculated by subtracting water discharge from water withdrawal.

*9 The quantity of off-site waste emission is obtained by subtracting the quantity of on-site reduction, on-site recycling, on-site landfill and off-site recycling from the quantity of waste generated.

*10 PRTR law: The official name is "Act on the Assessment of Releases of Specified Chemical Substances in the Environment and the Promotion of Management Improvement"

*11 Ratio at manufacturing sites. EMS certification is ISO 14001 or EcoAction 21, Japan's own EMS established by the Ministry of the Environment.

<Scope 3 calculation method>

Cat. 1: Calculated by multiplying physical volume data of products purchased or acquired by the company by emissions unit values for each product from the resource extraction stage to the manufacturing stage

Cat. 2: Calculated by multiplying the value of newly acquired fixed assets by the emissions intensity

Cat. 3: Calculated by multiplying physical volume data such as fuel, electricity, and heat purchased by the company by the emissions intensity from the resource extraction stage to the transportation stage

Cat. 4: Calculated by applying the calculation method for specified consignors under the calculation, reporting, and publication system

Cat. 5: Calculated by multiplying the outsourced amount by waste type and processing method by the emission intensity by waste type and processing method

Cat. 6: Calculated by multiplying the number of employees by the emissions intensity

Cat. 7: Calculated by multiplying the number of employees by work type and city class by the number of business days per year and the emissions intensity

Cat. 8: Only leases within the group, not applicable as they are calculated in scope 1 and 2 of group companies

Cat. 9: Not calculated due to difficulty in collecting data necessary for calculation

Cat. 10: Not calculated due to difficulty in collecting data necessary for calculation

Cat. 11: Not calculated due to difficulty in collecting data necessary for calculation

Cat. 12: Calculated by multiplying the sales volume of each product by the emission factor for each product (Products with a sales volume of 100 tons or more are covered. The coverage rate is 99% or more.)

Cat. 13: Only leases within the group, not applicable as they are calculated in scope 1 and 2 of group companies

Cat. 14: Not applicable because there is no applicable activity

Cat. 15: Not applicable as the company is not an investment company

*Database used

IDEA: National Institute of Advanced Industrial Science and Technology Safety Science Research Institute IDEA Lab

Ministry of the Environment DB: Emission intensity database for calculating greenhouse gas emissions, etc. of organizations through the supply chain (Ver.3.3 was used in 2022)

Social

[Scope of Data Aggregation]

"Nippon Shokubai"	NIPPON SHOKUBAI CO., LTD.
"Consolidated"	NIPPON SHOKUBAI CO., LTD. and its consolidated subsidiaries
"Group companies in Japan"	NIPPOH CHEMICALS CO., LTD. / TOKYO FINE CHEMICAL CO., LTD. / CHUGOKU KAKO CO., LTD. / NIPPON POLYMER INDUSTRIES CO., LTD. / NISSHOKU TECHNO FINE CHEMICAL CO., LTD. / NIPPON NYUKAZAI CO., LTD. / Nisshoku Butsuryu Co., Ltd.
"Nippon Shokubai Group in Japan"	The above Nippon Shokubai and Group Companies in Japan

(1/3)

Aspect	Classification	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Employees	Number of employees	Number of employees	Consolidated	4,454	4,510	4,555	4,526	4,574
		Number of employees	Nippon Shokubai	2,306	2,353	2,391	2,412	2,443
		Male	Nippon Shokubai	2,114	2,156	2,185	2,197	2,206
		Female	Nippon Shokubai	192	197	206	215	237
		Percentage of female	Nippon Shokubai	8.3	8.4	8.6	8.9	9.7
		Percentage of mid-career hires to all employees *1	Nippon Shokubai	4.7	5.1	5.5	5.8	7.1
	Number of managers	Number of managers	Nippon Shokubai	530	548	568	583	544 ^{*2} (575)
		Male	Nippon Shokubai	514	530	545	559	520 ^{*2} (545)
		Female	Nippon Shokubai	16	18	23	24	24 ^{*2} (30)
		Percentage of female	Nippon Shokubai	3.0	3.3	4.0	4.1	4.4 ^{*2} (5.2)
	Average age		Nippon Shokubai	38.0	38.3	38.5	38.7	38.8
	Length of service	Average length of service	Nippon Shokubai	16.1	16.2	16.4	16.5	16.4
		Male	Nippon Shokubai	16.3	16.4	16.6	16.7	16.6
		Female	Nippon Shokubai	13.8	14.4	14.8	14.7	14.0
	Participation rate of labor union *3		Nippon Shokubai	69.7	69.4	69.9	69.8	70.3
Employment and Diversity & Inclusion	Number of hires	Number of new graduate hires (College graduate)	Nippon Shokubai	44	45	46	50 ^{*4}	44
		Male	Nippon Shokubai	38	39	40	43 ^{*4}	35
		Female	Nippon Shokubai	6	6	6	7 ^{*4}	9
		Percentage of female	Nippon Shokubai	13.6	13.3	13.0	14.0 ^{*4}	20.5
		Number of mid-career hires	Nippon Shokubai	14 ^{*5}	17 ^{*5}	14 ^{*5}	15 ^{*5}	44
		Male	Nippon Shokubai	7	14	12	11	32
		Female	Nippon Shokubai	7 ^{*5}	3 ^{*5}	2 ^{*5}	4 ^{*5}	12
		Percentage of female	Nippon Shokubai	50.0 ^{*5}	17.6 ^{*5}	14.3 ^{*5}	26.7 ^{*5}	27.3
		Percentage of mid-career hires to all new hires *1*6	Nippon Shokubai	12.1	14.7	12.4	13.3	34.4
	Wage	Average annual salary *1	Nippon Shokubai	7,972	8,103	7,661	7,598	7,826
		Wage differences between male and female workers *1*7	Nippon Shokubai	—	—	—	—	82.8
	Number of foreign national employees		Nippon Shokubai	5	4	4	4	4
	Employment rate of persons with disabilities		Nippon Shokubai	2.0	2.2	2.3	2.2	1.9
	Re-employment	Re-employment rate of retired employees	Nippon Shokubai	85.7	87.0	89.0	88.0	83.0
		Average Monthly Wage of Rehired Employees *1	Nippon Shokubai	306	322	327	339	363
	Turnover/Layoff		Nippon Shokubai	1.6	1.4	1.8	2.5	1.7
Work-Life Balance	Child Care	Number of employees using child care leave (Total numbers for fiscal year)	Nippon Shokubai	21	23	28	23	50
		Male	Nippon Shokubai	2	3	7	8	45
		Female	Nippon Shokubai	19	20	21	15	5
		Percentage of male employees taking childcare leave *1	Nippon Shokubai	—	0.9	5.9	7.2	51.1
		Return rate from child care leave of absence	Nippon Shokubai	100	97	100	96	100
	Nursing Care	Number of employees using nursing care leave and personal reasons of absence	Nippon Shokubai	1	1	1	0	0

Social
(2/3)

2/3

Aspect	Classification		Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Work-Life Balance (continued)	Paid leave	Average annual paid leave acquisition days per employee (Labor union member)	Nippon Shokubai	days	13.4	13.0	12.6	13.4	18.0 ^{*8}
		Rate of taking annual paid leave (Labor union member)	Nippon Shokubai	%	71.6	69.0	67.2	71.3	94.5 ^{*8}
		Average annual paid leave acquisition days per employee (Management)	Nippon Shokubai	days	11.4	10.9	10.5	11.0	12.9 ^{*8}
		Rate of taking annual paid leave (Management)	Nippon Shokubai	%	57.1	54.5	52.4	55.0	65.5 ^{*8}
		Average annual paid leave acquisition days per employee (All)	Nippon Shokubai	days	12.9	12.5	12.2	12.9	16.7 ^{*8}
		Rate of taking annual paid leave (All)	Nippon Shokubai	%	68.1	65.6	63.8	67.3	87.6 ^{*8}
	Working hours	Average overtime hours (Hours/Month)	Nippon Shokubai	hours	15.8	15.4	15.3	15.3	15.3
Human right	Number of Child Labor and Force Labor		Consolidated	numbers	0	0	0	0	0
Human resources development	Training	Total number of hours spent on employee's training	Nippon Shokubai	hours	57,458	55,783	49,623	44,408	40,074 ^{*9}
		Training time per employee	Nippon Shokubai		24.9	23.7	20.8	18.4	16.4 ^{*9}
		Total employee training expenses *1	Nippon Shokubai	million yen	177	195	109	129	240
		Training expenses per employee *1	Nippon Shokubai	thousand yen	76	83	46	54	98
		Total number of participants in self-selected training programs *1	Nippon Shokubai	persons	—	—	—	—	1,312
		Total reskilling expenses for senior employees *1	Nippon Shokubai	million yen	—	—	—	—	4
	Global Human Resources	Percentage of employees with overseas work experience *1	Nippon Shokubai	%	—	—	—	—	11.7
Engagement	Engagement score *1*10		Nippon Shokubai	—	—	—	—	—	CCC
Occupational safety and health	Number of injuries with loss of workdays	Nippon Shokubai Group in Japan	numbers	4	2	5	4	4	
		Nippon Shokubai		2	2	1	4	1	
		Group companies in Japan *1		2	0	4	0	3	
		Contractors of Nippon Shokubai		1	1	3	1	1	
	Lost-time injury frequency rate	Nippon Shokubai Group in Japan	—	0.77	0.39	0.96	0.76	0.80	
		Nippon Shokubai		0.54	0.54	0.27	1.05	0.28	
		Group companies in Japan *1		1.36	0.00	2.75	0.00	2.08	
		Contractors of Nippon Shokubai		0.34	0.32	1.04	0.36	0.36	
	Number of fatal accidents	Nippon Shokubai Group in Japan	numbers	0	0	0	0	0	
		Nippon Shokubai		0	0	0	0	0	
		Group companies in Japan *1		0	0	0	0	0	
		Contractors of Nippon Shokubai		0	0	0	0	0	
	Ratio of plants with ISO 45001 (management systems of occupational health and safety) *11		Consolidated	%	—	—	38	38	38
Number of participants in company-wide RC training including safety		Nippon Shokubai	persons	—	—	181	187	191	
Quality *1	Ratio of plants with ISO 9001 (quality management system) *11		Consolidated	%	100	100	100	100	100

Social
(3/3)

Aspect	Classification	Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Social contribution	Expense	Amount paid for activities on social contributions	Nippon Shokubai	124	126	161	128	209
		Donation	Nippon Shokubai	54	54	95	64	139
		Expenditure for other activities on social contributions *12	Nippon Shokubai	70	72	66	64	70
	Volunteer activity	Number of participants for "Japan-China Friendship Forest Development and Global Warming Prevention"	Nippon Shokubai	5 ^{*13}	3 ^{*13}	0 ^{*14}	0 ^{*14}	0 ^{*14}
		Number of participants for "Contributing to Our Forests and Water Resources"	Nippon Shokubai	193	175	11 ^{*14}	21 ^{*14}	34 ^{*14}
		Number of participants for "Contributing to the "Yugawara Myriad Leaves Forest""	Nippon Shokubai	103	56	0 ^{*14}	11 ^{*14}	55
		Number of participants for "Japan-Indonesia Friendship Forest of Banten Bay for Biodiversity Preservation"	Nippon Shokubai PT. Nippon Shokubai Indonesia	58	60	5 ^{*14}	4 ^{*14}	0 ^{*14}

*1 Added new contents

*2 Due to a change in the personnel system in FY2022, the date of promotion to management positions was changed from 3/16 to 4/1.
The figures for FY2022 do not include those promoted in FY2023; figures in parentheses are as of 4/1/2023.

*3 All applicable employees join the labor union based on the Union Shop Agreement.

*4 Fixed calculation errors

*5 Correction due to revision of calculation scope. (Including those who converted from fixed-term employment to permanent employment.)

*6 Percentage of mid-career hires to all new hires, including high school graduates, etc.

*7 Ratio of average female wage to average male wage

*8 Temporary increase in FY2022 due to the increase in the number of days granted as a result of the change in the date for granting annual paid leave all at once.

*9 Not include hours of e-learning newly introduced in FY2022.

*10 Evaluation by Motivation Cloud of Link and Motivation, Inc.

*11 Ratio at manufacturing sites

*12 Expenditure for Volunteer activity, Facilities offering, Other

*13 The secretariat and NPO members performed maintenance work.

*14 Volunteer activities by employees have been suspended to prevent infection from spreading of COVID-19.
To the extent possible, we carried out activities such as on-site visits with NGO/NPO and check the report.

Governance

[Scope of Data Aggregation]

"Nippon Shokubai"

NIPPON SHOKUBAI CO., LTD.

"Consolidated"

NIPPON SHOKUBAI CO., LTD. and its consolidated subsidiaries

Aspect	Classification		Scope	Unit	FY2018	FY2019	FY2020	FY2021	FY2022
Related information for management	Number of Members of the Board	Members of the Board (incl. Outside Members of the Board)	Nippon Shokubai	persons	9	9	8	9	9
		Outside Members of the Board	Nippon Shokubai		3	3	3	3	3
	Number of Members of Auditors Meeting	Statutory Corporate Auditors (incl. External Statutory Corporate Auditors)	Nippon Shokubai	persons	4	4	4	4	4
		External Statutory Corporate Auditors	Nippon Shokubai		2	2	2	2	2
	Outside Officers composition ratio of the Nominating and Remuneration Committee		Nippon Shokubai	%	66.7	66.7	66.7	66.7	66.7
	Remuneration of Members of the Board (except Outside Members of the Board)		Nippon Shokubai	million yen	380	334	196	333	390
	Remuneration of Statutory Corporate Auditors (except External Statutory Corporate Auditors)		Nippon Shokubai		48	47	47	46	52
	Remuneration of Outside Officers (except External Statutory Corporate Auditors)		Nippon Shokubai		35	34	35	36	39
Shareholder	Dividend	Interim	Nippon Shokubai	yen	80	90	45	80	90
		Annual	Nippon Shokubai		170	180	90	180	180
	Dividend Payout Ratio		Consolidated *1	%	28.4	64.7	—	30.3	36.9
Compliance	Number of participants in the training for new employees, new middle level employees and new managers regarding compliance		Nippon Shokubai	persons	183	186	219	194	2,485 ^{*2}
	Number of internal reporting		Nippon Shokubai	numbers	3	4	0	0	3
Compliance with laws and regulations	Number of violations for "For Compliance with Anti Bribery Laws in Nippon Shokubai Group's Code of Conduct"		Consolidated	numbers	0	0	0	0	0
	Number of fine and penalty for bribery		Consolidated	numbers	0	0	0	0	0
	Number of violations for "For Compliance with Competition Laws in Nippon Shokubai Group's Code of Conduct"		Consolidated	numbers	0	0	0	0	0
	Number of significant violations of laws or regulations in the social and economic area besides those mentioned above		Consolidated	numbers	0	0	0	0	0
Contribution	Political Contribution		Nippon Shokubai	yen	0	0	0	0	0
Information security	Number of critical Incidents in Information Systems *3		Consolidated	numbers	0	0	0	0	0

*1 NIPPON SHOKUBAI CO., LTD., its subsidiaries and its affiliates

*2 In FY2022, Code of Conduct introduction training was conducted for all levels of employees. The number of the participants includes those in the training for new employee as well as those in Code of Conduct introduction training.

*3 Added new contents

[Updated Contents]

July 1st, 2023

Released FY2022 data

Added new contents

Environment > Prevention of global warming > GHG emissions (Revised method for disclosing)
 Environment > Water > Water withdrawal > Water use intensity
 Social > Employees > Number of employees > Percentage of mid-career hires to all employees
 Social > Employment and Diversity & Inclusion > Number of hires > Percentage of mid-career hires to all new hires
 Social > Employment and Diversity & Inclusion > Wage > Average annual salary, Wage differences between male and female workers
 Social > Employment and Diversity & Inclusion > Re-employment > Average Monthly Wage of Rehired Employees
 Social > Work-Life Balance > Child Care > Percentage of male employees taking childcare leave
 Social > Human resources development > Training > Total employee training expenses, Training expenses per employee,
 Total number of participants in self-selected training programs, Total reskilling expenses for senior employees
 Social > Human resources development > Global Human Resources > Percentage of employees with overseas work experience
 Social > Engagement > Engagement score
 Social > Occupational safety and health > Number of injuries with loss of workdays > Group Companies in Japan
 Social > Occupational safety and health > Lost-Time Injury Frequency Rate > Group Companies in Japan
 Social > Occupational safety and health > Number of fatal accidents > Group Companies in Japan

Fixed errors

Environment > Waste reduction > Quantity of final off-site landfill > Group companies in Japan > FY2020, FY2021
 Social > Employment and Diversity & Inclusion > Number of hires > Number of new graduate hires (College graduate) > FY2021
 Social > Employment and Diversity & Inclusion > Number of hires > Number of mid-career hires > FY2018-2021

September 25th, 2023

Added new contents






Environment > Prevention of global warming > Estimated value of avoided emissions in the supply chain by Environmental Contribution Products
 Environment > Prevention of air and water pollution > SOx emissions > Nippon Shokubai Group, Group companies outside Japan
 Environment > Prevention of air and water pollution > NOx emissions > Nippon Shokubai Group, Group companies outside Japan
 Environment > Environmental management > Ratio of plants with environmental management system (EMS) certification
 Social > Quality > Ratio of plants with ISO 9001 (quality management system)
 Governance > Information security > Number of critical Incidents in Information Systems

Fixed errors







Environment > Prevention of global warming > Energy consumption > Nippon Shokubai Group (Unit:GWh) > FY2022
 Environment > Prevention of global warming > GHG emissions > Scope 1+2 > Nippon Shokubai Group, Nippon Shokubai > FY2022
 Environment > Prevention of global warming > GHG emissions > Scope 1 > Nippon Shokubai Group, Nippon Shokubai > FY2022

Sustainability Library




2023

- [TechnoAmenity Report 2023 \[8.7MB\]](#)  (Integrated report)
- [RC Report 2023 \[5.2MB\]](#) 
 - [Third-party Verification Report of FY2022 GHG emissions \[154KB\]](#) 
- [TCFD Report 2023 \[1.6MB\]](#)  Updated in September 2023
- [Financial Report year ended March 31, 2023 \[1.0MB\]](#) 




2022




- [TechnoAmenity Report 2022 \[10MB\]](#)  (Integrated report)
- [RC Report 2022 \[6.1MB\]](#) 
 - [Third-party Verification Report of FY2021 GHG emissions \[145KB\]](#) 
- [TCFD Report 2022 \[567KB\]](#) 
- [Sustainability Report 2022 \[34.2MB\]](#) 
- [Financial Report year ended March 31, 2022 \[1.0MB\]](#) 

2021

- [TechnoAmenity Report 2021 \[13.2MB\]](#) 
- [TechnoAmenity Report Financial Section 2021 \[1.3MB\]](#) 
- [RC Reports 2021 \[6.1MB\]](#) 

2020

- [TechnoAmenity Report 2020 \[11.2MB\]](#) 
- [TechnoAmenity Report Financial Section 2020 \[948KB\]](#) 
- [RC Reports 2020 \[6.2MB\]](#) 

- [TechnoAmenity Report 2019 \[9.9MB\]](#) 
- [TechnoAmenity Report Financial Section 2019 \[8.8MB\]](#) 
- [RC Reports 2019 \[8.8MB\]](#) 

[CSR Reports back number](#)
[Annual Reports back number](#)

Reports

TechnoAmenity Report (Integrated report)

This report has been published as an integrated report from the 2022 edition, and aims to help a broad range of stakeholders understand our initiatives to achieve the Nippon Shokubai Group Mission “TechnoAmenity: Providing prosperity and comfort to people and society, with our unique technology.”



RC Report

Reports that present the details of Responsible Care (RC) activities.



TCFD Report

Reports containing information based on the TCFD framework.







Sustainability Report






The information posted on the Nippon Shokubai Group Sustainability Website has been compiled into a PDF as an annual report.

CSR Reports Back number

CSR Reports Back number

2018 CSR Report [10.0MB]	
2017 CSR Report [8.0MB]	
2016 CSR Report [3.0MB]	
2015 CSR Report [2.5MB]	




Environmental and Social Reports Back number

2014 Environmental and Social Report [2.5MB]	
2013 Environmental and Social Report [2.8MB]	
2012 Environmental and Social Report [3.0MB]	
2011 Environmental and Social Report [2.9MB]	
2010 Environmental and Social Report [2.9MB]	

GRI Standards Comparison Table










The Nippon Shokubai Group refers to “GRI Sustainability Reporting Standards” in our sustainability reporting.

Related documents






- [TechnoAmenity Report](#) 
- [TCFD Report](#) 
- [Financial Report](#) 

GRI 2: General Disclosures 2021

1. The organization and its reporting practices

No.	Disclosure	References
2-1	Organizational details	Company Profile  Domestic Network  Global Network 
2-2	Entities included in the organization's sustainability reporting	Editorial Policy  Financial Report 
2-3	Reporting period, frequency and contact point	Editorial Policy  Contact 
2-4	Restatements of information	ESG Data 
2-5	External assurance	Third-party Verification Report on GHG 

2. Activities and workers

No.	Disclosure	References
2-6	Activities, value chain and other business relationships	Products  Domestic Network  Global Network  TechnoAmenity Report 2023  Financial Report 
2-7	Employees	Company Profile  Financial Report 

		ESG Data 
2-8	Workers who are not employees	—

3. Governance

No.	Disclosure	References
2-9	Governance structure and composition	Corporate Governance  Sustainability Management 
2-10	Nomination and selection of the highest governance body	Corporate Governance 
2-11	Chair of the highest governance body	Corporate Governance 
2-12	Role of the highest governance body in overseeing the management of impacts	Corporate Governance  Sustainability Management 
2-13	Delegation of responsibility for managing impacts	Corporate Governance  Risk Management  Sustainability Management 
2-14	Role of the highest governance body in sustainability reporting	Sustainability Management 
2-15	Conflicts of interest	—
2-16	Communication of critical concerns	Risk Management  ESG Data 
2-17	Collective knowledge of the highest governance body	Corporate Governance 
2-18	Evaluation of the performance of the highest governance body	Corporate Governance 
2-19	Remuneration policies	Corporate Governance 
2-20	Process to determine remuneration	Corporate Governance 
2-21	Annual total compensation ratio	—

4. Strategy, policies and practices






No.	Disclosure	References
2-22	Statement on sustainable development strategy	Message from the President 
2-23	Policy commitments	Policies  Respect for Human Rights  Supply Chain Management  Stakeholder Communication 
2-24	Embedding policy commitments	Nippon Shokubai's Sustainability  Responsible Care Initiatives 

		Initiatives for Environment  Initiatives for Society  Governance 
2-25	Processes to remediate negative impacts	Compliance  Respect for Human Rights  Supply Chain Management 
2-26	Mechanisms for seeking advice and raising concerns	Compliance 
2-27	Compliance with laws and regulations	ESG Data  Environmental Impact of Business Activities  RC Basic Plan and Results 
2-28	Membership associations	Initiatives and Organizations 



5. Stakeholder engagement


No.	Disclosure	References
2-29	Approach to stakeholder engagement	Stakeholder Communication 
2-30	Collective bargaining agreements	Developing/Promoting the Active Participation of Talents  ESG Data 

GRI 3: Material Topics 2021

No.	Disclosure	Reference
3-1	Process to determine material topics	Materiality 
3-2	List of material topics	Materiality 
3-3	Management of material topics	Materiality  Sustainability Management  TCFD Report 

GRI 201: Economic Performance 2016



No.	Disclosure	References
201-1	Direct economic value generated and distributed	Financial Report 
201-2	Financial implications and other risks and opportunities due to climate change	TCFD Report 

201-3	Defined benefit plan obligations and other retirement plans	Financial Report 
201-4	Financial assistance received from government	—

GRI 202: Market Presence 2016

No.	Disclosure	References
202-1	Ratios of standard entry-level wages by gender compared to local minimum wage	—
202-2	Proportion of senior management hired from the local community	—

GRI 203: Indirect Economic Impacts 2016

No.	Disclosure	References
203-1	Infrastructure investments and services supported	Biodiversity Preservation  Corporate Citizenship 
203-2	Significant indirect economic impacts	—

GRI 204: Procurement Practices 2016


No.	Disclosure	References
204-1	Proportion of spending on local suppliers	—

GRI 205: Anti-Corruption 2016





No.	Disclosure	References
205-1	Operations assessed for risks related to corruption	—

205-2	Communication and training about anti-corruption policies and procedures	Compliance 
205-3	Confirmed incidents of corruption and actions taken	ESG Data 




GRI 206: Anti-Competitive Behavior 2016

No.	Disclosure	References
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	ESG Data 

GRI 207: Tax 2019

No.	Disclosure	References
207-1	Approach to tax	Tax Policy  (Nippon Shokubai Group) Code of Conduct 
207-2	Tax governance, control, and risk management	Tax Policy 
207-3	Stakeholder engagement and management of concerns related to tax	Tax Policy 
207-4	Country-by-country reporting	—

GRI 301: Materials 2016

No.	Disclosure	References
301-1	Materials used by weight or volume	ESG Data 
301-2	Recycled input materials used	Waste Reduction 
301-3	Reclaimed products and their packaging materials	Waste Reduction 

GRI 302: Energy 2016

No.	Disclosure	References
302-1	Energy consumption within the organization	Tackling Climate Change ESG Data
302-2	Energy consumption outside of the organization	Tackling Climate Change
302-3	Energy intensity	Tackling Climate Change ESG Data
302-4	Reduction of energy consumption	Tackling Climate Change
302-5	Reductions in energy requirements of products and services	Development and Expansion of Environmental Contribution Products

GRI 303: Water and Effluents 2018














No.	Disclosure	References
303-1	Interactions with water as a shared resource	Water Resource Conservation ESG Data
303-2	Management of water discharge-related impacts	Water Resource Conservation
303-3	Water withdrawal	Water Resource Conservation ESG Data
303-4	Water discharge	Water Resource Conservation ESG Data
303-5	Water consumption	Water Resource Conservation ESG Data

GRI 304: Biodiversity 2016


No.	Disclosure	References
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Biodiversity Preservation
304-2	Significant impacts of activities, products, and services on biodiversity	Biodiversity Preservation

304-3	Habitats protected or restored	Biodiversity Preservation 
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	—

GRI 305: Emissions 2016

No.	Disclosure	References
305-1	Direct (Scope 1) GHG emissions	Tackling Climate Change  ESG Data  Third-party Verification Report on GHG 
305-2	Energy indirect (Scope 2) GHG emissions	Tackling Climate Change  ESG Data  Third-party Verification Report on GHG 
305-3	Other indirect (Scope 3) GHG emissions	Tackling Climate Change  ESG Data 
305-4	GHG emissions intensity	Tackling Climate Change 
305-5	Reduction of GHG emissions	Tackling Climate Change 
305-6	Emissions of ozone-depleting substances (ODS)	Tackling Climate Change 
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	Air Pollution Prevention  ESG Data 

GRI306: Waste 2020

No.	Disclosure	References
306-1	Waste generation and significant waste-related impacts	Waste Reduction  ESG Data 
306-2	Management of significant waste-related impacts	Waste Reduction  ESG Data 
306-3	Waste generated	Waste Reduction  ESG Data 
306-4	Waste diverted from disposal	Waste Reduction  ESG Data 
306-5	Waste directed to disposal	Waste Reduction 

GRI 308: Supplier Environmental Assessment 2016

No.	Disclosure	References
308-1	New suppliers that were screened using environmental criteria	—
308-2	Negative environmental impacts in the supply chain and actions taken	Supply Chain Management ↗

GRI 401: Employment 2016

No.	Disclosure	References
401-1	New employee hires and employee turnover	ESG Data ↗
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	—
401-3	Parental leave	ESG Data ↗

GRI 402: Labor/Management Relations 2016




No.	Disclosure	References
402-1	Minimum notice periods regarding operational changes	Developing/Promoting the Active Participation of Talent ↗

GRI 403: Occupational Health and Safety 2018



No.	Disclosure	References
403-1	Occupational health and safety management system	ESG Data ↗

403-2	Hazard identification, risk assessment, and incident investigation	Occupational Safety and Health 
403-3	Occupational health services	Occupational Safety and Health 
403-4	Worker participation, consultation, and communication on occupational health and safety	Occupational Safety and Health 
403-5	Worker training on occupational health and safety	Production/R&D Site Reports  Occupational Safety and Health  ESG Data 
403-6	Promotion of worker health	Developing/Promoting the Active Participation of Talent 
403-7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	Supply Chain Management 
403-8	Workers covered by an occupational health and safety management system	—
403-9	Work-related injuries	Occupational Safety and Health  ESG Data 
403-10	Work-related ill health	ESG Data 



GRI 404: Training and Education 2016

No.	Disclosure	References
404-1	Average hours of training per year per employee	ESG Data 
404-2	Programs for upgrading employee skills and transition assistance programs	Developing/Promoting the Active Participation of Talent 
404-3	Percentage of employees receiving regular performance and career development reviews	Developing/Promoting the Active Participation of Talent 

GRI 405: Diversity and Equal Opportunity 2016

No.	Disclosure	References
405-1	Diversity of governance bodies and employees	ESG Data 
405-2	Ratio of basic salary and remuneration of	ESG Data 

GRI 406: Non-Discrimination 2016

No.	Disclosure	References
406-1	Incidents of discrimination and corrective actions taken	Respect for human rights  ESG Data 

GRI 407: Freedom of Association and Collective Bargaining 2016

No.	Disclosure	References
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	—

GRI 408: Child Labor 2016

No.	Disclosure	References
408-1	Operations and suppliers at significant risk for incidents of child labor	—

GRI 409: Forced or Compulsory Labor 2016

No.	Disclosure	References
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	—

GRI 410: Security Practices 2016

No.	Disclosure	References
410-1	Security personnel trained in human rights policies or procedures	—

GRI 411: Rights of Indigenous Peoples 2016

No.	Disclosure	References
411-1	Incidents of violations involving rights of indigenous peoples	—

GRI 413: Local Communities 2016

No.	Disclosure	References
413-1	Operations with local community engagement, impact assessments, and development programs	Corporate Citizenship Occupational Safety and Health Biodiversity Preservation
413-2	Operations with significant actual and potential negative impacts on local communities	—

GRI 414: Supplier Social Assessment 2016



No.	Disclosure	References
414-1	New suppliers that were screened using social criteria	—
414-2	Negative social impacts in the supply chain and actions taken	Supply Chain Management

GRI 415: Public Policy 2016



No.	Disclosure	References
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415-1	Political contributions	ESG Data 
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GRI 416: Customer Health and Safety 2016

No.	Disclosure	References
416-1	Assessment of the health and safety impacts of product and service categories	Chemical Safety 
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	RC Basic Plan and Results 

GRI 417: Marketing and Labeling 2016

No.	Disclosure	References
417-1	Requirements for product and service information and labeling	Chemical Safety 
417-2	Incidents of non-compliance concerning product and service information and labeling	RC Basic Plan and Results 
417-3	Incidents of non-compliance concerning marketing communications	—

GRI 418: Customer Privacy 2016

No.	Disclosure	References
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	—