

RESONAC Web site Sustainability Information (As of August 2023)

1.Contents

Message from CEO	1
Sustainability Vision	3
Our Viewpoint About Sustainability	7
Material Issues for Sustainability.....	14
Contribution to the SDGs	32
Responsible Care Activity.....	41
Stakeholder Communications	47
Participation in Initiatives.....	52

2.Environment

Environmental Management System	57
Challenges to Realize Carbon Neutrality	61
Measures Against Climate Change	66
Environmental Considerations; Atmosphere.....	77
Waste Management.....	82
Environmental Considerations; Water	84
Efforts for Preservation of Biodiversity.....	89

3.Social

Occupational Health and Safety	92
Occupational Health and Safety -Prevention of Occupational Accidents.....	96
Occupational Health and Safety –Equipment Safety	101
Occupational Health and Safety –List of Safety –related Awards	106
Product Stewardship.....	108
Product Stewardship –Quality Assurance	111
Product Stewardship –Chemicals and Product Safety.....	113
Human Resource Management.....	116
Human Resource Management –Development of Human Resources.....	118
Human Resource Management –Labor Practice	121
Human Resource Management –Diversity,Equity & Inclusion (DE&I)	124
Human Resource Management –Employee’ s Health.....	131
Sustainable Procurement –Management System	134
Sustainable Procurement –Evaluation of Suppliers.....	136
Sustainable Procurement –White Logistics	140

Social Contribution Activities	142
Respect for Human Rights	150
Protection of Intellectual Property.....	156
 4. Governance	
Corporate Governance.....	158
Evaluation of the Board of Directors' Effectiveness	176
Risk Management	178
Information Security	183
Compliance.....	184
Anti-corruption	187
 5. Data	
Data Collection/ ESG Performance Data.....	190
Editorial Policies/Report Scope	211
Third-party Verification	213
List of Data Collection Boundaries.....	214
List of Declarations and Certifications.....	217
External Evaluation	230
GRI Sustainability Reporting Guideline.....	235

I Aim to Create a Functional Chemical Manufacturer That Can Compete on the World Stage. As CEO, I Will Give Top Priority to Developing Human Resources.

Following integration of Showa Denko K.K. and Showa Denko Materials Co., Ltd., the newly integrated company “Resonac” was established effective on January 1, 2023. The launch of the new corporation means “the second inauguration” for the two companies. We will now make a big step forward, aiming to become a global top-level functional chemicals manufacturer that can compete on the world stage.

Our business model has changed substantially following the integration. The semiconductor business accounts for 30% of our total sales, making us a world-leading materials supplier in scale. At the same time, we have established an integrated system of production from designing of materials to assembly/blending into product.

Meanwhile, the global business environment has seen drastic changes, including accelerated digitalization, efforts toward carbon neutrality, and a sharp rise in energy prices. We have also experienced heightened geopolitical tensions and supply chain disruptions in recent years with trade frictions and conflict among nations as background. Furthermore, our lifestyle and way of working have changed considerably because of COVID-19.

Amid these changes in the world situation, chemical manufacturers now need to consider their impacts on the global environment and contribute to sustainable society, in addition to contributing to enrichment of people’s lives. Resonac has defined its Purpose as “Change society through the power of chemistry,” and set four Values for its employees, namely, “Passionate & Results-Driven,” “Agile & Flexible,” “Open Minds & Open Connections,” and “Solid Vision and Solid Integrity.” Our corporate philosophy is comprised of this Purpose and Values. We are working to solve social issues through business activities under the corporate philosophy.

The Resonac Group is continuing to reform its business portfolio based on its Long-term Vision upgraded in February 2022. According to this management strategy, we have classified our businesses into several categories, such as the Semiconductor and Electronic Materials business and the Mobility business (serving growth markets), the Chemicals business (providing stable earnings), and the Innovation Enabling Materials business (supporting technological development in respective businesses). We will work to achieve sustainable growth by ensuring that each business will appropriately play its role and meet its EBITDA goal.

For Resonac, sustainability forms the basis of its management strategy. We are proceeding with our business strategies by conducting sustainable business activities. To contribute to sustainable society by solving technical issues as a chemical manufacturer, in addition to our own efforts, we need collaboration and partnership with various stakeholders beyond the boundary of business types and industry segments. The Resonac Group aims at becoming a “Co-Creative Chemical Company,” striving to create new synergy through co-creative efforts inside and outside the company.



President and CEO

To carry out such transformation and business strategies, each employee is essential. We will develop a corporate culture that fosters autonomous and creative human resources as well as an organizational culture that helps each employee flourish as a professional.

The Resonac Group will create functions that meet the needs of the times as an advanced material partner and contribute to sustainable development of global society through co-creative efforts with all stakeholders, including employees, shareholders, customers, and local communities. We hope you will have high expectations of the Resonac Group, which has just made a new start.

Sustainability: Site Map

- ⌵ Message from CEO
- ⌵ Sustainability Vision
- ⌵ Sustainability Management
- ⌵ Dialogue with Stakeholders

- ⌵ Integrated Reports, Website
- ⌵ Data Collection
- ⌵ Amazing Discoveries! Science Experiments for Kids

ESG Information

- ⌵ Environment
- ⌵ Social
- ⌵ Governance

Resonac Sustainability Vision 2030

To change society through the power of chemistry based on our purpose, we are strengthening our business execution system in accordance with the belief that we must position the concept of sustainability as an essential component of management. As part of these efforts, we have established Sustainability Vision 2030 and identified material issues for sustainability to implement the main strategies of our long-term vision. We are also working to raise awareness of the material issues within the Company.

Sustainability Vision 2030

Achieve corporate growth through the resolution of social issues

Develop into a company with like-minded partners across the world that realizes its own continuous growth and corporate value improvement, by solving social issues and offering value to society through its technologies and businesses

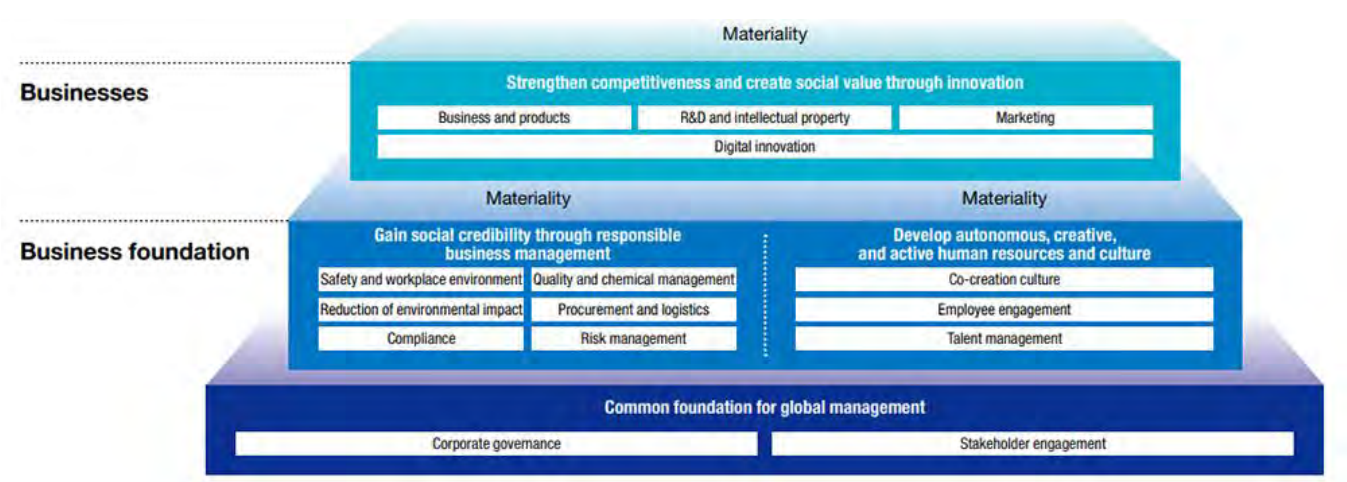
A company with like-minded partners throughout the world

Become a “Co-creative Chemical Company” that is the first choice of, and can choose, partners in creating a sustainable and better society, including future generations of customers, employees, investors, and stakeholders

Material Issues for Sustainability

With an eye on 2030, Showa Denko has identified three issues of materiality in addition to their constituent elements. We have reflected these issues of materiality in the strategies set out in the long-term vision, and aim to incorporate them into our nonfinancial KPIs by approximately 2025. The three issues of materiality are

also related to the ideal state set out in our long-term vision through to 2030: becoming a company that can compete on the world stage, a company that contributes to a sustainable global society, and a company that develops co-creative talent that represents Japan’s manufacturing industry. In addition, they address both the achievement of our long-term vision and the expectations of society. While we have not set KPIs for corporate governance or stakeholder engagement, we will also focus on these areas, which are as important as our issues of materiality in establishing a common foundation for global management.



Material Issues for Sustainability①

Strengthen competitiveness and create social value through innovation

targets

We create social value through our businesses via a series of processes—from the identification of social issues to the development of technologies and the provision of solutions—and the harnessing of initiatives through co-creation.

2025 targets

- Establish, implement, and monitor targets by business and mainstay product
- Calculate the LCA for mainstay products and introduce evaluation methods at the R&D phase

For details, please refer to Material Issues for Sustainability①

Material Issues for Sustainability②

Gain credibility through responsible business management

targets

In addition to cultivating a safety culture and eliminating accidents of every kind, we will earn the trust of stakeholders by minimizing and preparing to tackle a wide range of risks, including strategic, operational, and hazard risks, to flexibly address the changing management and business environments and continuously offer value that is unique to us

2025 targets

Achieve zeros in five target categories

Reduction of greenhouse gas emission (GHG) volumes

Improve the quality of communication utilizing a self-assessment questionnaire

Entrench a global compliance standard and code of conduct within the Group

Establish and operate an integrated risk management structure and enhance our risk management system

For details, please refer to Material Issues for Sustainability②

Material Issues for Sustainability③

Develop autonomous, creative, and active human resources and culture

targets

Through the cultivation of creative and co-creative individuals and the nurturing of a corporate culture conducive to their development, we will aim to become a developer of talent whose employees are the envy of other companies.

2025 targets

Further evolve and strengthen examples of co-creation from our global awards

Increase the number of appointments through in-house recruitment that promote autonomous career development

Improve engagement-related scores

Enhance the diversity of management and nurture an inclusive corporate culture by increasing the ratio of female managers

For details, please refer to Material Issues for
Sustainability③

Our Viewpoint About Sustainability

Our Viewpoint About Sustainability
Resonac Pride Products & Services
Responsible Care Activity
Stakeholder Communications
Participation in Initiatives

To change society through the power of chemistry based on our purpose, we are strengthening our business execution system in accordance with the belief that we must position the concept of sustainability as an essential component of management. As part of these efforts, we have established Sustainability Vision 2030 and identified materiality for sustainability to implement the main strategies of our long-term vision. We are also working to raise awareness of the material issues within the Company.

Roadmap for Achieving Sustainability Vision 2030

Positioning 2022, the year preceding the launch of the newly integrated company in 2023, as a year for preparations to achieve Sustainability Vision 2030, we have conducted repeated discussions and built a system to achieve the vision, such as incorporating issues of materiality into our medium- to long-term targets. In 2023, we will continue our efforts with the aim of enabling our unique essence to blossom from approximately 2026 onward, by adapting our initiatives based on engagement with a variety of stakeholders. To achieve Sustainability Vision 2030, we have established five key areas and are promoting activities on a Companywide basis with the Sustainability Department, which began in January 2022, serving as the secretariat. The five key areas are (1) improvement of sustainability management to integrate it with management and business strategies; (2) creation of sources of growth through the development of businesses and technologies with a focus on sustainability; (3) creation of value resulting from the resolution of cross-organizational issues, such as carbon neutrality; (4) value creation through improvement of stakeholder engagement; and (5) cultivation of a sustainability mindset among employees.

Sustainability Vision 2030

Achieve corporate growth through the resolution of social issues

Develop into a company with like-minded partners across the world that realizes its own continuous growth and corporate value improvement, by solving social issues and offering value to society through its technologies and businesses

A company with like-minded partners throughout the world

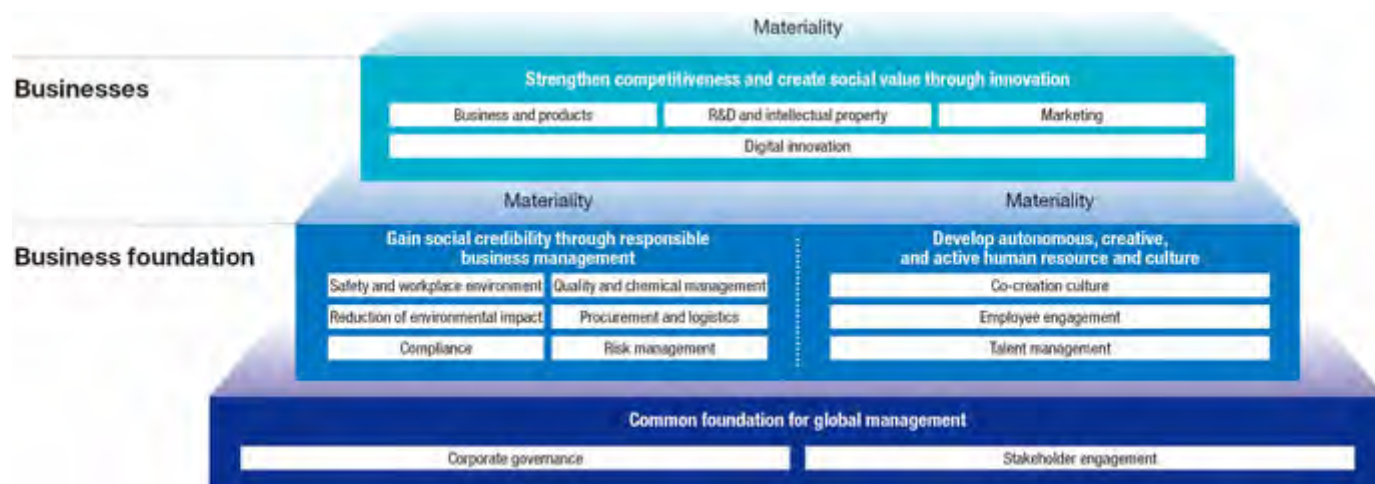
Become a "Co-creative Chemical Company" that is the first choice of, and can choose, partners in creating a sustainable and better society, including future generations of customers, employees, investors, and stakeholders



Materiality for sustainability of the newly integrated company

With an eye on 2030, Resonac has identified three issues of materiality in addition to their constituent elements. We have reflected these issues of materiality in the strategies set out in the long-term vision, and aim to incorporate them into our nonfinancial KPIs by approximately 2025.

The three issues of materiality are also related to the ideal state set out in our long-term vision through to 2030: becoming a company that can compete on the world stage, a company that contributes to a sustainable global society, and a company that develops co-creative talent that represents Japan's manufacturing industry. In addition, they address both the achievement of our long-term vision and the expectations of society. While we have not set KPIs for corporate governance or stakeholder engagement, we will also focus on these areas, which are as important as our issues of materiality in establishing a common foundation for global management.

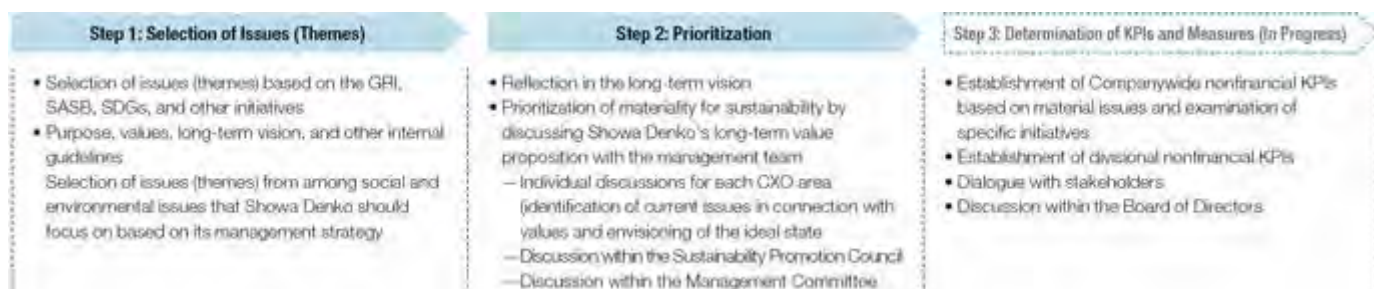


The Resonac Group is committed to contributing to solving social issues, with a focus on the SDGs, through its business activities. We have positioned the focus of our corporate activities as contributing to SDGs 12 and 17 as a Co-creative Chemical Company that seeks to create a recycling-oriented society. Goals that we contribute to through businesses and products are in the upper part of the semicircle, with goals that we contribute to through our business foundation in the base. Going beyond areas where we already contribute through our businesses, we are looking ahead with the aim to contributing to the creation of a future that we seek to realize through the power of chemistry.



Process for Formulating Materiality for Sustainability and Nonfinancial KPIs

In identifying its materiality, Resonac selected issues that contribute to realizing its long-term vision in terms of both expectations from society and level of importance to the Company. Currently, we have begun formulating materiality and related strategies and measures as well as Companywide nonfinancial indicators. Going forward, we plan to further evolve them, including by establishing divisional KPIs, through discussions with the Board of Directors and dialogue with stakeholders.



Materiality for Sustainability and Nonfinancial KPIs

We will increase the likelihood of achieving our issues of materiality with an eye on 2030 and our related medium-term nonfinancial KPIs. We will do this by featuring the KPIs in a series of Companywide management cycles ranging from formulation to implementation, progress confirmation, and monitoring and supervision by the Board of Directors.

The table below shows our corporate-level KPIs based on our three issues of materiality. (For a portion of the KPIs, the indicators have been removed.) We will incorporate the indicators into each divisional unit

while continuing to hold repeated discussions, to determine specific initiatives that enhance the motivation of employees to engage with them.

Going forward, we will continually revise the KPIs in accordance with our level of progress in achieving them, and with the views and expectations of a variety of internal and external stakeholders.

Strengthen competitiveness and create social value through innovation

The Company's ambition	Our ambition	The source of our growth lies in business activities utilizing our technological capabilities to change society through the power of chemistry. We will strengthen our competitiveness through innovation and our businesses to create social value.
	2030 targets	We create social value through our businesses via a series of processes—from the identification of social issues to the development of technologies and the provision of solutions—and the harnessing of initiatives through co-creation.
	Key constituent elements for achieving issues of materiality	<ul style="list-style-type: none"> • Creation of social value through our businesses • Identification of social issues and provision of customer value through marketing • Facilitation of open innovation and cooperation • R&D and intellectual property strategies that solve social issues • Products and business strategies that contribute to the achievement of the SDGs • Digital innovation that improves and accelerates the creation of social value
KPIs (Note: Issues we plan to discuss and confirm with stakeholders)	Key items	<ul style="list-style-type: none"> • Setting of targets and establishment of evaluation indicators for sustainability businesses and products • Initiatives for life cycle assessment (LCA)
	2025 targets	<ul style="list-style-type: none"> • Establish, implement, and monitor targets by business and mainstay product • Calculate the LCA for mainstay products and introduce evaluation methods at the R&D phase
	2021 results	<ul style="list-style-type: none"> • Launched studies to formulate business evaluation indicators that include new social and environmental aspects • Commenced the pilot operation of a scheme to calculate our carbon footprint
Value creation	Social value	• Create social and environmental value directly and indirectly as a chemical manufacturer that serves as the basis for a variety of industries
	Environmental value	• Aim to maximize our positive impact and minimize our negative impact on society and the environment through the thorough implementation of responsible consumption and production in all of our businesses
	Economic value	<ul style="list-style-type: none"> • Create economic value by achieving business growth through the provision of social and environmental value, thereby helping to improve our corporate value • Raise employee motivation by helping employees to gain a solid sense that we are realizing our purpose through our businesses

Gain credibility through responsible business management

The Company's ambition	Our ambition	As a chemical manufacturer, we will conduct responsible business management in all of our businesses from perspectives including safety, the environment, and quality to realize a sustainable society together with stakeholders, such as suppliers and customers. In addition, we will reinforce and enhance our system for managing increasingly diverse and complex risks by thoroughly implementing soft-law-based compliance going beyond legal and regulatory compliance.
	2030 targets	In addition to cultivating a safety culture and eliminating accidents of every kind, we will earn the trust of stakeholders by minimizing and preparing to tackle a wide range of risks, including strategic, operational, and hazard risks, to flexibly address the changing management and business environments and continuously offer value that is unique to us.
	Key constituent elements for achieving issues of materiality	<ul style="list-style-type: none"> • Establishment of environments where all people can work with peace of mind • Provision of quality and safety to maximize customer value • Reduction of environmental impact throughout the entire product life cycle • Creation of a sustainable society, by working together with suppliers • Thorough implementation of soft-law-based compliance going beyond legal and regulatory compliance • Reinforcement of our system for managing increasingly diverse and complex risks
KPIs (Note: Issues we plan to discuss and confirm with stakeholders)	Key items	<ul style="list-style-type: none"> • Cultivation of a safety culture and elimination of lost-time incidents, facility accidents, environmental accidents, accidents involving products, and product compliance violations • Reduction of environmental impact resulting from business activities • Promotion of sustainable procurement • Strengthening of integrated risk management and thorough implementation of compliance going beyond legal and regulatory compliance
	2025 targets	<ul style="list-style-type: none"> • Achieve zeros in five target categories • Reduction of greenhouse gas emission (GHG) volumes • Improve the quality of communication utilizing a self-assessment questionnaire • Entrench a global compliance standard and code of conduct within the Group • Establish and operate an integrated risk management structure and enhance our risk management system
	2021 results	<ul style="list-style-type: none"> • Number of serious lost-time incidents, serious facility accidents, environmental accidents, and quality compliance violations • Began consideration of new sustainable procurement guidelines (scheduled for formulation and disclosure in 2022) • Launched the examination of a new risk management system, compliance standard, and code of conduct (scheduled for formulation, introduction, and disclosure in 2022)
Value creation	Social value	• Balancing of our contribution to the resolution of social issues and duty as a chemical manufacturer through responsible business management
	Environmental value	• Reduction of environmental impact through improved recycling rates by reducing GHG emissions and waste
	Economic value	• Improvement of motivation, raising of productivity, reduction of costs, and enhancement of brand value through eradication of all types of accidents and other incidents and increased efficiency of internal processes

Develop autonomous, creative, and active human resource and culture

The Company's ambition	Our ambition	The source of our value lies in cultivating co-creative individuals and nurturing a corporate culture to solve issues imaginatively via co-creation by forming connections autonomously with customers and stakeholders through empathy, including various parties who will lead future generations.
	2030 targets	Through the cultivation of creative and co-creative individuals and the nurturing of a corporate culture conducive to their development, we will aim to become a developer of talent whose employees are the envy of other companies.
	Key constituent elements for achieving issues of materiality	<ul style="list-style-type: none"> • Nurturing of a co-creation culture born of mutual trust and respect • Development and acquisition of professional-minded human resources • Improvement of employee engagement
KPIs (Note: issues we plan to discuss and confirm with stakeholders)	Key items	<ul style="list-style-type: none"> • Implementation of our corporate philosophy • Strengthening of talent management • Continuous growth of individuals and the organization • Active involvement of human resources and ensuring of their psychological safety through the deepening of diversity and inclusion
	2025 targets	<ul style="list-style-type: none"> • Further evolve and strengthen examples of co-creation from our global awards • Increase the number of appointments through in-house recruitment that promote autonomous career development • Improve engagement-related scores • Enhance the diversity of management and nurture an inclusive corporate culture by increasing the ratio of female managers
	2021 results	<ul style="list-style-type: none"> • Planned and launched global awards (opportunities to accelerate the embodiment of our purpose and values) for the newly integrated company • Designed the way in which we will operate in-house recruitment for the newly integrated company • The ratio of female managers came to 4.5% in Japan and 11.5% globally
Value creation	Social value	• Promote innovation through internal and external co-creation aimed at solving social issues by cultivating the growth and active involvement of creative and co-creative individuals and the nurturing of a conducive corporate culture.
	Environmental value	
	Economic value	• Raise employee motivation and realize high productivity by boosting the competitiveness of human resources through strategic job rotations, with management developing leaders from the perspective of Companywide optimization.

Sustainability Management

The management team, corporate headquarters, business divisions, plants, and Group companies unite as one to promote cross-organizational projects and internal cooperation, with the CEO supervising and the CSO driving the promotion of sustainability. After deliberating and deciding on important items such as policies and plans in relation to sustainability, the Management Committee consults with and reports to the Board of Directors.

The Company completely overhauled its sustainability promotion system in 2022. Under the new system, the Sustainability Promotion Council convenes a monthly meeting at which Group CXOs, including the president and CEO, assemble. The meeting sees discussions on a variety of topics, such as medium- to long-term strategies, nonfinancial KPIs, and engagement with stakeholders. In addition, the council has put in place a system to address specific issues with agility and on a cross-organizational basis by establishing projects and other bodies under its control. The Company also strives to cultivate a sustainability mindset by organizing forums for internal communication where officers and employees exchange opinions.

Sustainability Promotion System (As of June 30, 2022)



Previous Materiality

Former Showa Denko Group's materiality selected in 2015 is as described in the table below.

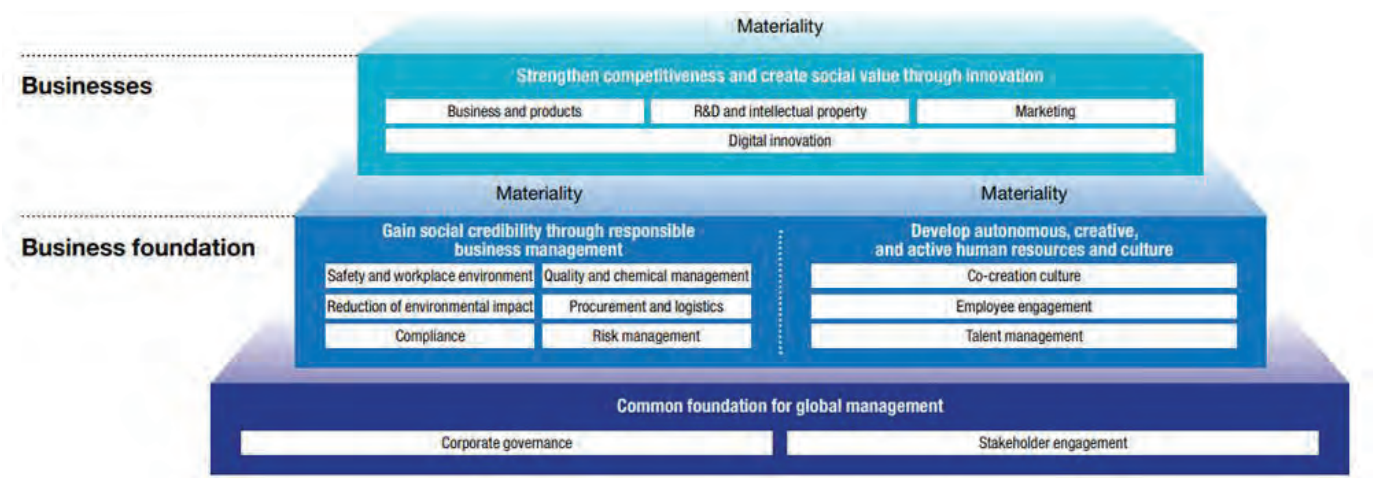
Core tasks	Medium- to long-term policy	Materiality
Contribution to achievement of SDGs through business activities	<p>By making effective use of the Group's products, technologies, and services, we will contribute to the creation of a society where affluence and sustainability are harmonized.</p> <p>Promote R&D in consideration of the SDGs</p> <p>Monitor contribution to the SDGs made through business activities and announce the results</p>	<p>Provision of products, technologies and services</p> <p>Access to Essential Services</p> <p>Consumer Safety and Health Protection</p> <p>Participation in Community Activities</p>
Tackling environmental issues	We will conduct Responsible Care activities with a strong focus on "responsibilities as a manufacturer and as a user," thereby contributing to the solution of global environmental problems.	<p>Prevention of Pollution</p> <p>Use of sustainable resources</p> <p>Measures against climate change</p>

Core tasks	Medium- to long-term policy	Materiality
	<p>Reduce GHG emissions</p> <p>Foster 3Rs to reduce waste generation</p> <p>Reduce the discharge of chemical substances</p>	
Establishment of sustainable methods for human resource development and improvement in working environment	<p>We will develop diverse human resources made up of people who can achieve growth with their company and contribute to a sustainable society, while also providing individual employees with workplaces where they can work with peace of mind and in good health.</p> <p>Develop employees and support their growth</p> <p>Promote diversity</p>	<p>Development of Human Resources</p> <p>Creating a comfortable workplace</p> <p>Equipment safety</p> <p>Occupational Health and Safety</p> <p>Thorough corporate ethics</p> <p>Protection of intellectual property</p> <p>Decision-making process and structure</p>

○ Performance regarding material issues results in 2019-2021 

Material Issues for Sustainability

With an eye on 2030, Showa Denko has identified three issues of materiality in addition to their constituent elements. We have reflected these issues of materiality in the strategies set out in the long-term vision, and aim to incorporate them into our nonfinancial KPIs by approximately 2025. The three issues of materiality are also related to the ideal state set out in our long-term vision through to 2030: becoming a company that can compete on the world stage, a company that contributes to a sustainable global society, and a company that develops co-creative talent that represents Japan’s manufacturing industry. In addition, they address both the achievement of our long-term vision and the expectations of society. While we have not set KPIs for corporate governance or stakeholder engagement, we will also focus on these areas, which are as important as our issues of materiality in establishing a common foundation for global management.



Material Issues for Sustainability①

Strengthen competitiveness and create social value through innovation

targets

We create social value through our businesses via a series of processes—from the identification of social issues to the development of technologies and the provision of solutions—and the harnessing of initiatives through co-creation.

2025 targets

Establish, implement, and monitor targets by business and mainstay product

Calculate the LCA for mainstay products and introduce evaluation methods at the R&D phase

For details, please refer to Material Issues for Sustainability①



Material Issues for Sustainability②

Gain credibility through responsible business management

targets

In addition to cultivating a safety culture and eliminating accidents of every kind, we will earn the trust of stakeholders by minimizing and preparing to tackle a wide range of risks, including strategic, operational, and hazard risks, to flexibly address the changing management and business environments and continuously offer value that is unique to us

2025 targets

Achieve zeros in five target categories

Reduction of greenhouse gas emission (GHG) volumes

Improve the quality of communication utilizing a self-assessment questionnaire

Entrench a global compliance standard and code of conduct within the Group

Establish and operate an integrated risk management structure and enhance our risk management system

For details, please refer to Material Issues for Sustainability②



Material Issues for Sustainability③

Develop autonomous, creative, and active human resources and culture

targets

Through the cultivation of creative and co-creative individuals and the nurturing of a corporate culture conducive to their development, we will aim to become a developer of talent whose employees are the envy of other companies.

2025 targets

Further evolve and strengthen examples of co-creation from our global awards

Increase the number of appointments through in-house recruitment that promote autonomous career development

Improve engagement-related scores

Enhance the diversity of management and nurture an inclusive corporate culture by increasing the ratio of female managers

For details, please refer to Material Issues for Sustainability③



Material Issues for Sustainability①



Strengthen competitiveness and create social value through innovation



Material Issues for Sustainability②



Gain credibility through responsible business management



Material Issues for Sustainability③



Develop autonomous, creative, and active human resources and culture

Sustainability: Site Map

- Message from CEO
- Sustainability Vision
- Sustainability Management
- Dialogue with Stakeholders

- Integrated Reports, Website
- Data collection
- Amazing Discoveries! Science Experiments for Kids

- Environment
- Social
- Governance

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Material Issues for Sustainability①

- [Material Issues for Sustainability① Strengthen Competitiveness and Create Social Value Through Innovation](#)
- Material Issues for Sustainability② Gain Credibility Through Responsible Business Management
- [Material Issues for Sustainability③ Develop Autonomous, Creative, and Active Human Resources and Culture](#)

targets

We create social value through our businesses via a series of processes—from the identification of social issues to the development of technologies and the provision of solutions—and the harnessing of initiatives through co-creation.

2025 targets

Establish, implement, and monitor targets by business and mainstay product

Calculate the LCA for mainstay products and introduce evaluation methods at the R&D phase



Strengthen competitiveness and create social value through innovation

The Company's ambition	Our ambition	The source of our growth lies in business activities utilizing our technological capabilities to change society through the power of chemistry. We will strengthen our competitiveness through innovation and our businesses to create social value.
	2030 targets	We create social value through our businesses via a series of processes—from the identification of social issues to the development of technologies and the provision of solutions—and the harnessing of initiatives through co-creation.
	Key constituent elements for achieving	Creation of social value through our businesses

	issues of materiality	<p>Identification of social issues and provision of customer value through marketing</p> <p>Facilitation of open innovation and cooperation</p> <p>R&D and intellectual property strategies that solve social issues</p> <p>Products and business strategies that contribute to the achievement of the SDGs</p> <p>Digital innovation that improves and accelerates the creation of social value</p>
KPIs (Issues we plan to discuss and confirm with stakeholders)	Key items	<p>Setting of targets and establishment of evaluation indicators for sustainability businesses and products</p> <p>Initiatives for life cycle assessment (LCA)</p>
	2025 targets	<p>Establish, implement, and monitor targets by business and mainstay product</p> <p>Calculate the LCA for mainstay products and introduce evaluation methods at the R&D phase</p>
	2021 results	<p>Launched studies to formulate business evaluation indicators that</p>

		<p>include new social and environmental aspects</p> <p>Commenced the pilot operation of a scheme to calculate our carbon footprint</p>
<p>Value creation</p> <p>Value creation</p>	<p>Social value Environmental value</p>	<p>Create social and environmental value directly and indirectly as a chemical manufacturer that serves as the basis for a variety of industries</p> <p>Aim to maximize our positive impact and minimize our negative impact on society and the environment through the thorough implementation of responsible consumption and production in all of our businesses</p>
	<p>Economic value</p>	<p>Create economic value by achieving business growth through the provision of social and environmental value, thereby helping to improve our corporate value</p> <p>Raise employee motivation by helping employees to gain a solid sense that we are realizing our purpose through our businesses</p>

Material Issues for Sustainability②

- Material Issues for Sustainability① Strengthen Competitiveness and Create Social Value Through Innovation
- [Material Issues for Sustainability② Gain Credibility Through Responsible Business Management](#)
- Material Issues for Sustainability③ Develop Autonomous, Creative, and Active Human Resources and Culture

targets

In addition to cultivating a safety culture and eliminating accidents of every kind, we will earn the trust of stakeholders by minimizing and preparing to tackle a wide range of risks, including

strategic, operational, and hazard risks, to flexibly address the changing management and business environments and continuously offer value that is unique to us

2025 targets

Achieve zeros in five target categories

Reduction of greenhouse gas emission (GHG) volumes

Improve the quality of communication utilizing a self-assessment questionnaire

Entrench a global compliance standard and code of conduct within the Group

Establish and operate an integrated risk management structure and enhance our risk management system

Materiality

Gain social credibility through responsible business management

Safety and workplace environment

Quality and chemical management

Reduction of environmental impact

Procurement and logistics

Compliance

Risk management

Gain credibility through responsible business management

<p>The Company's ambition</p>	<p>Our ambition</p>	<p>As a chemical manufacturer, we will conduct responsible business management in all of our businesses from perspectives including safety, the environment, and quality to realize a sustainable society together with stakeholders, such as suppliers and customers. In addition, we will reinforce and enhance our system for managing increasingly diverse and complex risks by thoroughly implementing soft-law-based</p>
--------------------------------------	----------------------------	--

		compliance going beyond legal and regulatory compliance.
	2030 targets	In addition to cultivating a safety culture and eliminating accidents of every kind, we will earn the trust of stakeholders by minimizing and preparing to tackle a wide range of risks, including strategic, operational, and hazard risks, to flexibly address the changing management and business environments and continuously offer value that is unique to us.
	Key constituent elements for achieving issues of materiality	<p>Establishment of environments where all people can work with peace of mind</p> <p>Provision of quality and safety to maximize customer value</p> <p>Reduction of environmental impact throughout the entire product life cycle</p> <p>Creation of a sustainable society, by working together with suppliers</p> <p>Thorough implementation of soft-law-based compliance going beyond legal and regulatory compliance</p> <p>Reinforcement of our system for managing increasingly diverse and complex risks</p>

KPIs (Issues we plan to discuss and confirm with stakeholders)	Key items	<p>Cultivation of a safety culture and elimination of occupational incidents, equipment-related accidents, environmental accidents, accidents involving products, and product compliance violations</p> <p>Reduction of environmental impact resulting from business activities</p> <p>Promotion of sustainable procurement</p> <p>Strengthening of integrated risk management and thorough implementation of compliance going beyond legal and regulatory compliance</p>
	2025 targets	<p>Achieve zeros in five target categories</p> <p>Reduction of greenhouse gas emission (GHG) volumes</p> <p>Improve the quality of communication utilizing a self-assessment questionnaire</p> <p>Entrench a global compliance standard and code of conduct within the Group</p> <p>Establish and operate an integrated risk management structure and enhance our risk management system</p>

	2021 results	<p>Number of serious occupational incidents, serious equipment-related accidents, environmental accidents, and quality compliance violations</p> <p>Began consideration of new sustainable procurement guidelines (scheduled for formulation and disclosure in 2022)</p> <p>Launched the examination of a new risk management system, compliance standard, and code of conduct (scheduled for formulation, introduction, and disclosure in 2022)</p>
Value creation	Social value	Balancing of our contribution to the resolution of social issues and duty as a chemical manufacturer through responsible business management
	Environmental value	Reduction of environmental impact through improved recycling rates by reducing GHG emissions and waste
	Economic value	Improvement of motivation, raising of productivity, reduction of costs, and enhancement of brand value through eradication of all types of accidents and other incidents and increased efficiency of internal processes

Material Issues for Sustainability③

- Material Issues for Sustainability① Strengthen Competitiveness and Create Social Value Through Innovation
- Material Issues for Sustainability② Gain Credibility Through Responsible Business Management
- [Material Issues for Sustainability③ Develop Autonomous, Creative, and Active Human Resources and Culture](#)

targets

Through the cultivation of creative and co-creative individuals and the nurturing of a corporate culture conducive to their development, we will aim to become a developer of talent whose employees are the envy of other companies.

2025 targets

Further evolve and strengthen examples of co-creation from our global awards

Increase the number of appointments through in-house recruitment that promote autonomous career development

Improve engagement-related scores

Enhance the diversity of management and nurture an inclusive corporate culture by increasing the ratio of female managers

Materiality

Develop autonomous, creative, and active human resources and culture

Co-creation culture

Employee engagement

Talent management

Develop autonomous, creative, and active human resources and culture

The Company's ambition	Our ambition	The source of our value lies in cultivating co-creative individuals and nurturing a corporate culture to solve issues imaginatively via co-creation by forming connections autonomously with customers and stakeholders through empathy, including various parties who will lead future generations.
	2030 targets	Through the cultivation of creative and co-creative individuals and the

		nurturing of a corporate culture conducive to their development, we will aim to become a developer of talent whose employees are the envy of other companies.
	Key constituent elements for achieving issues of materiality	<p>Nurturing of a co-creation culture born of mutual trust and respect</p> <p>Development and acquisition of professional-minded human resources</p> <p>Improvement of employee engagement</p>
KPIs (Issues we plan to discuss and confirm with stakeholders)	Key items	<p>Implementation of our corporate philosophy</p> <p>Strengthening of talent management</p> <p>Continuous growth of individuals and the organization</p> <p>Active involvement of human resources and ensuring of their psychological safety through the deepening of diversity and inclusion</p>
	2025 targets	<p>Further evolve and strengthen examples of co-creation from our global awards</p> <p>Increase the number of appointments through in-house</p>

		<p>recruitment that promote autonomous career development</p> <p>Improve engagement-related scores</p> <p>Enhance the diversity of management and nurture an inclusive corporate culture by increasing the ratio of female managers</p>
	2021 results	<p>Planned and launched global awards (opportunities to accelerate the embodiment of our purpose and values) for the newly integrated company</p> <p>Designed the way in which we will operate in-house recruitment for the newly integrated company</p> <p>The ratio of female managers came to 4.5% in Japan and 11.5% globally</p>
Value creation	Social value Environmental value	<p>Promote innovation through internal and external co-creation aimed at solving social issues by cultivating the growth and active involvement of creative and co-creative individuals and the nurturing of a conducive corporate culture.</p>
	Economic value	<p>Raise employee motivation and realize high productivity by boosting the competitiveness of human resources through strategic job</p>

		rotations, with management developing leaders from the perspective of Companywide optimization.
--	--	---

Contribution to the SDGs

- Our Viewpoint About Sustainability
- [Contribution to the SDGs](#)
- Responsible Care Activity
- Stakeholder Communications
- Participation in Initiatives

Basic ideas and policies

The Resonac Group is committed to contributing to solving social issues, with a focus on the SDGs, through its business activities. We have positioned the focus of our corporate activities as contributing to SDGs 12 and 17 as a Co-creative Chemical Company that seeks to create a recycling-oriented society. Goals that we contribute to through businesses and products are in the upper part of the semicircle, with goals that we contribute to through our business foundation in the base. Going beyond areas where we already contribute through our businesses, we are looking ahead with the aim to contributing to the creation of a future that we seek to realize through the power of chemistry.

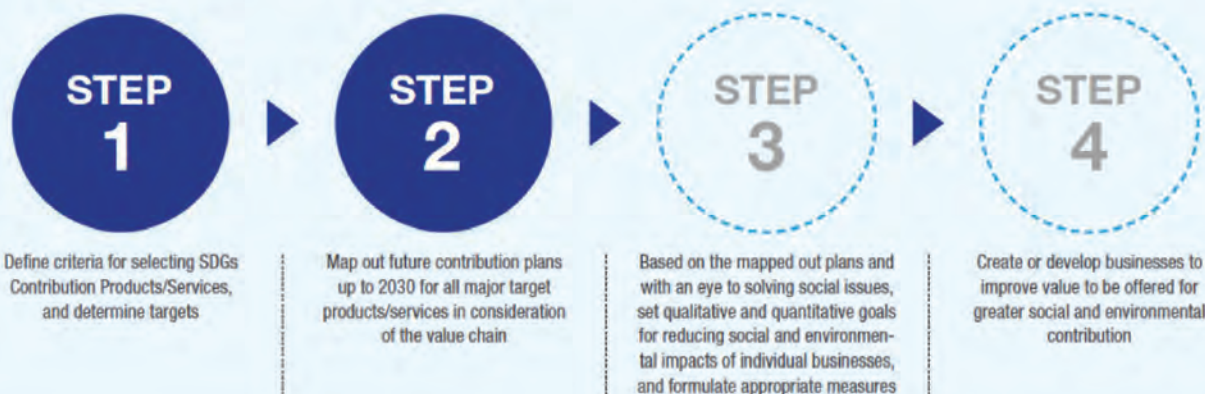


Selection criteria and processes for SDGs Contribution Products/Services

In order to visualize how individual businesses and products currently contribute to the SDGs, we select "SDGs contribution products/services" based on our own criteria. In addition, for some products, we consider what we should do to further contribute in the future and disclose them as SDGs contribution stories for the future.

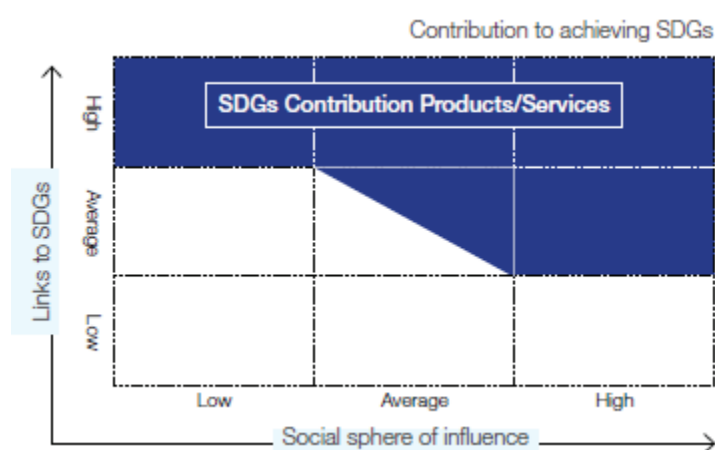
We started by charting the situation of products/services on two axes—one for the link between the goals or targets of the products/services and the SDGs, and the other for the social sphere of influence—and defined a region for SDGs Contribution Products/Services. We deliberated and examined these at the Sustainability Promotion Committee and approved them at the Management Committee.

Showa Denko Group's 4 steps to tackle SDGs through business activities



STEP 1

A chart was created setting criteria and defining a region for SDG Contribution Products/Services (see below)..



STEP 2

Model contribution plans up to 2030 were created for three target products/services (Plastic chemical recycling, graphite electrode and regenerative medicine) in consideration of the value chain.

SDGs Contribution Products/Services (As of July 2021)

Products/services	Point	Challenge toward 2030	Main target
Plastic chemical recycling	Raise chemical recycling rate of plastic resources:	Address types of plastics that are hard to recycle to	9.4、12.5

Products/services	Point	Challenge toward 2030	Main target
	<p>Raise Japan's chemical recycling rate from the current 3% to 17%</p> <p>Reduce ocean plastic pollution</p>	<p>improve the recycling rate</p> <p>Provide stable production process technologies developed through years of commercial operations to operators inside and outside of Japan</p>	
Graphite electrode	<p>Reduce CO₂ emissions related to steel production</p> <p>Build a sustainable, recycling-oriented society: Raise the world's electric furnace-made steel rate from the current 30% to 35%</p> <p>Upgrade electric furnace operation processes to reduce CO₂</p>	<p>Ensure stable supply of high-quality graphite electrodes from six: carbon neutral plants across the world</p> <p>Aim to go beyond carbon neutral and become carbon negative at Omachi Plant (power consumption hydropower output)</p>	9.4、12.2

Products/services	Point	Challenge toward 2030	Main target
	emissions related to steel production	Provide AI-enabled technical support to upgraded electric furnace operation processes to lower electrode consumption rate	
High-purity gasses for semiconductor processing	Promotion of sustainable industrialization	Further increase the purity of the gases to help expand the data storage capacity of semiconductor memory for higher energy efficiency, thereby contributing to the spread of tablet terminals	9.4
Hard disk media	Promotion of sustainable industrialization	Expand the data storage capacity of hard disk drives to contribute to the spread use of data infrastructure	4.3、9.4
VGCF: conductive additive for	Increase energy efficiency (with	Contribute to higher	7.3、13.2




Products/services	Point	Challenge toward 2030	Main target
cathode/anode of LIB	regard to materials used in lithium-ion batteries)	performance for greater energy efficiency by making combined use of internally available battery materials	
SPALF: aluminum laminated film	Increase energy efficiency (with regard to materials used in lithium-ion batteries)	Make combined use of the SPALF aluminum laminate film and heat exchanger technology to supply light and compact battery cooling systems, thereby contributing to the creation of a low-carbon society	7.3、13.2
Contract development and manufacturing organization for regenerative medical products	Promote regenerative medicine to provide treatment for diseases, such as cancer and hereditary disorders, that are difficult to treat with conventional approaches	As a partner of pharmaceutical companies, provide contract manufacturing services for regenerative medicine from production bases in Japan, the US and Europe, ensuring a high level of	3.4、3.8

Products/services	Point	Challenge toward 2030	Main target
		quality. In doing so, contribute to the promotion and development of regenerative medicine and work to support the health.	
<p>Information and Communication related products for 5G, AI, and autonomous driving:</p> <p>CMP slurries</p> <p>Printed wiring board materials</p> <p>Solder resist</p> <p>Die-bonding materials</p> <p>Epoxi molding compounds</p> <p>Anisotropic conductive films (ACFs)</p>	<p>Contribute to the development of AI and next-generation communication technologies (5G, etc.) for the provision of new services and industrial processes based on the use of voluminous data as well as to the safety of automobiles, better mobile services and the spread use of communication and traffic infrastructure</p>	<p>Contribute to the development and faster application of practical technologies by making use of Showa Denko's own materials technologies to promote ICT-based logistics management and smart grid systems for more efficient use of resources, solutions for environmental problems, and higher traffic safety in society</p>	3.6、9.4
Molded plastic rear door modules	Increase energy efficiency (by	Reduce the weight of automobiles for	6.4、7.3、

Products/services	Point	Challenge toward 2030	Main target
	reducing the weight of automobiles)	higher fuel efficiency and lower CO2 emissions in the use stage, thereby contributing to the prevention of global warming	9.4
Copper-free friction materials	Ensure the soundness of people's lives (by preventing the use of hazardous chemical substances and pollution of the air, water and soil)	Prevent the pollution of rivers, lakes, marshes and oceans by trace amounts of copper dust generated due to abrasion caused by braking, thereby helping to prevent health damage caused by water pollution	3.9、12.4
Anode materials for xEV	Increase energy efficiency (by providing xEV batteries)	Develop, manufacture and sell battery materials that can contribute to the spread use of xEV thereby contributing to higher energy efficiency, curbing air pollution and	7.3、9.4

Products/services	Point	Challenge toward 2030	Main target
		solving other global social issues	

Contribution story example

- Plastic Chemical Recycling: "Showa Denko Report 2021" P.35 
- Graphite electrodes: "Showa Denko Report 2021" P.36 
- Contract development and manufacturing organization for regenerative medical products: "Showa Denko Report 2021" P.37 

Sustainability: Site Map

- > Message from CEO
- > Sustainability Vision
- > Sustainability Management
- > Dialogue with Stakeholders
- > Integrated Reports, Website
- > Data collection
- > Amazing Discoveries! Science Experiments for Kids

ESG Information

- > Environment
- > Social
- > Governance

Responsible Care Activity

- Our Viewpoint About Sustainability
- Contribution to the SDGs
- [Responsible Care Activity](#)
- Stakeholder Communications
- Participation in Initiatives

Responsible Care refers to voluntary activities conducted by chemical companies to manage their products throughout their life cycles, from development through to manufacture, distribution, use, final consumption and disposal, with a view to protecting “safety, health and the environment” and promoting dialogue and communication with society by the public announcement of the activity results. We promote activities based on the Responsible Care Action Guidelines to fulfill our responsibility as a chemical manufacturer and contribute to a sustainable global society.

Responsible Care Action Guidelines

The Resonac established the Responsible Care Action Guidelines in March 1995. Since then, we have been promoting Responsible Care activities based on the action guidelines.

In addition, we signed the Responsible Care Global Charter in 2005, pledging our support for and implementation of the charter. When the RC Charter was amended in 2014, we re-signed, making clear our willingness to promote RC activities through global collaboration.



Responsible Care Global Charter
Signatory Certificate

Responsible Care Action Guidelines (The Resonac Group Action Guidelines)

1. Throughout the entire life cycle of products, we shall make our best efforts to review and improve business activities continuously from the view points of ensuring safety & health and protecting the environment.
2. We shall make our best efforts towards sustainable development by harmonizing our production activities with the global environment, not only through conventional approaches to environmental preservation, but also through promotion of changing raw materials, energy conservation, waste reduction and recycling, reductions in the release of chemical substances, etc.
3. In the development of new products and businesses and in the establishment, enlargement, and renovation of facilities, we shall undertake our best efforts to ensure safety and health and to protect the environment.
4. We shall promote R&D and develop technologies that will contribute to the improvement of safety and health and to the protection of the environment. We shall also promote the marketing of alternative or new products.
5. We shall enrich risk assessments and risk management concerning the effects of the products and materials we handle on safety, health, and the environment, and we shall provide information on the safe use and handling of our products to our stakeholders as well.
6. In overseas business activities, technology transfer, and international trading of chemical products, we shall give full consideration to ensuring safety and health, and protecting the environment.
7. We shall comply with international rules, domestic laws and regulations, and make our best efforts to cooperate with the relevant international organizations, domestic and foreign administrative bodies, etc.
8. We shall participate proactively in various activities related to the ensuring of safety & health and environmental protection, and make our best efforts to communicate with society to achieve better understanding and trust.

Promotion system

At the Resonac, the Responsible Care (RC) Promotion Council is placed under the Sustainability Promotion Council, which is composed of CXOs including the CEO. The RC Promotion Council discusses RC issues, such as environmental management, global warming, industrial waste, discharge of chemical substances, equipment safety, occupational health and safety, health management, safety of chemicals, and quality assurance. Important matters resulting from discussions are reported to the Sustainability Promotion Council, the Management Committee and the Board of Directors for discussion.

We are promoting Responsible Care at our major bases in Japan, including Group companies. At overseas Group companies (manufacturing) as well, we have identified achievements relating to Responsible Care and provided local guidance to expand the target scope.

Responsible Care Action Plan


The Resonac Group set the following targets as its Responsible Care vision for 2025.

Become able to contribute to the solution of global environmental problems through Responsible Care activities that focus on “Responsible production and consumption.”

Have nurtured a culture of safety across the Resonac Group and built the world’s top-class safety infrastructure.

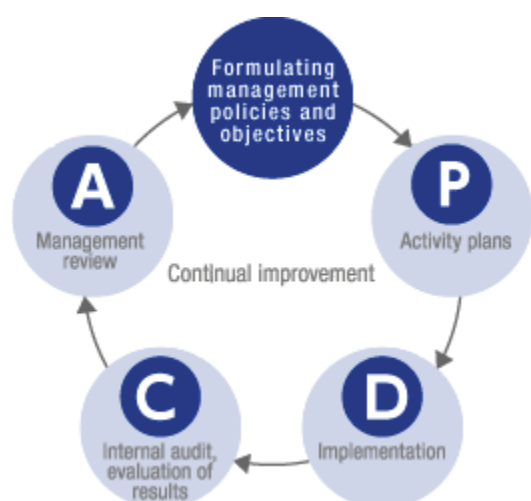
In order to attain the long-term targets, we have been setting a medium-term Responsible Care action plan every two or three years as well as an annual action plan. Moreover, we make a specific action plan at each of our plants to promote Responsible Care activities.

Results and evaluation for major activities for 2021 and targets for 2022

- Responsible Care Action Plan (Results for 2021 and Targets for 2022 as of the end of July 2022) in PDF format 

The Resonac Group works to achieve continuous improvement in its Responsible Care activities through the plan-do-check-act (PDCA) cycle of formulating Responsible Care activity plans (plan), implementing

these (do), auditing and evaluating the results (check), and reflecting these via management review in the next round of objectives and activity plans (act). We will continue to promote active engagement in these efforts to meet our targets.



The PDCA cycle

Education system

The Resonac Group, employees receive Responsible Care education that focuses on occupational safety, environment preservation and compliance when they join the company or are promoted. Internal auditors for environmental management systems and occupational safety and health management systems are also provided with annual training.

The following table shows the collective training held by the head office in 2019. (For safety education, chemicals safety education and other field-specific education, please refer to the pages for each of the items.) Participants in the training make use of what they have learned in the training in the activities conducted at their sites.

Related link

- [Occupational Health and Safety](#)
- [Product Stewardship](#)

Number of participants in the Responsible Care (RC) training seminars held by the head office in 2021

Date	Name	Target	No. of participants
Apr., Jun., Aug. and Oct. 2021	Training for internal auditors for ISO 14001	Applicants from Group sites	104 in total

Date	Name	Target	No. of participants
May, Jul., Sept. and Nov. 2021	Training for internal auditors for ISO 45001	Applicants from Group sites	104 in total
Apr. 2021	RC training for new employees	New employees	38 in total
Dec. 2021	RC training for new manufacturing section managers, etc.	Managers including newly appointed section managers	14 in total

Auditing structure

Showa Denko and its major Group companies conduct audits as described below for their worksites to assess and improve their Responsible Care activities.

Self-audit

Workplaces of the Resonac and its major Group companies evaluate their own Responsible Care systems and implementation statuses based on a checklist, so as to reflect the results in the following year's targets and action plans in order to move forward with continuous improvement.

Worksite auditing

The Environment & Safety Office and the Chemicals Assessment & Management Center audit the worksites of the Resonac and other major Group companies to make evaluations and improvements regarding their Responsible Care-related performance, including the level of compliance with the requirements, measures to meet challenges, improvement of management systems and how they are sharing information about on-site accidents. The results of worksite audits are reported to the Management Committee, which deliberates on them to reflect them in policies, goals and plans on a company-wide basis and across the Group. In 2021, we audited 32 sites (including our headquarters, branch offices, business divisions and overseas affiliates). Also, we annually carry out annual quality diagnoses at the Group's sites, including divisions, plants and Group companies, to clarify their strengths and weaknesses and share the findings.

Management system

The Resonac Group continues improving its management system through receiving and maintaining certification of conformity to management system standards including those for environment, quality, and industrial safety and hygiene.

Related link

- [○ List of Declarations and Certifications](#)

Sustainability: Site Map

- [⌵ Message from CEO](#)
- [⌵ Sustainability Vision](#)
- [⌵ Sustainability Management](#)
- [⌵ Dialogue with Stakeholders](#)

- [⌵ Integrated Reports, Website](#)
- [⌵ Data collection](#)
- [⌵ Amazing Discoveries! Science Experiments for Kids](#)

ESG Information

- [⌵ Environment](#)
- [⌵ Social](#)
- [⌵ Governance](#)

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Stakeholder Communications

- Our Viewpoint About Sustainability
- Contribution to the SDGs
- Responsible Care Activity
- [Stakeholder Communications](#)
- Participation in Initiatives

Basic ideas and policies

The Resonac Group aims to be a company that is trusted and rated highly by all stakeholders by fulfilling its social responsibilities. Having dialogue with stakeholders is essential for the Group to identify society's needs in an appropriate manner and prevent becoming trapped in dogmatic ideas. We therefore attribute importance to communication with our stakeholders and will expand opportunities to conduct dialogue with them.

Recently, the number of opportunities for us to engage in dialogue directly with stakeholders has been decreasing due to COVID-19, and we had to cancel events such as plant tours. However, we are continuously working to communicate proactively with stakeholders through online meetings and by examining drastic methods to prevent infection.



Relationships with shareholders and institutional investors

The Resonac Group regards IR activities as those that help shareholders and investors deepen their understanding of the Group's corporate management, business activities and strategies, so that they can evaluate the Group's corporate value in a fair manner. Based on this idea, we are committed to:

- (1) Fostering communication with shareholders and investors and increasing our management transparency, and
- (2) Disclosing corporate information about the Group in an easy-to-understand, fair, timely and accurate manner to help shareholders and investors deepen their understanding of and trust in the Group.

Major means of communication

In 2021, due to COVID-19, we were unable to engage in face-to-face communications with stakeholders as usual. Instead, we held online briefing seminars for individual investors and also presented our financial results online as well as by telephone. We have thus made proactive use of digital tools to communicate with stakeholders.

IR events

Ordinary shareholders' meeting

Briefing on financial results

Briefing on management policies

Briefing on our business (once a year)

Tour of our manufacturing facilities

Small meetings and individual meetings

Dialogue on ESG-related issues

Briefing for individual investors

Publications

Integrated Report

Annual Report in English (Restructured into a financial report in 2022)

Publication of newsletters for shareholders

Website

IR website

Related link

 For Investors

Relationships with local communities and authorities

In order to become a “social contribution company” as stated in the Resonac Group’s CSR Policy, we will proactively participate in local community activities and conduct dialogue sincerely with local residents to deepen mutual understanding, and will collaborate with them to solve local issues for the sustainable development of their communities. We are also making efforts to earn trust from local communities and authorities through the Group’s safe and stable operations.

Major means of communication

Tours of the Group’s facilities

CSR Site Report (once a year)

Publication of a local PR newsletter

Dialogue with local communities

Employees’ participation in local activities

Provision of special classes at school

Donation of proceeds from aluminum can recycling activity, and others

Related link

 [Participation in Community Activities](#)

Relationships with customers

By providing customers with unique products and services that are useful and safe and exceed our customers’ expectations, we are giving satisfaction to our customers and encouraging them to buy our products and services repeatedly.

Major means of communication

Information dispatch through news releases

Participation in exhibitions

Publication of product brochures

Information dispatch through the website

Plant tours, and others

Relationships with business partners

As a matter of course, we are working to earn trust from our business partners when dealing with them and to comply with the Resonac Group's Sustainable Procurement Guidelines together with them, with an eye to solving environmental and social issues across the supply chain, thereby increasing mutual corporate value.

Major means of communication

CSR evaluation of partners and support for their improvement activities (CSR self-assessment, CSR visits and follow-ups)

Related link

[○ Sustainable procurement](#)

Relationships with employees and their families

As a precondition for the Resonac Group's growth, we think it is necessary to ensure that employees who are "core players for value creation" can work with vigor to meet society's needs. Accordingly, we are working to communicate extensively with employees, providing them with workplaces where they can work with satisfaction, and to become an enterprise that they can be proud of. We are also conducting activities to help employees' families deepen their understanding of the Group, including inviting them on a tour of our facilities.

Major means of communication

Publication of the in-house magazine (four times a year)

Information dispatch through the intranet (updated from time to time)

Employee awareness survey (once every three to four years)

Provision of various training opportunities

Labor-management discussions (Labor-Management Committee, face-to-face discussion called "commu-cussion" on Responsible Care, and others)

Invitation of families on a tour of the facilities, and others

Sustainability: Site Map

- ⌵ [Message from CEO](#)
- ⌵ [Sustainability Vision](#)
- ⌵ [Sustainability Management](#)
- ⌵ [Dialogue with Stakeholders](#)

- ⌵ [Integrated Reports, Website](#)
- ⌵ [Data collection](#)
- ⌵ [Amazing Discoveries! Science Experiments for Kids](#)

ESG Information

- ⌵ [Environment](#)
- ⌵ [Social](#)
- ⌵ [Governance](#)

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Participation in Initiatives

- ☐ Our Viewpoint About Sustainability
- ☐ Contribution to the SDGs
- ☐ Responsible Care Activity
- ☐ Stakeholder Communications
- ☐ [Participation in Initiatives](#)

Major initiatives that we support, and the organizations to which we belong as a member

Towards solving social issues such as environmental issues including climate change and biodiversity, human rights, labor, and anti-corruption.

We actively participate in industry groups and initiatives that match our thinking and direction, and promote various activities.

When participating in and reviewing industry associations, we consider consistency with our business objectives, focus areas, and business activities.

We will check from time to time to see if there is a major contradiction between the views of the industry group and our company, and if the isolation is significant, we will consider withdrawing from the group.

UN Global Compact

The Resonac signed up to the UN Global Compact (UNGC) in July 2021. UNGC is a voluntary initiative to implement universal sustainability principles and to undertake partnerships in support of UN goals.

We declared our support for the Ten Principles of the UNGC, in the areas of human rights, labor, environment, and anti-corruption practices and we are striving to make social contributions through business operations.

- ☐ UN Global Compact 



GX League

The Resonac Group supports the basic concept of the Green Transformation (GX) League. The GX League provides a group of companies that are proactively working on GX with an opportunity to collaborate and communicate with government agencies, academia and the financial sector for the green transformation of the entire economy and creation of a new market. Through the League, the Resonac Group will cooperate with a range of stakeholders to promote measures for such transformation.



Task Force on Climate-related Financial Disclosure (TCFD)

In May 2019, the Resonac announced its support of the recommendations made by the TCFD, which had been established by the Financial Stability Board. Based on the TCFD's recommendations, we will proactively disclose information about the impact of climate change on our business operations.

Related link

[○ Measures against climate change](#)



Semiconductor Climate Consortium (SCC)

In November 2022, we joined SCC (Semiconductor Climate Consortium) under SEMI as a founding member. SCC is forming the first global climate consortium for the semiconductor ecosystem aimed at reducing greenhouse gas (GHG) emissions across the semiconductor value chain. Founding members are supporting the Paris Agreement and related accords driving the 1.5°C pathway. Based on the SCC's three guidelines (Collaboration, Transparency, and ambition), we will promote initiatives such as target setting and disclosure for the semiconductor value chain. We are also participating in the Scope 1 High GWP GHG Working Group and collaborating with other participating companies to reduce GHG emissions through the supply chain.



CLEAN FUEL AMMONIA ASSOCIATION (CFAA)

The Resonac Group participates in CLEAN FUEL AMMONIA ASSOCIATION. The realization of a hydrogen society is expected to contribute to mitigating global warming and improving energy security. Ammonia is the leading option for hydrogen energy carriers. Resonac is the only company in the world that has been synthesizing ammonia by utilizing low-carbon hydrogen extracted from gas produced through the process of used plastic chemical recycling for a long period of time. CFAA aims to establish a value chain that extends from the distribution of CO₂-free ammonia to the use of it. The Resonac Group will also contribute to the spread of CO₂-free ammonia.



CLEAN FUEL AMMONIA ASSOCIATION

一般社団法人 クリーン燃料アンモニア協会

Clean Ocean Material Alliance (CLOMA)

The Clean Ocean Material Alliance is a public-private organization established to solve the issue of marine plastic waste, which is a new threat to the global environment. CLOMA serves as a platform for a range of parties to enhance their collaboration across industries for speedier innovation. The Resonac participates in two of the Alliance's Working Groups (Dissemination & Promotion WG and Technology WG) and one of the working groups (WG3 on the development and practical use in society of chemical recycling technology) set under the CLOMA Action Plan. Through the Alliance we are cooperating with various stakeholders for more sustainable use of plastic products and the reduction of plastic waste.

“White Logistics” movement: Voluntary action declaration

In May 2019, the Resonac became one of the first companies in the chemical industry to make a declaration to take actions for sustainable logistics, in support of the “White Logistics” movement fostered by the Japanese Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry, and Ministry of Agriculture, Forestry and Fisheries. Joint delivery, modal shift and other measures to increase the efficiency of transportation will directly contribute to reducing our environmental impact, in addition to helping improve the work environment in the logistics industry.

Related link

[○ “White Logistics” movement](#)

International Council of Chemical Associations (ICCA)

The Resonac Group has been demonstrating leadership in the International Council of Chemical Associations (ICCA), with one of its employees serving as chair of the Council's Energy & Climate Change Leadership Group for two years from 2020.

Japan Chemical Industry Association, Keidanren (Japan Business Federation) and Japan Petrochemical Industry Association

As a member of the Japan Chemical Industry Association (JCIA), the Resonac contributes to investigations and research concerning the production, distribution and usage of chemical products and about a range of issues faced by the chemical industry regarding technologies, labor, the environment and safety. The JCIA is working for the fulfillment of Keidanren's Commitment to a Low Carbon Society and has set the CO₂ emission reduction targets for the chemical industry.

the Resonac, as a member of Keidanren, the Japan Petrochemical Industry Association and other trade associations, is working toward solutions to environmental issues, including climate change and ocean plastic waste, in collaboration with other corporate groups. the Resonac is also striving to reduce its CO₂ emissions in cooperation with the JCIA. Kohei Morikawa, Representative Director and Chairman of the Board of the Resonac, presently serves as chairman of the JCIA (as of January 2022).

The Resonac, as a member of Keidanren, the Japan Petrochemical Industry Association and other trade

associations, is working toward solutions to environmental issues, including climate change and ocean plastic waste, in collaboration with other corporate groups. For other organizations to which the Resonac belongs, please refer to the collection of links.

Sustainability: Site Map

- ① Message from CEO
- ① Sustainability Vision
- ① Sustainability Management
- ① Dialogue with Stakeholders

- ① Integrated Reports, Website
- ① Data collection
- ① Amazing Discoveries! Science Experiments for Kids

ESG Information

- ① Environment
- ① Social
- ① Governance

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Environmental Management System

- ☐ [Environmental Management System](#)
- ☐ Challenges to Realize Carbon Neutrality
- ☐ Measures Against Climate Change
- ☐ Environmental Considerations; Atmosphere
- ☐ Waste Management
- ☐ Environmental Considerations; Water
- ☐ Efforts for Preservation of Biodiversity

Basic ideas and policies

The Resonac Group is committed not only to fulfilling its responsibilities as both a chemical company and an emitter by minimizing the discharge of hazardous substances, waste and pollutants, but also to contributing to environmental conservation based on the appropriate assessment of the impact of its business activities on the environment. To this end we are working to build a monitoring system and an effective environmental management system across our supply chain targeting a wide range of environmental risks, including those posed by waste, water pollution, air pollution, soil pollution, noise and vibration. Through this effort we are improving our environmental management system based on the concept of Responsible Care.

Promotion system

The Resonac Group conducts environmental conservation activities as part of its Responsible Care activity under the Responsible Care promotion system. The president of Resonac. assumes ultimate responsibility for the Group's Responsible Care activity. Under the leadership of the president, each of the divisions and sites conduct environmental conservation activities, receiving support from the administrative departments of the head office. At regular safety meetings, the Management Committee is briefed on environment-related activities of the Group and gives relevant instructions, which will be conveyed to the divisions and sites for implementation. Moreover, at each site, the head of the site and the environment & safety manager lead environmental conservation activities based on their Environment and Safety action plans.

Implementation of environmental management systems

The Resonac Group is managing and reducing environmental risks posed to its sites in an appropriate manner by establishing an environmental management system at each site, for which the Group is promoting the acquisition of certification and fostering improvements. We have these management systems regularly assessed by external certification bodies to keep them up to date. Moreover, the systems are implemented at each site by following a PDCA cycle to further promote the related activities.

* The Resonac Group obtains certification for the environmental management system of each site.

[List of sites with certified environmental management systems](#)

* For internal audits on the Responsible Care activity including environmental initiatives, please refer to the following:

[Responsible Care activity](#)

Reduction of environmental risks

The Resonac Group is implementing the following measures to reduce environmental risks, aiming to achieve zero serious environmental accidents that badly affect human health and the environment*, such as the outflow of chemical substances from company premises and environmental pollution by hazardous substances.

In 2021 we had no serious environmental accidents.

* Serious environmental accidents: Events that result in damage to human health or the natural environment along with any of the following situations due to the discharge of certain substances beyond the regulatory or agreed standards

1. Ambulance transportation due to physical injury or illness
2. Damage to the lives, business activities and natural environments of third parties
3. Request for assistance made to outside (other than official emergency calls)
4. (Nationwide) media coverage

Education of employees on latest revision of environmental laws and regulations and internal auditing at each site

Confirmation of compliance with environmental laws and regulations at each site through Environment and Safety auditing by the head office

Implementation of environmental risk assessment

Formulation of a manual on responses to incidents (about how to establish an internal response system including the response headquarters; information communication channels; and about internal and external reporting and information sharing) and organization of drills

Sharing of environmental accident information across the board

Promotion of “Active Safety” activities* to prevent the reoccurrence of similar problems based on the analysis of past accidents and problems

Implementation of measures including surveys in line with the Soil Contamination Countermeasures Act and the ordinances of local governments following the change of land usage or the excavation and transportation of soil from the premises to prevent soil and groundwater contamination

* Active Safety activities: Activities in which we analyze past incidents and disasters and summarize the lessons learned from them in the “Active Safety checklist,” and then make use of the list to identify related risks and as an educational material to prevent the reoccurrence of similar incidents

Measures against soil contamination

In October 2020, at our production base for the aluminum specialty components business located in Kitakata City, Fukushima Prefecture, substances including fluorine were detected in an amount exceeding the regulatory standards in the groundwater flowing beneath the premises. In response we have implemented remediation measures in line with the Soil Contamination Countermeasures Act.

Niigata Minamata disease

Regarding the Niigata Minamata disease, the outbreak of which was officially confirmed in 1965, we acknowledge that it caused great inconvenience to people living around its site, our wastewater caused the pollution of the Agano River. Resonac, in cooperation with the national and local governments, will continue to respond in good faith to the victims of the incident and work to solve the related problems in line with the laws and regulations that provide for compensation to be paid for the damage caused by the pollution.

Environmental education

We have been planning and implementing a range of environmental education programs for all Group companies in Japan. In 2021, we provided training on environmental laws and regulations and training for internal auditors in an online format. We provide such training with a focus on promoting communication through group discussion while checking participants’ level of understanding about the content.

Environmental training held by the head office in 2021

Date	Name	Target	No. of participants
Apr., Jun., Aug. and Oct. 2021	Training of internal auditors for ISO 14001	Willing participants from Group sites	104
Oct. 28, 2021	Study meeting on environmental laws and regulations	Willing participants from Group sites	233

TOPICS **Study meeting on environmental laws and regulations**

On October 28, 2021, we held an online study meeting on environmental laws and regulations. A total of 233 employees participated to deepen their understanding about the important points of the Air Pollution Control Act, Water Pollution Prevention Act, Noise Regulation Act and Vibration Regulation Act of Japan and the relevant notification procedures to be followed at their sites.

Communication about environmental management

We inform people living around our sites of the details of our environmental management through on-site tours, opinion exchange meetings and the sites' CSR reports and regularly conduct dialogue meetings with them. We also invite them to share their opinions and comments via the Resonac Group's hotline.

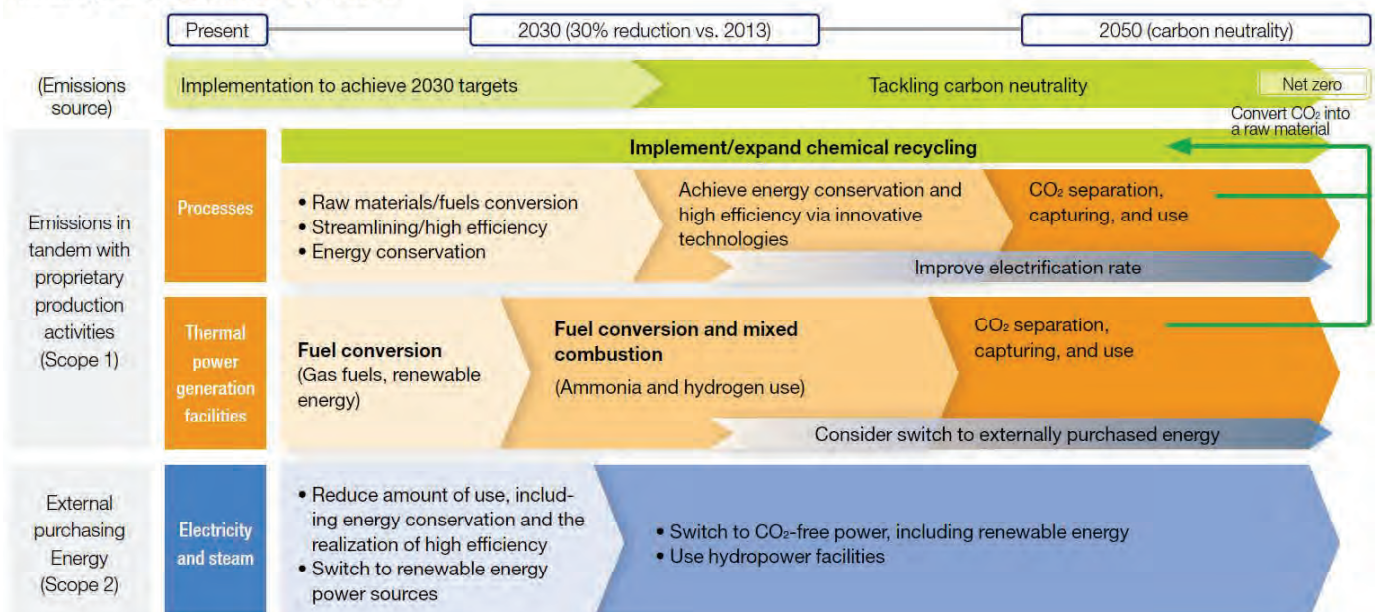
Challenges to Realize Carbon Neutrality

- Environmental Management System
- [Challenges to Realize Carbon Neutrality](#)
- Measures Against Climate Change
- Environmental Considerations; Atmosphere
- Waste Management
- Environmental Considerations; Water
- Efforts for Preservation of Biodiversity

Basic ideas and policies

Climate change phenomena are occurring frequently and on a global scale. According to the science, greenhouse gases are considered to be a major factor for such phenomena. Under the Paris Agreement, a leading international initiative to tackle this issue, a goal was set to keep the rise in mean global temperature to less than two degrees Celsius above pre-industrial levels (“two degree target”), and efforts to address this challenge are expected to be accelerated over the coming years. In order to support such efforts, the Resonac Group will take up new challenges aimed at carbon neutrality, setting goals for 2050. This is one of our key approaches to becoming a “company that contributes to a sustainable global society,” the ideal state defined in our Long-term Vision.

Roadmap to Carbon Neutrality in 2050



Up to 2030, promote initiatives for rigorous streamlining, increased efficiency, energy conservation, conversion to gas fuels (high-efficiency co-generation system)

Promote technology development for new GHG capture and utilization processes and sustainable plastic chemical recycling

From 2030 to 2050, promote in earnest initiatives for fuel conversion/mixed-combustion using ammonia and hydrogen, and electrification of production processes

Promote utilization of private hydroelectric power and shift to renewable energy power for use in production

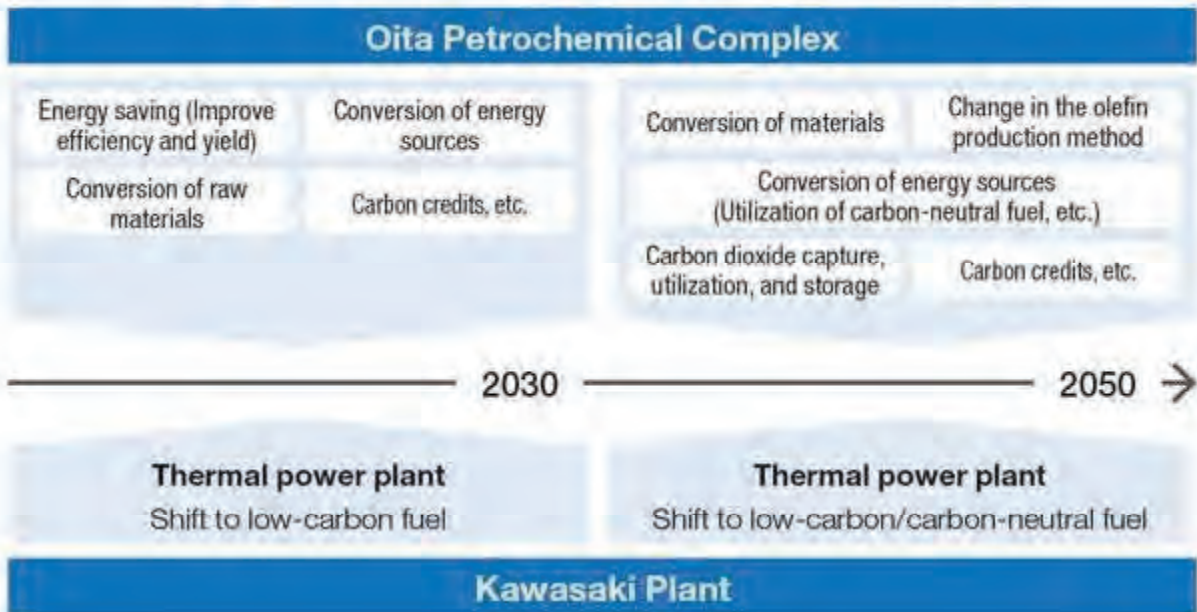
Aiming to achieve carbon neutrality, promote the development of innovative GHG capture/utilization technologies, utilization of recycled GHG as chemical materials, and implementation of sustainable plastic chemical recycling technologies

Path to Carbon Neutrality Centered on Petrochemicals and Other Chemicals

The Chemicals segment provides products that are indispensable to society. At the same time, however, it emits more greenhouse gases during its production processes than other segments. For this reason, petrochemical and other chemical operations will be a central focus of our efforts to achieve carbon neutrality. Up until 2030, our pursuit of carbon neutrality will involve building upon existing technologies centered on those for conserving energy and switching to new energy sources. R&D efforts looking toward 2050, meanwhile, will include the low-concentration CO₂ separation system employing an innovative separation agent that was adopted by NEDO under its Green Innovation Fund.

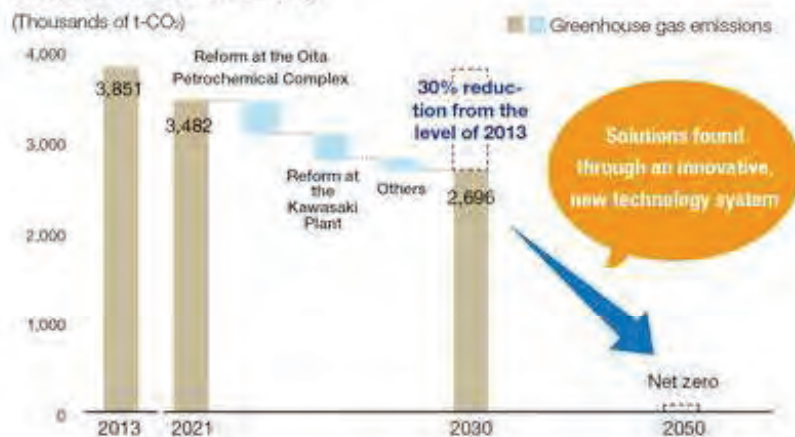
Roadmap for Petrochemicals and Chemicals Businesses

Formulation of reduction measures for the Oita Petrochemical Complex and Kawasaki Plant, contributors of a large portion of Companywide emissions



Promote independent measures while searching for solutions through co-creation with stakeholders

Road to Carbon Neutrality



Note: Figures represent the total of Scope 1 and Scope 2 emissions for Showa Denko (consolidated in Japan) and Showa Denko Materials (non-consolidated).

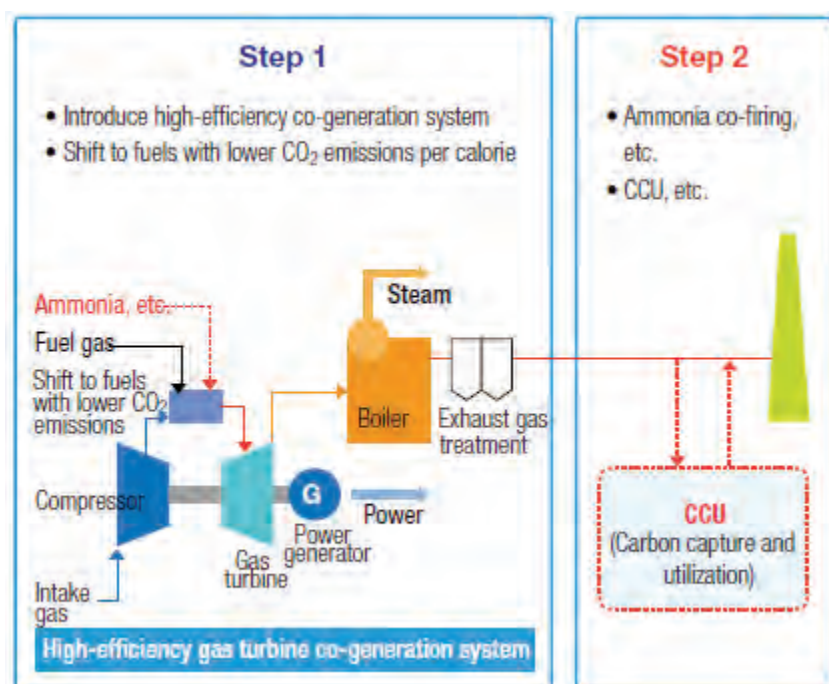
Initiatives for carbon neutrality

High-efficiency co-generation system

The Resonac Group has installed in-house thermal power generation systems with the boiler and the steam turbine designed so as to ensure the efficient supply of electricity and heat (steam) energy sourced from fossil fuels. This is to allow the energy to be used effectively for each of the different production processes, such as heating and distillation, at chemical plants. Also, this off-grid power supply function represents an essential BCP item at chemical plants in preparation for the contingency of a power outage.

We will upgrade the above in-house thermal power generation systems so as to serve our carbon neutrality initiatives. The plan consists of two steps. In the first step, we will introduce a state-of-the-art high-efficiency gas turbine co-generation system, among others, to improve overall energy efficiency, and then switch to fuels with lower CO₂ emissions per calorie in an effort to promote lower-emission operations. These measures involve conversion from solid to liquid fuels, which will effect a significant reduction of CO₂ emissions, thereby contributing to environmental conservation.

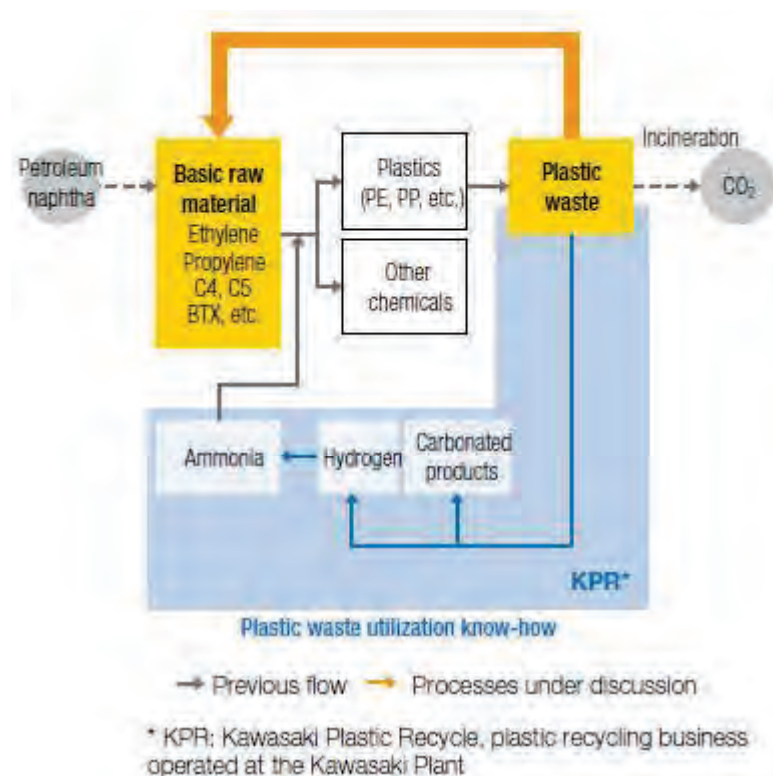
The second step is the planned adoption of co-firing systems based on carbon-free ammonia and other fuels as well as of carbon capture utilization (CCU) and other carbon recycling processes, aiming for carbon neutrality.



Promotion/expansion of chemical recycling

In order to facilitate carbon neutrality in the chemicals industry, it is imperative, along with increasing energy use efficiency, to reduce the use of fossil resources, a leading raw material for many chemical products, as exemplified by plastics. In Japan, a reported 70% of used plastics are incinerated, resulting in CO₂ emissions, including for the purpose of heat recovery.

Among a number of proposed solutions to this issue, chemical recycling—referring to the reuse of plastic waste as a raw material for chemical products—is drawing broad attention.



The Resonac Group is already engaged in plastic chemical recycling for ammonia and hydrogen manufacturing. Based on the practical knowledge on plastic waste utilization that has been cultivated through past operations, we are ramping up R&D activities to expand the application of chemical recycling capabilities. Specific plans are discussed for adopting recycled plastics to manufacture ethylene, propylene and other substances used as raw materials for plastics and many other types of organic chemical products in place of petroleum naphtha, a primary conventional option.

We are striving to raise the chemical recycling rate to the extent possible, overcoming limitations related to dirt and impurities, with the aim of achieving fossil-free chemicals production, which represents a significant stride toward a carbon neutral society. We will accelerate our efforts to introduce the results of the above activities to the market as early as possible to broaden the range of applicable products that support a recycling-oriented, carbon neutral society, thus fulfilling our social responsibility as a chemicals manufacturer.

Measures Against Climate Change

- ☐ Environmental Management System
- ☐ Challenges to Realize Carbon Neutrality
- ☒ [Measures Against Climate Change](#)
- ☐ Environmental Considerations; Atmosphere
- ☐ Waste Management
- ☐ Environmental Considerations; Water
- ☐ Efforts for Preservation of Biodiversity

Basic ideas and policies

Although it does use fossil raw materials and fuels in its product manufacturing processes and emits a considerable amount of greenhouse gases (GHGs), the Resonac Group has many products contributing to energy conservation and the carbon cycle. We regard measures against climate change as a management priority in terms of both risks and opportunities. In May 2019, we took part in the Task Force on Climate-related Financial Disclosures (TCFD) Consortium to evaluate the risks and opportunities provided by climate change to the Group, enhance our resilience through climate change scenario analysis and promote sound dialogue with our stakeholders.

Related link

- ☐ Challenges to Realize Carbon Neutrality



- ☒ Governance and risk management
- ☒ Strategy and scenario analysis
- ☒ Indicators and targets

Governance and risk management

At the Resonac Group, the Group CEO supervises measures for sustainability, including those for climate change, and the Group CSO is responsible for the promotion of such measures. The Group's strategies for contribution to society at large, including measures against climate change, are discussed under the company-wide carbon neutral project with a focus on opportunities as well as risks. The strategies are also regularly deliberated by the Sustainability Promotion Council, which is composed of CXOs including the CEO. Information about risks that could have an impact on the Group's business management, such as climate change-related risks, is registered with the central risk management system through the company-wide risk inventory (risk assessment) activity, and high-frequency and high-impact risks are deliberated by the committee in charge (Risk Management Committee). Important issues discussed by the Council and the Committee are deliberated by the Management Committee, with final decisions reported to the Board of Directors.

Related link

 Risk Management

Strategies and risk analysis

For impacts (risks and opportunities) of climate change on our businesses, we assumed the following risks for 2050 based on the framework set by the TCFD : (1) risks related to a shift to a low-carbon economy under the 1.5- and 2-degree scenarios, and (2) risks related to the physical impact of climate change caused by the failure to achieve the world's CO₂ emission reduction targets under the 4-degree scenario.

Possible shift-related risks that may have company-wide impacts include an increase in operating costs due to rise in carbon pricing and other energy taxes. GHG emissions after 2023, would be about 4.5 million tons/year. If GHG emissions in 2030 are constant and carbon pricing is 10,000 yen/t-CO₂ based on the IEA's*¹

2-degree scenario (SDS)*², the amount that the entire our Group should pay will increase by 45 billion yen/year. If the Group achieves a 30% reduction in emissions relative to the 2013 level by 2030, the Group should pay about 35 billion yen/year, meaning the cost increase due to carbon pricing would be restrained. The analysis results will be used for the continuous management of risks under the risk management system.

We assume that climate change will have a tremendous impact on its mobility, semiconductor and electronic materials, and carbon businesses and has been conducting scenario analyses for these businesses. We have already completed the analysis work for the mobility and semiconductor and electronic materials businesses.

In the mobility domain, under the 1.5- and 2-degree scenarios, our operating cost will increase due to the introduction of ICP*³. However, business opportunities will also expand, driven by the need for energy conservation and the spread of electric vehicles (EVs) and fuel cell vehicles, which will boost demand for the related components. Therefore, we have concluded that we have sufficient resilience against climate change-related risks in the mobility domain. We will incorporate the examination results into our strategy for the mobility business, which we position as a Core Growth business in our long-term vision.

For semiconductor and electronic materials, we conducted examinations about the impact of climate change with a focus on data centers (DCs). Under both 4-degree and 2-degree scenarios, due to the advance of digitization in society, the DC market will expand, which will in turn boost demand for semiconductors and hard disks (HDs). On the other hand, with the progress of conversion to low-carbon energy sources, a substantial increase in the supply of electricity cannot be expected. Accordingly, the government will be under increasing pressure to offer proactive support for energy conservation, while our customers will likewise need to conserve more energy. Also, DCs will be required to make their CPUs, GPUs, memory devices, HDs and power supply equipment less energy-hungry. Semiconductors can be made more energy-efficient by further miniaturization, and we can contribute to this through our CMP slurries and high-purity etching gas. However, it is pointed out that there are limits to the miniaturization of CPUs. In response, we launched a consortium named "JOINT2" to speed up the development of materials that will help increase the packaging density of semiconductor devices in the back-end process and shorten the wiring distance for energy conservation. Furthermore, we can increase business opportunities for our materials by collaborating with related companies in the field of optoelectronics, which is expected to serve as a next-generation energy-saving technology, increasing the capacity of HD media, and by promoting the use of SiC devices for power supplies in line with the popularization of xEVs.

*1 IEA: International Energy Agency

*2 2-degree scenario: Sustainable development scenario

*3 ICP: Internal carbon pricing

Climate change-related risks and opportunities and major responses to them

We carried out the scenario analyses of our semiconductor and electronic materials business to update the risks and opportunities posed to us in this business segment. As a result, we have confirmed the following: we need to implement more measures to make our semiconductor and electronic materials low-carbon materials, and they represent a Core Growth business for us and will bring us more opportunities rather than risks.

Possible shift-related risks that may have company-wide impacts include an increase in operating costs due to rise in carbon pricing and other energy taxes. GHG emissions after 2023, would be about 4.5 million tons/year. If GHG emissions in 2030 are constant and carbon pricing is 10,000 yen/t-CO₂ based on the IEA's^{*1}

2-degree scenario (SDS)^{*2}, the amount that the entire our Group should pay will increase by 45 billion yen/year. If the Group achieves a 30% reduction in emissions relative to the 2013 level by 2030, the Group should pay about 35 billion yen/year, meaning the cost increase due to carbon pricing would be restrained. The analysis results will be used for the continuous management of risks under the risk management system.

We assume that climate change will have a tremendous impact on its mobility, semiconductor and electronic materials, and carbon businesses and has been conducting scenario analyses for these businesses. We have already completed the analysis work for the mobility and semiconductor and electronic materials businesses.

In the mobility domain, under the 1.5- and 2-degree scenarios, our operating cost will increase due to the introduction of ICP^{*3}. However, business opportunities will also expand, driven by the need for energy conservation and the spread of electric vehicles (EVs) and fuel cell vehicles, which will boost demand for the related components. Therefore, we have concluded that we have sufficient resilience against climate change-related risks in the mobility domain. We will incorporate the examination results into our strategy for the mobility business, which we position as a Core Growth business in our long-term vision.

For semiconductor and electronic materials, we conducted examinations about the impact of climate change with a focus on data centers (DCs). Under both 4-degree and 2-degree scenarios, due to the advance of digitization in society, the DC market will expand, which will in turn boost demand for semiconductors and hard disks (HDs). On the other hand, with the progress of conversion to low-carbon energy sources, a substantial increase in the supply of electricity cannot be expected. Accordingly, the government will be under increasing pressure to offer proactive support for energy conservation, while our customers will likewise need to conserve more energy. Also, DCs will be required to make their CPUs, GPUs, memory devices, HDs and power supply equipment less energy-hungry. Semiconductors can be made more energy-efficient by further miniaturization, and we can contribute to this through our CMP slurries and high-purity etching gas. However, it is pointed out that there are limits to the miniaturization of CPUs. In response, we launched a consortium named "JOINT2" to speed up the development of materials that will help increase the packaging density of semiconductor devices in the back-end process and shorten the wiring distance for energy conservation. Furthermore, we can increase business opportunities for our materials by collaborating with related companies in the field of optoelectronics, which is expected to serve as a next-generation energy-saving technology, increasing the capacity of HD media, and by promoting the use of SiC devices for power supplies in line with the popularization of xEVs.

*1 IEA: International Energy Agency

*2 2-degree scenario: Sustainable development scenario

*3 ICP: Internal carbon pricing

Climate change-related risks and opportunities and major responses to

We carried out the scenario analyses of our semiconductor and electronic materials business to update the risks and opportunities posed to us in this business segment. As a result, we have confirmed the following: we need to implement more measures to make our semiconductor and electronic materials low-carbon materials, and they represent a Core Growth business for us and will bring us more opportunities rather than risks.

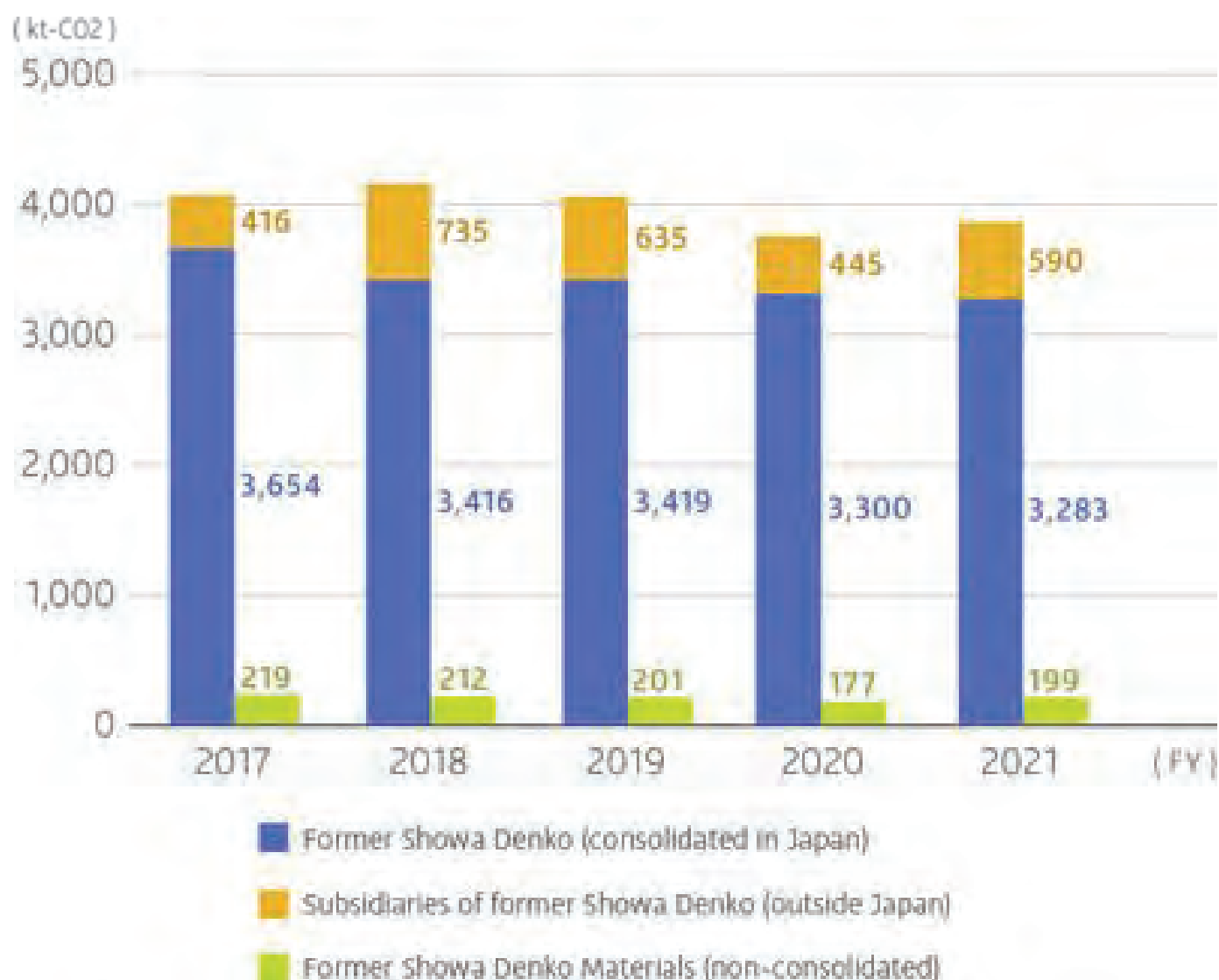
Impact of climate change on the Resonac Group		Domain	Response
Risk : ● Opportunity : ○			
Risks and opportunities related to the shift to a low-carbon economy (1.5- and 2-degree scenarios)	Increase in the tax (cost) due to the introduction of carbon pricing ●	All business domains	<ul style="list-style-type: none"> Review of the GHG emissions reduction targets for 2030 and formulation of a roadmap Implementation of carbon neutral measures in the petrochemicals and chemicals businesses Participation in the GX League
	Increase in the cost of substitution with and procurement of renewable energy due to increased need to reduce GHG emissions ●		<ul style="list-style-type: none"> Effective use of hydroelectric power generation facilities
	Increased demand for circular economy to reduce GHG emissions ○ ●		<ul style="list-style-type: none"> Enhancement of measures for plastic chemical recycling and iron recycling (by the use of graphite electrodes)
	Increased demand for manufacturing processes that contribute to carbon neutrality ●		<ul style="list-style-type: none"> Review of the manufacturing processes and introduction of innovative technologies
	Difficulty in financing associated with changes in investors' behavior ●		<ul style="list-style-type: none"> Proactive information disclosure and communication to meet the information needs of investors and the market
	Increase/decrease in sales due to changes in consumer behavior and awareness ○ ●		<ul style="list-style-type: none"> Sales promotion and development of new products that meet the needs of a low-carbon economy, and enhancement of product competitiveness Promotion of long-term R&D at the "stage for co-creation" (new research laboratory)
	Increase in requests for low-carbon measures and the disclosure of related information from customers ●		<ul style="list-style-type: none"> Establishment of an LCA (CFP) system, visualization of carbon emissions, and formulation of emission reduction plans
	Support from the government for low-carbon measures implemented by companies ○ ●		<ul style="list-style-type: none"> Plan to develop 8-inch SiC wafers for use in next-generation green power semiconductors (subsidized by the NEDO Green Innovation Fund) Enhancement of the global supply chain for semiconductor materials (subsidized by the Ministry of Economy, Trade and Industry under the program to enhance supply chain resilience in the Indo-Pacific region)
	Need to make responses to the technological innovation of ○		<ul style="list-style-type: none"> Establishment of a consortium for the development of next-generation semiconductor packaging technology (JOINT2) (subsidized for the development of advanced semiconductor manufacturing

	semiconductor devices and to low-power semiconductors	●	Semiconductor and electronic materials	<p>technology under NEDO's project to enhance the foundation for post-5G information communication systems)</p> <ul style="list-style-type: none"> Assessment of design for environment (DfE) and development of low-carbon products
	Demand for energy-saving products and next-generation power semiconductors due to an increase in the data processing volume in the progress of digitization	○ ●		<ul style="list-style-type: none"> R&D on HD media to help data centers reduce their energy consumption More responses to expanded demand for SiC power semiconductors
	Increased demand for the development of battery-related materials and composites	○ ●	Mobility	<ul style="list-style-type: none"> Maximization of synergies of the integration of Showa Denko and Showa Denko Materials (to provide materials-based solutions for heat, sound and electromagnetic wave control and modules-based solutions for system design)
	Expanded demand for materials and components that contribute to more fuel-efficient and energy-saving vehicles and to the spread of EVs	○		<ul style="list-style-type: none"> Development of materials that contribute to the downsizing and weight reduction of components More responses to expanded demand for SiC power semiconductors
Physical risks and opportunities (4-degree scenario)	Suspended operation of manufacturing sites due to flooding, and decrease in profit caused by an increase in the equipment repair cost	●	All business domains	<ul style="list-style-type: none"> Analysis of flood risks at each site Regular risk identification and reduction activities, and enhancement of business continuity planning (BCP)

Indicators and targets

In preparation for the upcoming integration, we reviewed our greenhouse gas emission reduction targets for 2030 in 2021 and set the target of a 30% reduction relative to the 2013 level. We will review the medium- to long-term plans made for each of our sites, aiming at the creation of a low-carbon economy, and set the medium-term targets for our overseas Group companies. To achieve our greenhouse gas emission reduction targets for 2030, we will further reduce our greenhouse gas emissions and promote energy conservation. Carbon neutrality will also be pursued leading up to 2050, to accomplish the goal of becoming a company that contributes to a sustainable global society as put forth by our long-term vision.

For 2021, We reduced their GHG emissions by 9.6% relative to the 2013 level.



GHG emissions

*Emission amounts were calculated in line with the GHG Protocol.

*Sites which emitted 3 kt or more



Left axis

■ CO2 emissions by transport sector (Showa Denko (non-consolidated))

■ CO2 emissions by transport sector (Showa Denko Materials (non-consolidated))

Right axis

● Unit energy consumption for transport (Showa Denko (non-consolidated))

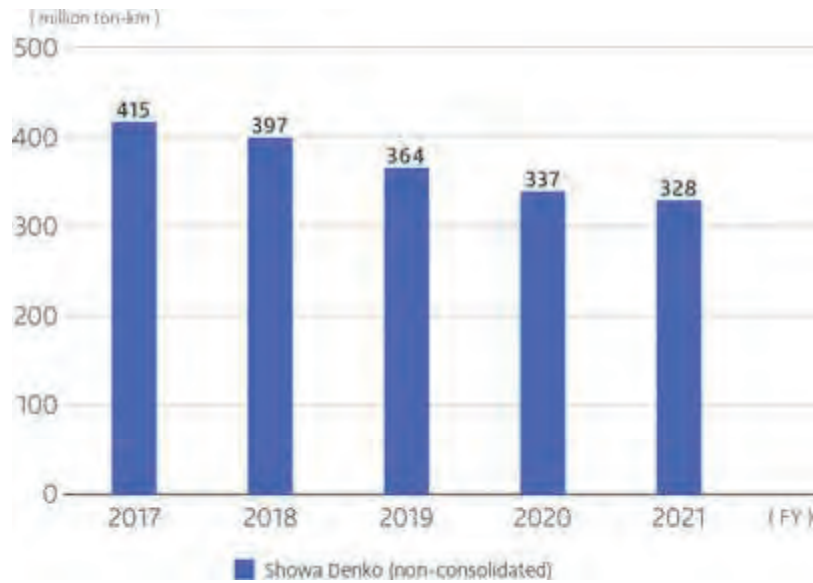
● Unit energy consumption for transport (Showa Denko Materials (non-consolidated))

Transportation sector's CO2
emissions and energy consumption rate

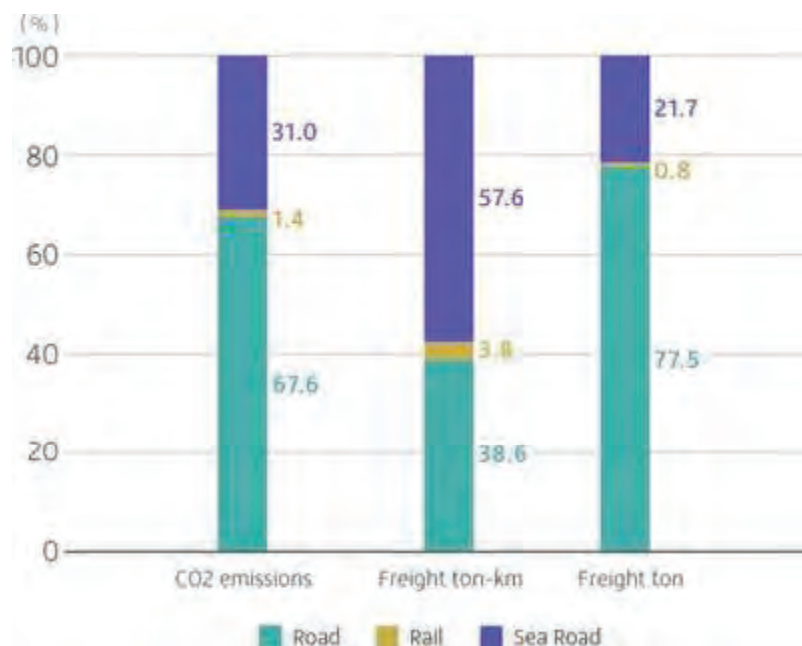
Scope3 GHG emissions former Showa Denko (consolidated)

	Scope3	(kt/Year)
	Category	The amount of emission
1	Purchased goods and services	4,700
2	Capital goods	220

	Scope3	(kt/Year)
3	Category	The amount of emission
	Fuel- and energy-related activities (excluding former Showa Denko Materials)	600
4	Upstream transportation and distribution	50
5	Waste generated in operations	30
6	Business travel	1
7	Employee commuting	1



Freight ton-km



Ratios for use of various modes of transport
(former Showa Denko (non-consolidated))

In order to reduce the environmental impact associated with logistics, we are promoting a modal shift from truck to rail and ship transportation as well as making efficient use of large trucks and increasing their loading efficiency to reduce our CO2 emissions.

In 2021, our transportation amount decreased, but the amount of CO2 emissions from transportation increased, leading to an increase in our energy consumption per unit of transportation. This is mainly due to a decrease in the amount of goods transported by ship, which is an energy-efficient transportation mode, and to a slight increase in the ratio of goods transported by truck (on a ton-kilometer basis).

Environmental Considerations; Atmosphere

- Environmental Management System
- Challenges to Realize Carbon Neutrality
- Measures Against Climate Change
- [Environmental Considerations; Atmosphere](#)
- Waste Management
- Environmental Considerations; Water
- Efforts for Preservation of Biodiversity

Basic ideas and policies

The Resonac Group is working to reduce the release of chemical substances to the environment, including air pollutants (NO_x, SO_x and dust and soot), volatile organic compounds (VOCs), substances included in the target of voluntary surveys by the Japan Chemical Industry Association (JCIA), and those regulated by the Japanese Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof ("PRTR law"). We will contribute to the creation of a sustainable society by setting our own management criteria for exhaust gas, promoting fuel conversion, and improving our manufacturing processes to minimize the release of hazardous substances and pollutants on a continual basis.

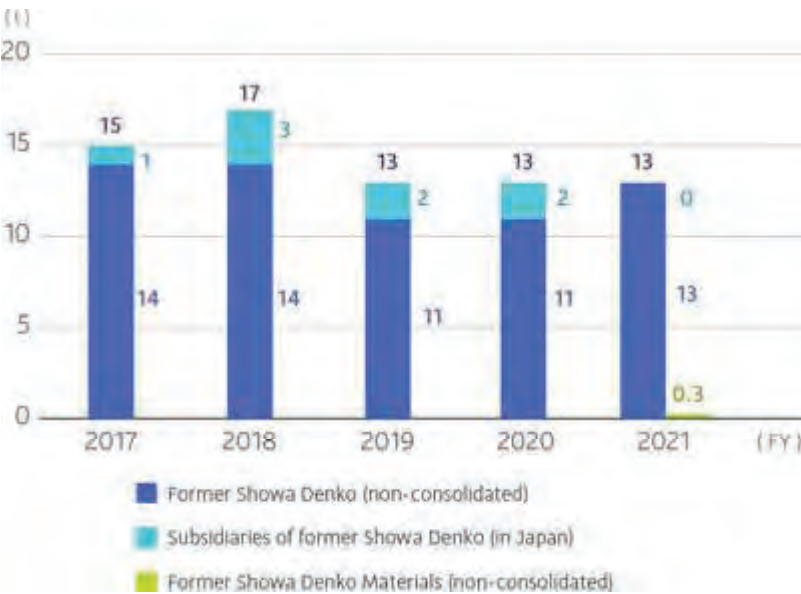
- ④ Reducing emissions of hazardous air pollutants
- ④ Reducing our environmental impact on the air
- ④ PRTR law-regulated substances and substances included in the JCIA's target of voluntary surveys

Reducing emissions of hazardous air pollutants

Of the 12 substances designated by the Japan Chemical Industry Association (JCIA) as hazardous air pollutants, the Resonac Group handles nine. We continued our efforts toward reducing the emissions of these substances by promoting a shift to alternative substances and collection and recycling of the substances. In fact, we achieved a substantial reduction relative to 2010 (baseline year).

Total amounts released of harmful atmospheric pollutants(VOC)
Target: Below the amount released in the baseline year of 2010 (33 tons)

○ For the scope of data collection, please click here.



VOC

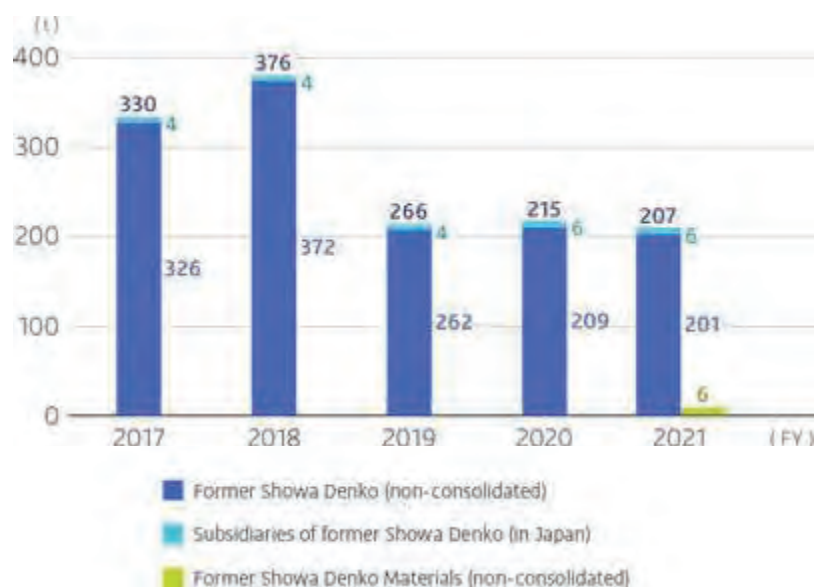
Reducing our environmental impact on the air

To reduce emissions of SOx, NOx, dust and soot, and other substances having adverse effects on the air, the Group continued advancing a variety of measures including fuel switching, improvement of combustion methods, proper operational management of desulfurization and denitrification devices, and reduced fuel consumption through waste heat recovery.

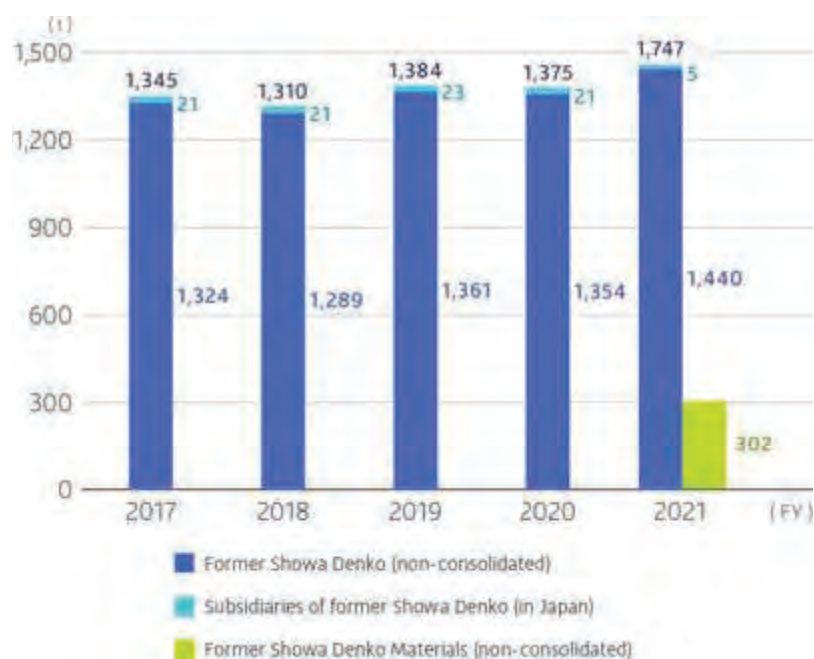


Exhaust gas treatment facility
(Iseaki Plant)

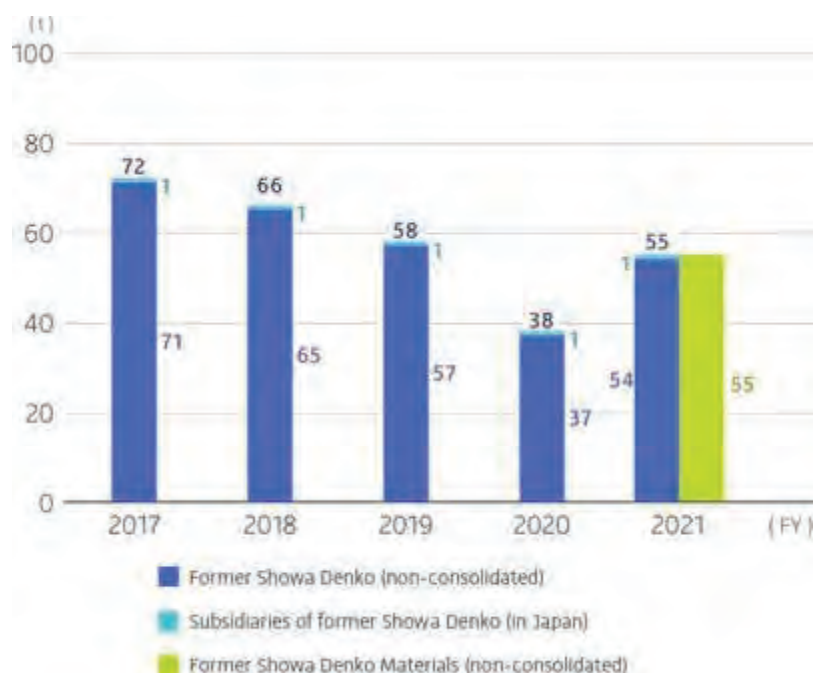
Change in discharged amounts of substances with atmospheric impact



SOx



NOx



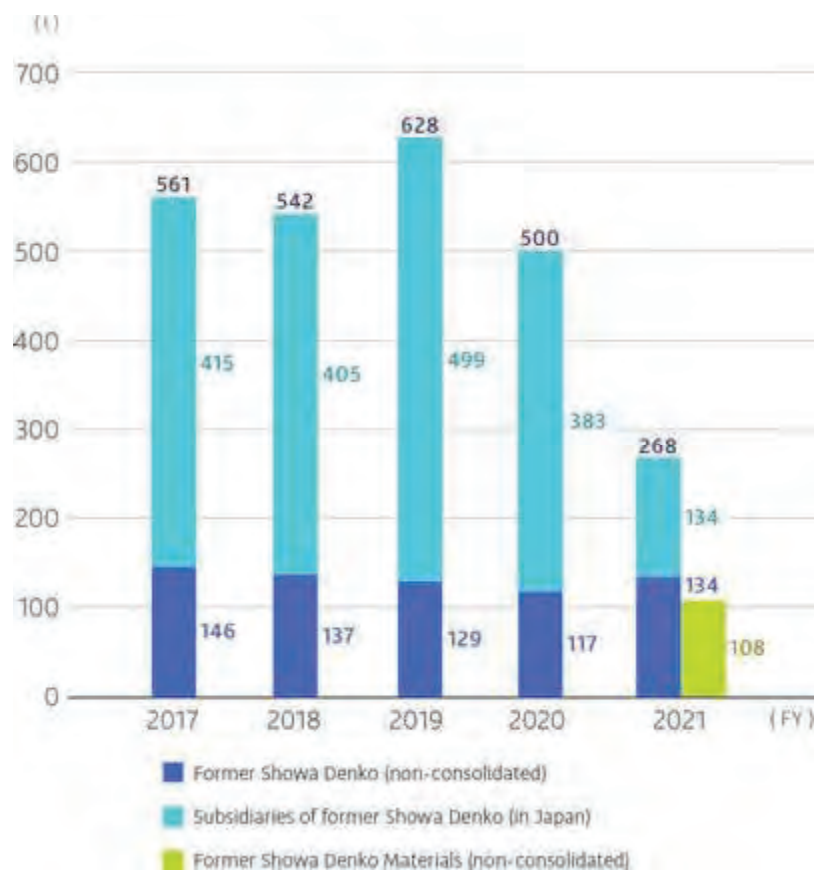
Dust and soot

[For the scope of data collection, please click here.](#)

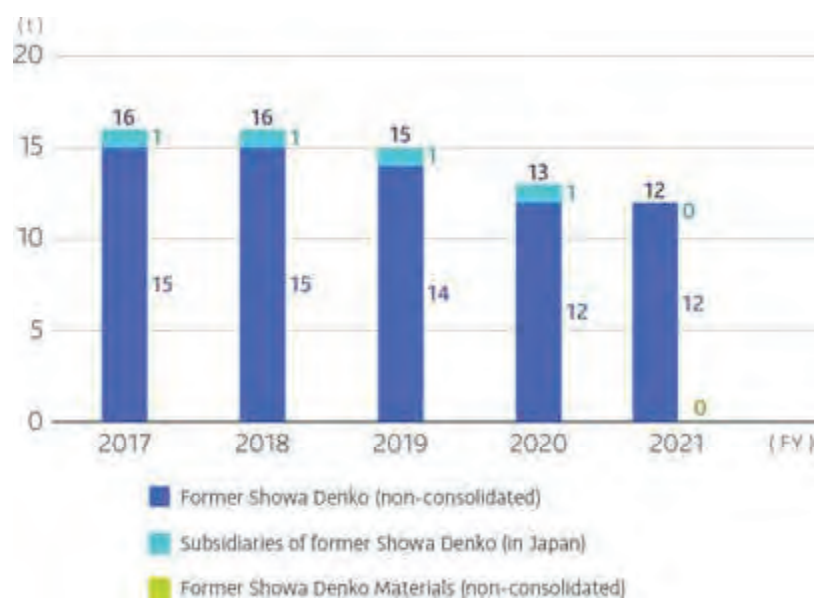
PRTR law-regulated substances and substances included in the JCIA's target of voluntary surveys

In order to reduce the release of these substances to the environment, we will improve the related processes and facilities and install exhaust gas incineration equipment. For the PRTR law-regulated substances and those that are discharged in large amounts on an annual basis in particular, we are making reduction plans for each of our sites and implementing intensive measures for the reduction. In fiscal 2020, we substantially reduced the release amount due to the improvement of exhaust gas treatment equipment at affiliated companies in Japan. We will also work to do better by engaging in risk communication with those living in areas around our sites and local governments to deepen mutual understanding.

Discharge of PRTR law-regulated substances and substances included in the target of the JCIA's voluntary surveys



Into air



Into water

We discharged no such substances to soil.

Waste Management

- Environmental Management System
- Challenges to Realize Carbon Neutrality
- Measures Against Climate Change
- Environmental Considerations; Atmosphere
- [Waste Management](#)
- Environmental Considerations; Water
- Efforts for Preservation of Biodiversity

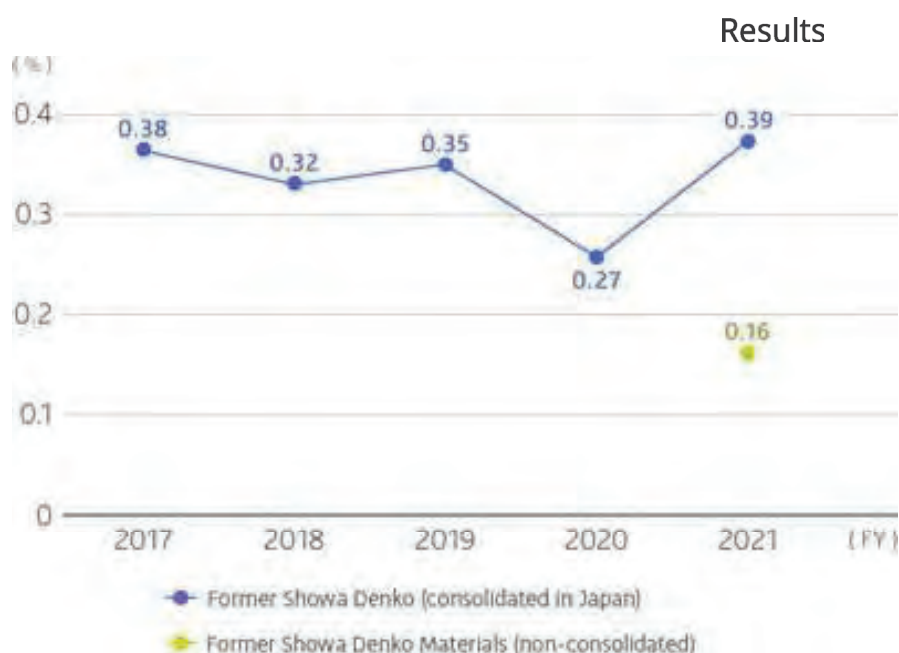
Basic ideas and policies

The Resonac Group is striving to minimize the discharge of waste on a continual basis. We are also making more effective use of waste plastic and other types of waste to contribute to the creation of a sustainable society.

For zero emissions

The Resonac Group defines “zero emissions” as follows: the proportion of waste sent to landfill is 0.5% or less of total waste generated. Toward this target, we are reducing the generation of waste and fostering the effective use and recycling of materials. We also inspect our contractors for intermediate treatment and final disposal of waste to confirm that they treat and dispose of our waste properly. In 2020, to enhance measures against the inappropriate disposal of waste, the government mandated companies that generate specially controlled industrial waste in the annual amount of 50 tons or more to use electronic manifests for the reporting of their waste. The Group’s relevant sites had already been making reports by using electronic manifests.

- For the scope of data collection, please click [here](#).

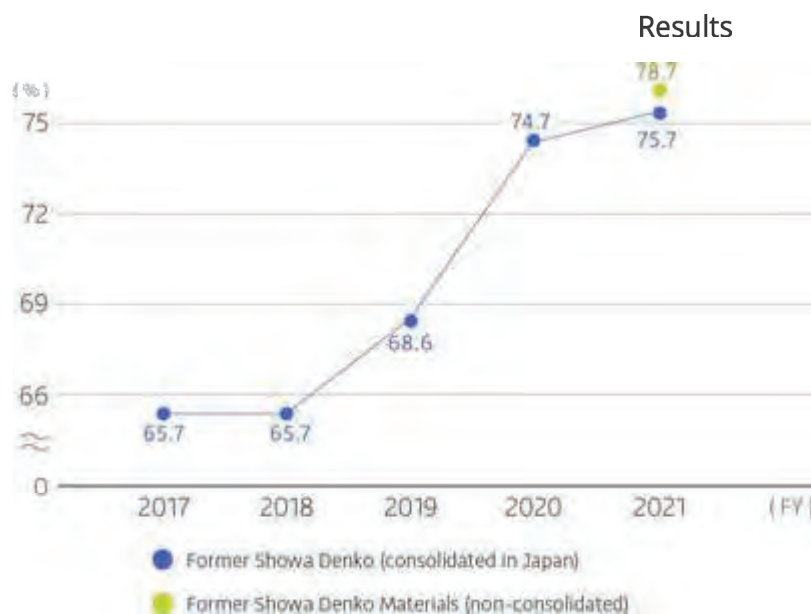


Proportion of industrial waste sent to landfill

Effective use of plastic waste

In order to contribute to the solution of the issue of ocean plastic waste, which is emerging as a new global issue, and to the creation of a low-carbon society, we will make more effective use of waste plastic (other than simple incineration and landfill) by promoting the sorting of the waste and fostering its material/chemical/thermal recycling.

○ For the scope of data collection, please click [here](#).



Proportion of waste plastic that was effectively used

Management and appropriate disposal of hazardous waste (polychlorinated biphenyls [PCB])

As for PCB waste, we regularly check the status of stored PCB waste for appropriate management by using our PCB control checklist. We are planning to complete the disposal of PCB by March 2027, for which we are entrusting the treatment to outside companies. We are also updating the equipment in which PCB is used with PCB-free alternatives.

Environmental Considerations; Water

- ☐ Environmental Management System
- ☐ Challenges to Realize Carbon Neutrality
- ☐ Measures Against Climate Change
- ☐ Environmental Considerations; Atmosphere
- ☐ Waste Management
- ☐ [Environmental Considerations; Water](#)
- ☐ Efforts for Preservation of Biodiversity

Basic ideas and policies

The importance of water resources is recognized globally, and it is regarded as a social requirement to use water resources in an appropriate and efficient manner, thereby reducing the consumption of water. It is also necessary to ensure that water circulates through its natural cycle with its quality and functions maintained at a level that is suitable for human activities and environmental conservation.

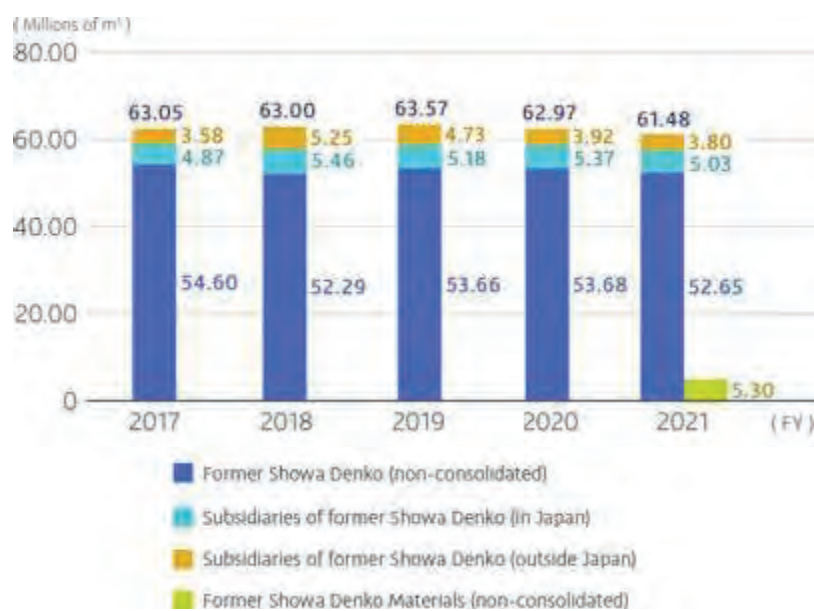
The Resonac Group regards the shortage of water as a global issue and is working to make effective use of water and reduce its consumption. We also treat the water used in our activities to reduce its environmental impact before releasing it back into the environment.

Efficient use of water to reduce its consumption

The Resonac Group has made targets for water resources as part of its Environment and safety Action Plan. We are fostering the effective use of water and reduction of its use at each of our sites in consideration of their individual business features. We are also working to maintain and increase the quality of water discharged from the sites.

In particular, at our sites located in areas prone to water shortages (water stress), we proactively engage in dialogue with local stakeholders to make efficient use of water for water conservation. Communities neighboring the Higashinagahara Plant are exposed to high water stress, making it difficult to secure water sources for firefighting. In response, we have had dialogues with officials of the prefectural government to obtain the prefecture’s approval for those communities to use water from the plant’s Toishigawa Kyu-suiso water tank for firefighting purposes.

Also, for the Asahi Dam owned by the plant, we concluded an agreement to prevent Agano River flooding with the Hokuriku Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism to prepare against the risk of flooding posed by typhoons and linear rainbands, which Japan has frequently experienced in recent years. We are thereby helping the national government enhance its anti-flooding measures. In the future, we will set our own water use targets on a medium- to long-term basis based on a detailed examination of water-related risks in the geographical areas where we are conducting operations and will announce the actual results achieved against the targets.



The amount of water used



Discharge-water volume

○ For the scope of data collection, please click here.

TOPICS **Efforts made by the Tokuyama Plant for water saving: Collaborating with other organizations to reduce water**

The Tokuyama Plant has been working to reduce water consumption in collaboration with other companies, in response to the annual request for voluntary water conservation made by the council of industrial water users in the Shunan district. Regardless of the request, the plant is committed to saving more water and monitoring seasonal changes in water temperature and the operational status of plant equipment. The amount of water saved differs by year, but in 2020 the plant achieved a roughly 42% reduction in water use (relative to the volume of water contracted to be supplied). Moreover, employees of the Tokuyama Plant participate in a local volunteer activity conducted for forest and water management. The activity is designed to help participants deepen their understanding of the water source protection and global warming prevention functions provided by forests and to foster forestation and the appropriate management of forests as a voluntary initiative. It is conducted twice in fall by employees of companies located in the Shunan district and their families. (In 2021, the activity was not held due to the COVID-19 pandemic.)

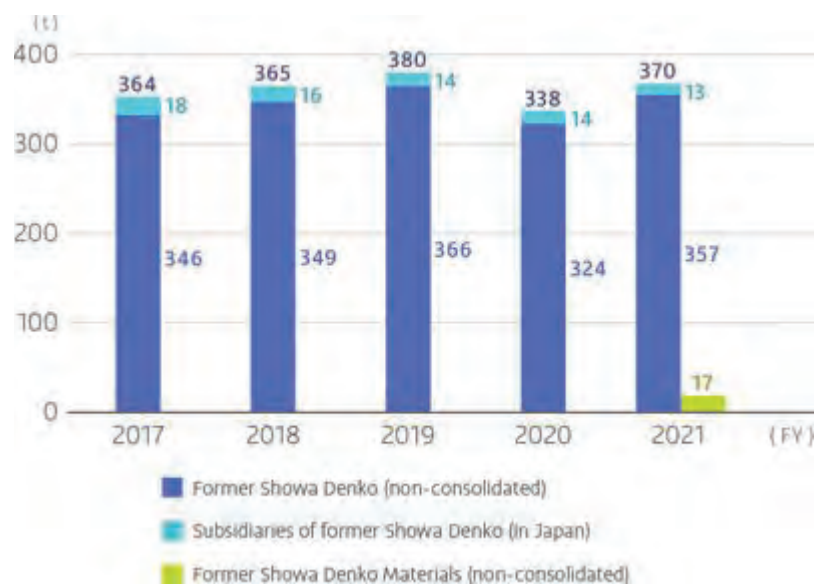


Measures to reduce our impact on the aquatic environment

Based on the regulatory standards set by laws, regulations and ordinances, the Resonac Group set its own management criteria to monitor changes in chemical oxygen demand (COD) and the emissions of nitrogen, phosphorous and various other water pollutants, thereby reducing the environmental impact of its business activities.

At our major production bases in Japan, we recover wastewater from the manufacturing facilities for neutralization and the removal of solid substances. For wastewater that contains organic matter, we break down the matter by using microorganisms in the activated sludge process. For wastewater that is difficult to treat by the activated sludge method, we adopt adsorption treatment, coagulative separation, incineration treatment and other methods. We also monitor the discharge of water from our facilities to public waters. In the event that a failure of wastewater treatment equipment causes the generation of wastewater with a potentially high environmental impact, the blocking system installed at the discharge outlet is activated to prevent the water from being discharged to outside the facilities site.

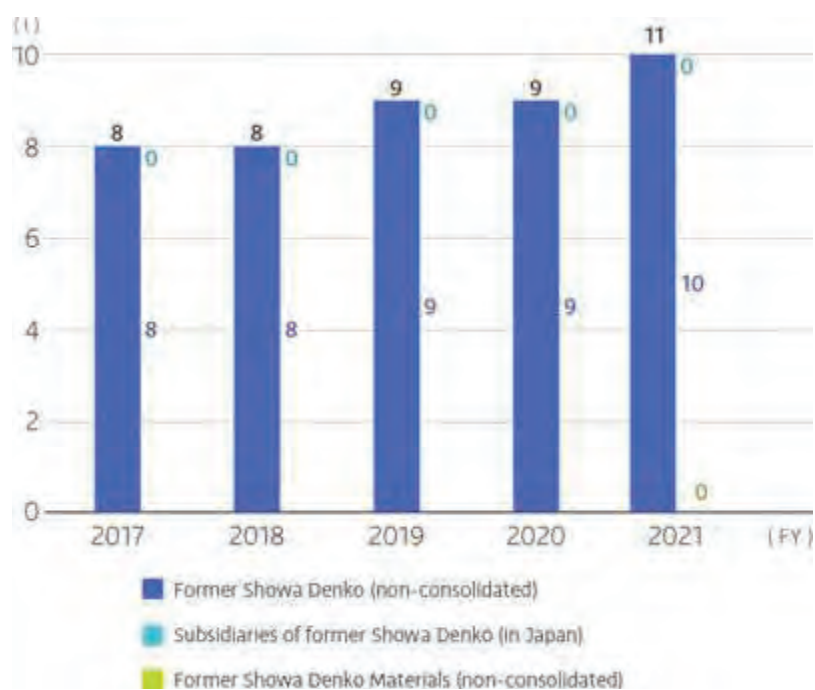
Discharge of substances that have an impact on the aquatic environment



COD



Total nitrogen



Total phosphorus

○ For the scope of data collection, please click [here](#).

Efforts for Preservation of Biodiversity

- ☐ Environmental Management System
- ☐ Challenges to Realize Carbon Neutrality
- ☐ Measures Against Climate Change
- ☐ Environmental Considerations; Atmosphere
- ☐ Waste Management
- ☐ Environmental Considerations; Water
- ☐ [Efforts for Preservation of Biodiversity](#)

Basic ideas and policies

In order to pass down to the next generation the beautiful scenery and rich natural resources provided by ecosystems, the Resonac Group will make efforts for biodiversity conservation based on the following policies.

Evaluate and reduce the impact of the Resonac Group's business activities on biodiversity

Work to restore threatened biodiversity

Implement measures through conservation and cooperation with stakeholders

Activities in 2021

We have included firm-wide biodiversity conservation activities in the target of the Environment and safety action plan. Specifically, we have set a three-year plan for 2019 to 2021, under which we aim to make measurable achievements by conducting business activities in consideration of biodiversity and implementing initiatives that contribute to environmental conservation.

Based on this company-wide target, we are making plans for each of the sites to ensure the appropriate maintenance and management of greenspaces, reduce wastewater as part of their proactive environmental impact reduction measures, and conduct environmental conservation activities in consideration of the features of the sites. Again in 2021, we conducted activities to improve the environment in and around our sites, including activities to clean up nearby beaches, rivers and lakes.

At Resonac Materials (Thailand), which is one of the Resonac Group sites outside Japan, a total of 1,850 mangrove seedlings were distributed to employees, who then planted them around the site.



In Omachi area (in Nagano Prefecture), we use local water resources in its business activities. Plant personnel conducted a cleanup activity in cooperation with members of the local fishing cooperative association, which kindly supports the operations of the plant's hydroelectric power station. They clean Lake Kizaki and Lake Aoki and Lake Nakatsuna every year.



Hikone Kiyosaki Plant has a pond in which wastewater from the manufacturing facilities is stored to check its quality before it is discharged to public waters. The Plant manages the pond as a scenic area as part of its effort to preserve the natural environment on the premises, and through the activity also contributes to maintaining the water quality of Lake Biwa.



We are implementing an environmental rehabilitation project around Kasumigaura in collaboration with the local government and an NPO, with a view to preventing the degradation of the environment and preserving local ecosystems in the Kasumigaura basin area (in Ibaraki Prefecture), which provides the company with a source of industrial water. In 2021, in the face of COVID-19, an online environmental class was held under the project to provide participants with an opportunity to engage with nature.

Occupational Health and Safety - Management System

- ☐ [Occupational Health and Safety - Management System](#)
- ☐ Prevention of Occupational Accidents
- ☐ Equipment Safety
- ☐ List of safety-related Awards

Basic ideas and policies

Through guidelines for Responsible Care based on the purpose and values which constitute our corporate philosophy, the Resonac Group has been ensuring each employee's safety and health and promoting the development of a workplace environment in which all employees (including employees who belong to partner companies) can work safely, peacefully and comfortably.

Since 2023, we have unified the both companies' safety policies and defined the basic philosophy "safety as our top priority". Moreover, we have renewed our safety code of conduct and 10 safety principles for managers and employees. On the basis of responsibilities which are dependent on each position, we practice safe operation and lead the activities for the target of zero incidents.

Promotion system

The Resonac Group manages occupational health and safety under its Responsible Care promotion system, regarding it as part of Responsible Care activities. The president of Resonac Holdings Corporation assumes ultimate responsibility for the Group's occupational health and safety. Under the leadership of the president, each of the divisions and sites appoints their own environment & safety managers to conduct health and safety management activities, receiving support from the administrative departments of the head office. Basically every other week, the Management Committee is briefed on safety-related activities of the Group and gives relevant instructions, which will be conveyed to the divisions and sites for implementation. Moreover, at each site, the head of the site and the environment & safety manager lead occupational health and safety activities based on their Environment and safety action plans.

The Labor-Management Committee, which is composed of the president and other executives as well as representatives of the labor union, meets annually to discuss issues related to occupational health and safety. Also, in line with the Industrial Safety and Health Act of Japan, each of our sites has a safety and health committee and other organizations in place to conduct safety and health activities for employees through a concerted effort by labor and management, such as discussing the related issues and conducting workplace patrols.

Implementation of occupational health and safety management systems

The Resonac Group is managing and reducing occupational accident-related risks posed to its business management in an appropriate manner by using occupational health and safety management systems, for which the Group is promoting the acquisition of certification and fostering improvements. We have these management systems regularly assessed by external certification bodies to keep them up to date. Moreover, the systems are implemented at each site through a PDCA cycle to further promote the related activities.

[!\[\]\(a91925f08d78fa673145511c908da4c3_img.jpg\) For sites with certified occupational health and safety management systems, please click here.](#)

Educational system

We deem it urgently necessary to increase the safety sensitivity of managers, supervisors and workers to eliminate industrial accidents and to prevent the retirement of experienced employees and replacement of staff from resulting in any degradation in safety and environmental management at our sites. Accordingly, we make and implement annual safety education plans for each of our sites and

check their learning levels. We also give support for the educational curriculum of our partner companies in a planned manner toward the elimination of industrial accidents at those companies.

The following shows the occupational safety-related training provided by the head office. Those participating in the training from the sites make use of what they have learned through the training to conduct safety activities at their respective workplaces.

Since the middle of 2020, we have shifted from offline collective training to online training as a new training style that is also appropriate in terms of dealing with COVID-19.

Number of participants in the occupational health and safety training provided by the head office in 2021

Date	Name	Target	No. of participants
March 2021 (held twice)	Study meeting on incident analysis methods	Environment & safety manager of each site and others	10
May, Jul., Sept. and Nov. 2021	Training of internal auditors for ISO 45001 (held online)	Willing participants from Group sites	104
June 2021	Basic course on health and safety management (held online)	All career-track employees	33
November 2021	Labor-management safety training (held online)	Head of the manufacturing department and environment & safety manager of each site, branch heads of the labor	104

Date	Name	Target	No. of participants
		union, and those in charge of RC	
November 2021	Course on health and safety management for supervisors (held online)	Those in positions equivalent to team leaders	18

Occupational health and safety education—Example (1)

Held labor-management safety training in 2021

On November 18, a total of 104 people participated in the training, with two representatives each from the labor union and management being sent from each of former Showa Denko's sites. This online event was held to give participants deeper insight into the improvement of communication, which was the theme of the previous training.

In the event, presentations were made on examples of communication improvement activities conducted at the sites, and Michio Yoshida, honorary professor at Kumamoto University, gave a lecture on workplace communication. Participants were then divided into groups to discuss the issues and exchange information, both between sites and between labor and management. After the event, labor and management set the targets to be pursued to improve communication at their respective sites in and after 2022, and activities are now being conducted at the sites for the achievement of the targets.

Occupational health and safety education—Example (2)

Joint training for internal auditors for ISO

In 2021, joint training for internal auditors for ISO 14001 and 45001 was held online four times each.

Compared with offline collective training, online training delivered benefits in terms of saving time and money. However, participants provided quite a lot of critical feedback about the online setting, including "Difficult to ask questions and express opinions" and "Hard to understand the content." In response, in the latter half of the training, participants were given time to ask one another questions about the content in the group work, which helped them deepen their understanding of the details. Going forward, we will continue to hold this training online, while making improvements to remedy the shortcomings of the online environment.

Occupational Health and Safety - Prevention of Occupational Accidents

- ☐ Occupational Health and Safety - Management System
- ☐ [Prevention of Occupational Accidents](#)
- ☐ Equipment Safety
- ☐ List of safety-related Awards

For zero occupational accidents

We are making improvements to achieve inherent safety in reference to past occupational accidents and promoting preventive measures with a focus on risk assessment.

In 2021, there were six lost-time incidents involving employees of the Resonac Group and its partner companies (in Japan). By type, getting caught in equipment, collisions and falls showed a tendency to increase. We are continuously implementing the following measures to prevent the occurrence and reoccurrence of such accidents.

We have set guidelines for risk assessment and carry out risk assessments on occupational health and safety and on chemical substances to reduce the related workplace risks and prevent chemical substance-related incidents.

In 2022 we started to conduct activities to improve our risk management. Specifically, in order to conduct risk assessment in a more exhaustive manner, we are working to identify risks from a multifaceted perspective.

In order to nurture a culture of safety and build a safety foundation, we are making effective use of the Active Safety^{*1} checklist and foster related activities.

In order to gain deeper insight into the fundamental causes of occupational accidents that have occurred and to promote inherent safety, we are adopting an engineering analysis method. We also collect, analyze and share information about minor incidents as well as lost-time and non-lost-time incidents to prevent their reoccurrence.

For the development of human resources with high safety awareness, we are reviewing our safety education system and working to provide employees with more educational opportunities.

In consideration of the fact that incidents involving elderly workers, such as falls, show a tendency to increase, we are holding seminars on preventing falls, which include physical tests and exercise, and are also launching measures in reference to the “Age-Friendly Guidelines” set by the Ministry of Health, Labour and Welfare.

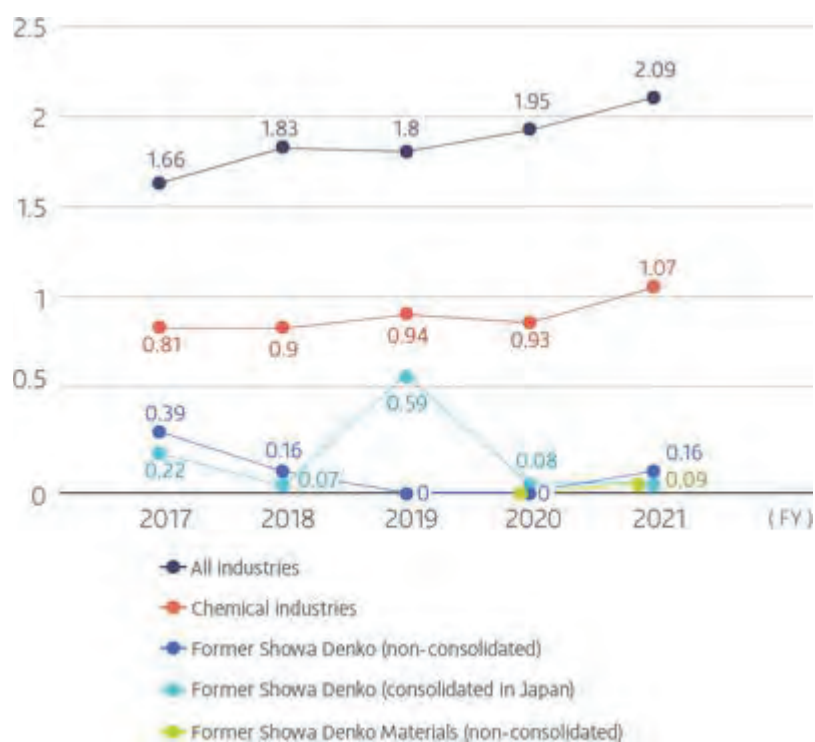
We share information across the company about past incidents in the form of a “Safety Calendar” through emails and promote safety sensitivity and awareness by making better use of past examples.

We enhance safety education by using risk simulation facilities and provide non-technical skills^{*2} education. Moreover, we are making preparations to provide employees with hands-on experience of past incidents through a VR system.

We continuously give support and safety instructions to partner companies through proactive opinion exchange via the safety council, joint patrols and RC audits of the companies, thereby helping our partners enhance their safety activities. For workers engaged in short-term construction on our premises, we confirm their safety measures in advance, provide them with adequate safety education for their work on the premises, conduct on-site patrols and hold safety meetings for the safe completion of the work.

*1 Active Safety activities: Activities in which we analyze past incidents and disasters and summarize the lessons learned from them in the “Active Safety checklist,” and then make use of the list to identify related risks and as an educational material to prevent the reoccurrence of similar incidents

*2 Non-technical skills means general skills that workers (and their instructors) need to have to prevent human error and ensure safety, including the skills to understand the situation, communicate effectively, and provide leadership.



Lost time incident rate (LTIR)^{*3}

³ Lost time incident rate (LTIR) = (Number of deaths and injuries)/(total working hours) × 1,000,000

	Former Showa Denko (non-consolidated)	Former Showa Denko (consolidated in Japan)	Former Showa Denko Materials (non-consolidated)
2017	0.39	0.22	-
2018	0.16	0.07	-
2019	0	0.59	-
2020	0	0.08	0
2021	0.16	0.16	0.09

Results

Lost-time and non-lost-time incidents involving employees of Group companies and partner companies in Japan

* Including data for former Showa Denko Materials for 2021

2018 Lost-time incidents: 4 Non-lost-time incidents: 5

2019 Lost-time incidents: 15 Non-lost-time incidents: 4

2020 Lost-time incidents: 3 Non-lost-time incidents: 8

2021 Lost-time incidents: 6 Non-lost-time incidents: 11

(Breakdown: 5 lost-time and 7 non-lost-time incidents at former Showa Denko and 1 lost-time and 4 non-lost-time incidents at former Showa Denko Materials)

[○ For the scope of data collection, please click here.](#)

Sustainability: Site Map

- [○ Message from CEO](#)
- [○ Sustainability Vision](#)
- [○ Sustainability Management](#)
- [○ Dialogue with Stakeholders](#)

- [○ Integrated Reports, Website](#)
- [○ Data collection](#)
- [○ Amazing Discoveries! Science Experiments for Kids](#)

ESG Information

- [○ Environment](#)
- [○ Social](#)
- [○ Governance](#)

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Occupational Health and Safety - Prevention of Occupational Accidents

- ☐ Occupational Health and Safety - Management System
- ☐ [Prevention of Occupational Accidents](#)
- ☐ Equipment Safety
- ☐ List of safety-related Awards

For zero occupational accidents

In order to make improvements to achieve the inherent safety of equipment, we analyze past equipment-related incidents and also conduct risk assessments to plan and implement measures to prevent the reoccurrence of similar problems.

Results

Number of equipment-related incidents that happened at Group companies in Japan

Former Showa Denko

2019: 10 cases (3 fires, 5 leakages, 1 deformation/breakage, 1 explosion)

2020: 4 cases (2 fires, 1 leakage, 1 deformation/breakage)

2021: 4 cases (0 fires, 1 fuming, 2 leakages, 1 deformation/breakage)

Former Showa Denko Materials

2019: 9 cases (6 fires, 2 leakages, 1 deformation/leakage)

2020: 7 cases (6 fires, 1 leakage)

2021: 3 cases (3 fires)

All were minor incidents in which no people were harmed.

- ☐ For the scope of data collection, please click [here](#).

Occupational Health and Safety - Equipment Safety

Occupational Health and Safety - Management System

Prevention of Occupational Accidents

[Equipment Safety](#)

List of safety-related Awards

For zero equipment-related incidents

In order to make improvements to achieve the inherent safety of equipment, we analyze past equipment-related incidents and also conduct risk assessments to plan and implement measures to prevent the reoccurrence of similar problems.

Results

Number of equipment-related incidents that happened at Group companies in Japan

Former Showa Denko

2020: 4 cases (2 fires, 1 leakage, 1 deformation/breakage)

2021: 4 cases (0 fires, 1 fuming, 2 leakages, 1 deformation/breakage)

2022: 9 cases (3 fires, 1 fuming, 5 leakages)

Former Hitachi Chemical

2020: 7 cases (6 fires, 1 leakage)

2021: 3 cases (3 fires)

2022: 4 cases (4 fires)

All were minor incidents in which no people were harmed.

Measures to ensure equipment safety

The Resonac Group aims to enhance its ability to ensure equipment safety, and fosters Active Safety activities* to prevent a recurrence of past accidents and problems, while making continuous improvements in its safety systems, sensitivity and culture.

Systems :

In order to further increase the effectiveness of our risk-based management system under which we plan, implement, evaluate and improve our risk reduction measures based on the results of risk assessments conducted at all stages including equipment design, operation, maintenance, installation and others, we are improving our existing management systems and risk assessment methods. We are also working to ensure safety through a range of examination boards and by sharing information about past incidents across the board.

Promote design for inherent safety and ensure the appropriate management of design changes to prevent equipment-related incidents

Conduct preventive maintenance, time-based maintenance and condition-based maintenance activities

Conduct examinations for the treatment of chemical substances that are very hazardous or pose a high risk of incidents

Analyze the fundamental causes of internal incidents and implement measures to prevent the reoccurrence of similar incidents

Implement measures to prevent incidents across the board in reference to past internal and external incidents

Sensitivity :

For higher safety sensitivity, we are reviewing safety knowledge- and skill-related educational systems by job type and position.

Culture :

We are implementing various measures to create a safety culture at our workplaces.

- * Active Safety activities: Activities in which we analyze past incidents and disasters and summarize the lessons learned from them in the "Active Safety checklist," and then make use of the list to identify related risks and as an educational material to prevent the recurrence of similar incidents

Measures against accidents and natural disasters

We give first priority to the lives of people in the event of natural disasters, including earthquakes, typhoons and heavy rains. Moreover, in consideration of the impact of our Group's product supply activities on society at large and the importance of fulfilling our supplier responsibility, we conduct risk assessments against disasters to implement damage prevention and mitigation measures. In particular, against earthquakes, we have identified equipment and buildings that need to be seismically reinforced in order to protect people's lives and have been fostering effective anti-seismic measures for them. If an accident or a natural disaster that could affect the entire Group occurs, we will establish an emergency headquarters headed by the president and implement measures against the disaster, including those concerning activities conducted by the head office's administrative departments in line with our predefined in-house rules, on top of the security and disaster control rules already in place. Also, our sites comply with the in-house security and disaster control rules with regard to their emergency organizations and action plans, and conduct drills regularly against emergency scenarios.

As our business domains expand, we are building a business system that is more resistant to disasters both in Japan and outside the country. For our business continuity plans (BCPs), which we have formulated in consideration of our product and business features, we are making revisions in response to changes in the business environment, including a shift toward telecommuting. We will further foster our business continuity management activities by clarifying challenges and meeting them through education and training.

○ Risk Management

the Oita Complex

In July 2021, we provided employees with education on risk and safety management at Oita Complex. In this event, participants conducted group work to deepen their understanding about the assessment of identified risk factors, measures to be taken against risks and systematic safety management.



Risk assessment education provided
at the Oita Complex of Showa Denko K.K.

TOPICS **Conducting an anti-earthquake and tsunami drill at the Oita Complex**

The Oita Complex conducted an anti-earthquake and tsunami drill in September concurrently with a similar drill held by Oita Prefecture. In the drill, after being informed of the occurrence of an earthquake, employees implemented initial response measures and then promptly evacuated to the designated evacuation place. Subsequently, they practiced reading QR codes for safety confirmation on the tablet terminals distributed to each of them and reviewed all safety procedures.



the use of tablets and QR codes

TOPICS **Conducting an emergency response drill at the Higashinagahara Plant**

In December 2020, the Higashinagahara Plant conducted a joint emergency drill against fires, explosions and leakage of hazardous substances, receiving support from the Aizu Wakamatsu fire department's Jumonji branch. We conduct this drill every spring and fall. In 2020, however, due to COVID-19, we reduced the size of the drill, with only employees of the manufacturing section and the emergency headquarters team participating. Furthermore, because the drill was conducted in December, some areas on the premises were frozen and covered in snow. However, participants, despite their limited numbers at that time, were able to smoothly share information and check the on-site situation, demonstrating the results of their daily training efforts. The drill was thus conducted during an unprecedented situation, and we will continue to carry out a range of drills,

including night drills, to prepare against a wide range of emergencies on order to enhance our response abilities.



Drill conducted in the control room
of the manufacturing section

Sustainability: Site Map

- ⌵ Message from CEO
- ⌵ Sustainability Vision
- ⌵ Sustainability Management
- ⌵ Dialogue with Stakeholders
- ⌵ Integrated Reports, Website
- ⌵ Data collection
- ⌵ Amazing Discoveries! Science Experiments for Kids

ESG Information

- ⌵ Environment
- ⌵ Social
- ⌵ Governance

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Occupational Health and Safety - List of Safety-related Awards

- ☐ Occupational Health and Safety - Management System
- ☐ Prevention of Occupational Accidents
- ☐ Equipment Safety
- ☐ [List of safety-related Awards](#)

List of safety-related awards given to the Resonac Group

2022

	Name of award	Recipient site and individual	Date(month)
Occupational health and safety	Zero accident record certificate (Type II) issued by the Ministry of Health, Labour and Welfare	Shimodate Works, Showa Denko Materials Co., Ltd.	January
Occupational health and safety	Zero accident record certificate (Type II for manufacturers in the organic chemical industry) issued by the Ministry of Health, Labour and Welfare	Oita Complex, Showa Denko K.K.	February
Occupational health and safety	JCIA Safety Special Award (for research facilities), 46th JCIA Safety Awards	Institute for Integrated Product Development, Showa Denko K.K.	May

2021

	Name of award	Recipient site and individual	Date(month)
Occupational health and safety	Zero accident record certificate (Type I) issued by the Ministry of Health, Labour and Welfare	Shimodate Works, Showa Denko Materials Co., Ltd.	March
Occupational health and safety	JCIA Safety Effort First Prize, 45th JCIA Safety Awards	Niigata Showa K.K.	May
Occupational health and safety	JCIA Safety Special Award (for small and medium-sized sites), 45th JCIA Safety Awards	Yokkaichi Factory, Union Showa K.K.	May
Occupational health and safety	Special Award for Excellence, 2020 Japan Aluminum Association Occupational Safety Awards	Oyama Plant, Showa Denko K.K	May
Occupational health and safety	Zero accident record certificate (Type I) issued by the Ministry of Health, Labour and Welfare	Matsudo Works, Showa Denko Materials Co., Ltd.	July

Product Stewardship - Management System

- ☐ [Product Stewardship - Management System](#)
- ☐ Quality Assurance
- ☐ Chemicals and Product Safety

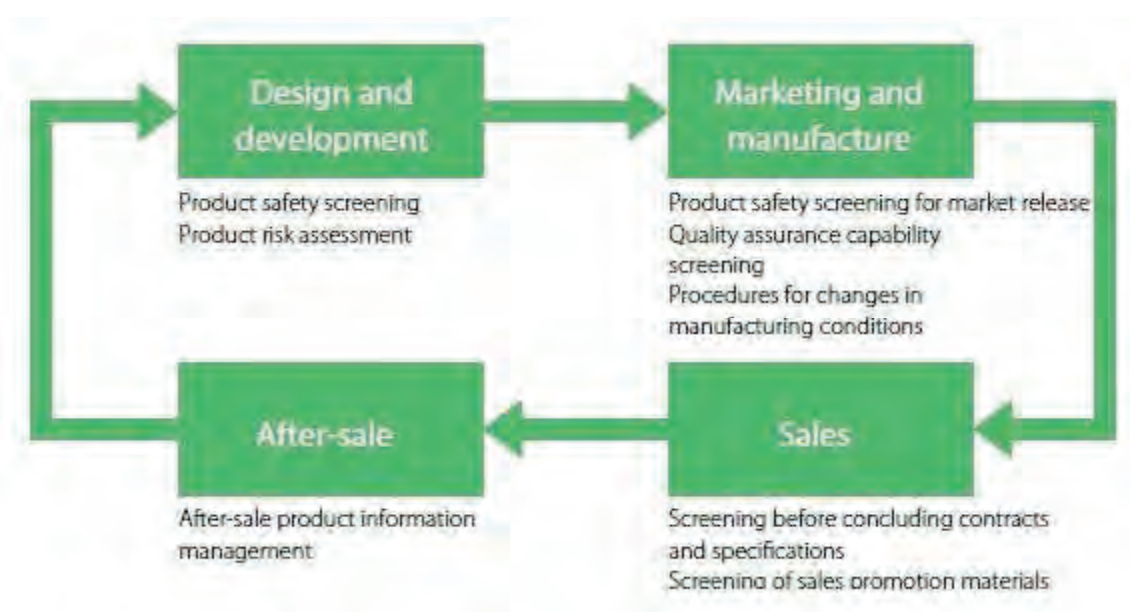
Basic ideas and policies

The Resonac Group works to ensure the safety of chemicals and chemical products by using a risk-based method, not only by checking the safety of its products during the stages of development, design, marketing, manufacture, sales and after-sale service, but also by monitoring how customers use and dispose of the products. By this method we identify and reduce risks for various product-related items. We conduct these risk assessments with a focus on (1) ensuring compliance and (2) promoting product stewardship.

(1) Ensuring compliance

The Resonac Group constantly monitors regulatory trends for chemical substances in Japan and abroad to ensure compliance with the laws and regulations of each country in a proactive manner. The head office and each of the sites cooperate with one another in a close manner and share information to prevent noncompliance.

Also, as the basic rules for product safety activities, we set the Quality Assurance and Quality Control Rules (“Rules”) within the company. In 2020, we set our vision for quality assurance & management and for product safety, and fully revised our quality assurance and management rules based on the vision. We will work to provide even safer and more reliable products and services and solutions beyond the framework of the manufacturing industry.



(2) Promotion of product stewardship

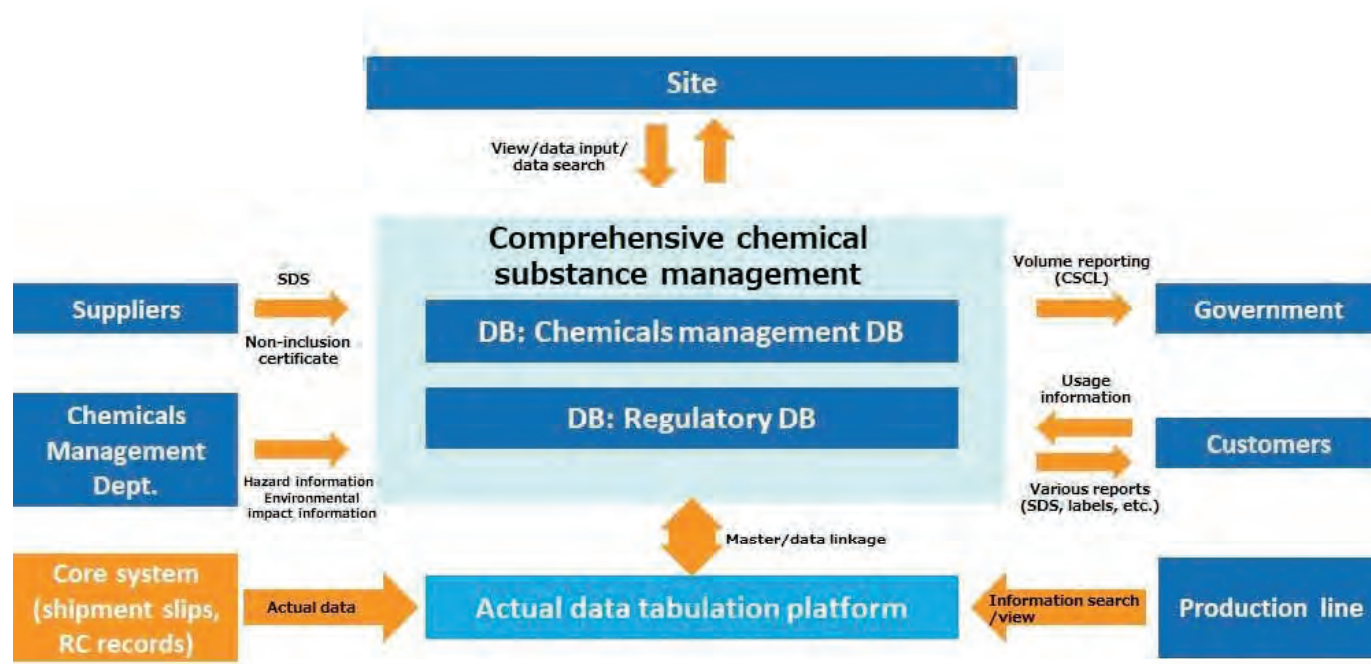
For the Resonac Group, “product stewardship” means to make product safety-related risk assessments in the development, design, manufacturing, sale, use and consumption stages of its products and disclose the assessment results to stakeholders as part of its effort for safety, health and the environment.

Based on this idea, we assess the risks related to our chemical products and manage the products in an appropriate manner.

Management system for product safety and regulatory information

As the basic infrastructure for the management of chemicals, we have built a comprehensive chemical substance management system for use within the Resonac Group. This system is composed of a database (DB) of information about chemical substances to be managed and another database of information about legal regulations on chemicals enforced in each country, and is equipped with

functions that help employees to make effective use of the DB-stored information to perform their duties.



We manage information about raw materials of chemical substances, and our products in an exhaustive manner under the system. For each chemical substance, our Chemicals Management Department collects extensive hazard and regulatory information and evaluates the collected information in a professional manner to ensure high information quality. Also, by updating the regulatory database in a timely manner and regularly reviewing the information stored in the database, we ensure the availability of the latest information. By making use of the functions of this system, which stores high-quality information in an exhaustive manner and provides the latest regulatory information, we efficiently and effectively deal with legal issues to ensure compliance.

For example, by making use of the search function to easily identify and list specific substances and products, we make appropriate responses to the revision of laws in each country. Further, we manage production/import volume and provide necessary notifications in Japan and abroad by linking the tabulation function of the system with another in-house core system. We also make use of the function to create safety data sheets (SDSs) to create and submit SDSs in line with laws and regulations.

As chemical substance-related laws and regulations are now being enacted and revised in an accelerated manner across the world, we will enhance and expand the management system to ensure our own compliance and also fulfill our responsibility as a member of the supply chain.

Product Stewardship - Quality Assurance

- ☐ Product Stewardship - Management System
- ☒ [Quality Assurance](#)
- ☐ Chemicals and Product Safety

Based on our policy of providing global top-level quality to contribute to the sustainable development of society, we are conducting the following activities:

Product safety management

To help customers use the Resonac Group's products safely and with peace of mind, we have a risk-based screening system to decide whether or not to ship a sample new product to a customer or release a new product into the market, in addition to conducting risk assessments targeting all our products.

In 2021, we set our vision for quality assurance & management and for product safety with a focus on the maximization of customer experience (CX), and fully revised our quality assurance and management rules. Based on the revised rules, we will supply products that customers can use in an even safer manner and with greater peace of mind. We also centrally manage information about the safety of chemicals and related legal regulations by establishing a comprehensive chemical substance management system. Specifically, we use our Safety Data Sheets (SDSs)^{*1}, product labels and yellow cards^{*2} to provide customers with the latest and appropriate information on product safety. As for product information and labeling, we conduct checks in line with the labeling guidelines and have never been subjected to punitive action or warnings for violation of product labeling-related laws.

^{*1} SDS (Safety Data Sheet): This is a document provided by the supplier to the user (customer) of a chemical substance, covering such matters as its name, toxicity, and physical/chemical properties; cautions concerning its handling and storage; and emergency measures.

^{*2} Yellow card: This refers to an emergency contact card, which is recommended by JCIA, to briefly describe appropriate response by transportation company personnel, police, and firefighters in the event of accidents involving hazardous or toxic substances.

Enhancement of on-site capabilities

In order to raise our quality assurance and management level, we set the target of enhancing the capabilities and quality awareness of onsite workers and clarified the level to be attained by the departments in charge of quality assurance. We then checked the current level of the Divisions, Plants, and Group companies and made a specific plan to raise their levels. Furthermore, we are taking the measures to automate the quality checking system, not only to increase our operational efficiency but also to prevent quality fraud and human error.

Quality risk diagnoses

Personnel from the Head Office's Quality Assurance Office visit and carry out annual quality risk diagnoses at the Group's sites, including the Divisions, Plants, and Group companies, to clarify their strengths and weaknesses and share the findings. Through this activity, we identify the quality risks that exist in our business activities in order to reduce them. Since 2022, we have conducted a product audit with a focus on compliance on a trial basis for the start of such auditing in 2024.

Quality-related complaints

The Resonac Group has been working to reduce the number of product quality-related complaints by 50% relative to the 2015 level. To this end, we have implemented measures to prevent the reoccurrence of similar problems in consideration of the fundamental causes of complaints and also made use of the lessons learned from past complaints made to the Group. As a result, in 2021, the number dropped to 14, showing a substantial decrease year on year.

We aim to reduce the number of quality-related complaints by 20% each year to halve it in 2025 relative to the 2022 level.

Product Stewardship - Chemicals and Product Safety

- Product Stewardship - Management System
- Quality Assurance
- [Chemicals and Product Safety](#)

In order to ensure product safety and raise our chemicals management level, we are conducting the following activities:

Enhancement of the chemicals management system

The Resonac Group is promoting thorough legal compliance and risk management with the aim of building a chemical management system befitting a leading global functional chemicals manufacturer.

In 2021, we revised our rules on the management of chemical substances and improved the internal chemicals management system by measures such as appointing a person in charge of the management of chemical substances at each of our Group sites. We are also continuing the activity that we started in 2020 to improve chemicals-related risk assessment at our sites in Japan, thereby enhancing the company-wide chemicals management system also from the perspective of risk management.

Management and communication of information about products and chemical substances used in products

The Resonac Group creates Safety Data Sheets (SDSs) for its products based on the information stored in the comprehensive chemical substance management system. We provide customers with SDSs that have been examined and approved under the internal examination system.

We have completed the revision of our SDSs to ensure compliance with JIS Z 7252/7253 (Japanese Industrial Standard for methods of classifying chemicals according to the GHS and methods of communicating information on the hazards of chemicals [SDSs, labels, etc.]), which was revised on 25 May 2019, within the grace period until 24 May 2022.

Moreover, as part of our effort to foster product stewardship, we are proactively conducting activities to select chemical substances for which the Resonac Group will make risk assessments on a priority basis and disclose the results to stakeholders. In 2021, we summarized the risk assessment results made for a total of 30 substances and disclosed them on the chemical substance risk assessment support portal “JCIA BIGDr” provided by the Japan Chemical Industry Association (JCIA). As a result, we were given the grand prize at the JIPS Awards held by the JCIA for fiscal 2021 as the company that disclosed the greatest number of safety summaries in the year.

Compliance with chemical substance-related laws and regulations in Japan and abroad

We strive to ensure compliance with laws and regulations related to its products, product materials and chemical substances by making use of its comprehensive chemical substance management system. In order to meet the management requirements imposed by the laws of each country pertaining to manufacturing, export volume and others, we are making combined use of the system’s tabulation function and our core system for highly reliable and transparent tabulation, and utilizing the results to submit reports to the authorities in Japan and abroad.

Laws and regulations in Japan: We are using the comprehensive chemical substance management system to foster compliance with laws and regulations, including the following, in a systematic manner: the Act on the Regulation of Manufacture and Evaluation of Chemical Substances; the Industrial Safety and Health Act; the Poisonous and Deleterious Substances Control Act; and the Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof. As for the Act on the Evaluation of Chemical Substances and Their Manufacture, etc., the Resonac applies the company-wide central management system and enhances compliance.

Laws and regulations outside Japan: With regard to chemical substances, more laws and regulations are being enacted, and existing ones are frequently revised to enhance and expand the regulations on these substances. We are making use of various information sources and databases to monitor the trend and share the obtained information with our local staff in each country so that we can respond in a timely manner to the enactment and revision of the laws.

Risk management for nano-materials

The Resonac Group handles a range of nano-materials. We make risk assessments of all nano-materials that we handle as raw materials and products for the safety and health of our workers and customers. We do this in line with the safety management rules that we set in 2017 for nano-materials and based on the management system built and operated for the materials. We also set the guidelines for the safety management of nano-materials based on the rules and handle all nano-materials according to the guidelines.

Moreover, we regularly check whether nano-materials are managed appropriately or not at the meetings of the council set for the safety management of the materials. This council is chaired by the officer in charge. The decisions made by the council on whether or not to continue the projects/development activities for nano-materials are reported to the Management Committee for its final decision. We are currently working on implementing measures to apply the safety management system for nano-materials also to former Showa Denko Materials.

Education

For the management of chemicals, it is important to provide individual employees, who support such management, with internal education so that they can acquire the knowledge necessary to ensure compliance and handle products in an appropriate manner.

Accordingly, the Resonac Group is working to enhance its internal educational program and build a systematic education system. The Group is providing employees with education on a continual basis to help them increase their sensitivity to, awareness of, and knowledge about the management of chemicals, thereby preventing noncompliance with regard to chemicals management.

For example, as a part of the internal educational program, we organize seminars on SDSs, the Industrial Safety and Health Act, polymers, the Poisonous and Deleterious Substances Control Act and on relevant laws and regulations enforced outside Japan and chemical risk assessments. In addition, briefing sessions are held for the persons in charge of the management of chemical substances at divisions and sites to familiarize them with the Act on the Regulation of Manufacture and Evaluation of Chemical Substances and our internal rules. We do all this online, so that many employees can improve their knowledge without location restrictions.

Consideration for animal testing in safety assessment

To develop useful chemicals for society and ensure appropriate control of chemicals, we need to conduct various types of safety assessment as required by laws and regulations. We are therefore working actively to introduce new evaluation technologies such as computer-based toxicity prediction assessment (in silico) and alternative test methods (in vitro) such as the use of cultured cells. We are conducting safety assessments using these new technologies as much as possible to avoid using animals for testing.

Meanwhile, it is extremely difficult to complete all safety assessment without any animal testing. Thus, we respect the "3Rs principles" in animal testing: Replacement (using alternative methods); Reduction (reducing the number of animals used); and Refinement (relieving pain), and we are entrusting animal testing to external institutions that are operating in accordance with Act on Welfare and Management of Animals.

Human Resource Management - Human Resource Strategies

- ☐ [Human Resource Strategies](#)
- ☐ Development of human resources
- ☐ Labor Practice
- ☐ Diversity, Equity & Inclusion (DE&I)
- ☐ Employees' Health

Basic ideas and policies (Mission of creating value)

Based on the Purpose and Values that constitute its corporate philosophy, Resonac believes that its human resource strategies should focus on fostering co-creative people and cultivating the associated corporate culture. This approach will be crucial to proposing creative solutions to issues through co-creation founded on autonomous bonds with customers and other stakeholders, shaped by mutual understanding and a resonance of values. Such co-creative people and the culture are a source of our corporate value. Based on this recognition, we aim to develop an organization in which all employees can feel tangible growth through their career that suit them.

Policies and promotion system

We regard our corporate philosophy (Purpose and Values) as the most important guideline to be followed by the Resonac Group in terms of uniting Group employees all around the world in the pursuit of a single shared goal. In order to help individual employees to maintain a sense of their own purpose and aspirations as well as those of the Company—even in times plagued with uncertainty—the Culture Communication Department will endeavor to deepen employees' understanding of the Purpose and Values and encourage them to make the corporate philosophy substantively their own while also working to establish a mechanism for the autonomous implementation of the philosophy. Meanwhile, acting in accordance with our corporate philosophy will require us to secure diverse people and aggregate the insights of these individuals into a greater business of collective knowledge. Based on this recognition, our diversity, equity and inclusion promotion team will join the Department to play a leading role in the development of our corporate culture. There is also a need for management to develop leaders from the perspective of group-wide optimization. To meet this requirement, we are building our HR team to clearly identify our future leadership and boost the competitiveness of our people through strategic job rotations. In addition, we are enhancing the functions of the human resources business partner (HRBP), who will work with the heads of the business divisions to enable both individuals and organizations to take on a range of challenges for further growth in their respective businesses.

Strategies

A top priority in fostering a corporate culture based on common understanding of our Purpose and Values will be to create a platform that underpins this culture by aggregating the insights of diverse individuals into a greater business of collective knowledge. Specifically, we will implement measures to instill our Purpose and Values in all executives and employees across the Group as a basis for their decision and encourage them to make the Purpose and Values their own. We will also take steps to eradicate unconscious biases and promote diversity. We thereby aim to develop an organization in which employees feel the psychological safety necessary to engage in constructive discussion, regardless of their title, division or any background. Furthermore, we will launch a global award program to accelerate the embrace of our Purpose and Values and recognize initiatives that embody our corporate philosophy as well as to provide stimulation and motivation to employees across national and organizational boundaries.

disease and regularly provides employees with cautionary advice, including instructions on measures to prevent infection. We have also been promoting telecommuting, and in the head office district the proportion of employees working on-site has been kept to around 20%, regardless of whether or not a state of emergency has been declared by the government. Employees commuting to their workplaces are advised to wear masks and maintain good hand hygiene and also to make use of the staggered commuting and flex time systems.

Moreover, to give support to local communities around our sites, we contributed to the government's anti-infection measures by conducting workplace vaccination at three locations, namely Oita, Kawasaki and the head office, in both 2021 and 2022.

Resonac will continue to proactively contribute to the solution of global health issues and work to ensure the safety and health of employees of the Resonac Group and its partner companies as well as their families.

Related link:

- [Risk Management \(Measures against COVID-19 as part of BCP\)](#)

About asbestos

At present, we do not manufacture or sell products in which asbestos is used. For employees who have worked with asbestos at any time in the past, we provide them with regular health checkups and make appropriate responses in line with the related laws and regulations. We also respond to related inquiries made by former employees who are now retired.

Human Resource Management - Development of Human Resources

Human Resource Strategies
Development of Human Resources
Labor Practice
Diversity, Equity & Inclusion (DE&I)
Employees' Health

Basic ideas and policies (Mission of creating value)

Based on the Purpose and Values that constitute its corporate philosophy, Resonac believes that its human resource strategies should focus on fostering co-creative human resources and cultivating the associated corporate culture. This approach will be crucial to proposing creative solutions to issues through co-creation founded on autonomous bonds with customers and other stakeholders, shaped by mutual understanding and a resonance of values. Such human resources are a wellspring of value for the Company. Based on this recognition, we aim to develop an organization in which all employees can feel tangible growth through the career paths that suit them.

Roles played by Resonac's personnel, leaders and human resource (HR) and other organizations

Role of Resonac's personnel

Develop their own careers with strong ownership, believe in their own talents and potential and hone themselves to demonstrate their abilities for the benefit of society and to return value to shareholders.

Engage in sincere dialogue with people inside and outside the Company to rediscover their own values and strengths. Keep themselves up to date through dialogue with diverse people and collaboration aimed at solving issues as well as through the provision of professional value, aiming to achieve "co-creative growth" together with those around them.

Role of Resonac's leaders

Assist subordinates who are taking ownership of their careers with further career development and capacity building based on an understanding of their diverse values, strengths, potential and life- and career-related goals.

Build psychological safety in the team and encourage subordinates to generate ideas and embrace challenges in their jobs.

Regard individual failures as opportunities for the entire team to learn and individual successes as opportunities to praise the entire team, and take actions accordingly.

Role of Resonac's HR and other organizations

Help personnel who are taking ownership of their careers and are committed to providing society with value with professional development assistance to build up their capacities.

Based on an understanding of the diversity of the life- and career-related goals employees have, provide them with appropriate opportunities to learn and grow.

Talent management

For the earlier identification and development of leaders who can embody the Purpose and Values at a high level, we are focusing on talent management.

In 2022, as part of our talent management, we selected and clearly identified candidates to take over major positions in each of the divisions and created a development plan for each one. We also launched a companywide talent review meeting to give the management team an opportunity to openly talk about organizational issues as well as about succession candidates and the next generation of leaders from the perspective of companywide optimization and to hold discussions on the succession plans and human resource development policies formulated by each division. Moreover, we have started to rebuild a talent pool of candidates to serve as the next generation of leaders, which will be managed by the entire Resonac Group.

Furthermore, in and after 2023, we will introduce a human resource management system (SAP Success Factors) to all Group companies including those outside Japan, thereby speeding up our talent management measures on a global scale.

Provision of Growth Opportunities

For the development of co-creative personnel who can embody the Purpose and Values, we are designing human resource development measures by attributing importance to the following: helping employees make the Purpose and Values their own from the perspective of their respective careers; providing employees with learning opportunities to meet their diverse needs for career development and capacity building; and offering opportunities for employees to learn about each other's fields of specialization and make effective use of one another's expertise.

Examples of career development and capacity building opportunities

Provision of career training that is tailored to the life and career stage of each individual

E-learning service that provides more than 1,000 courses, from which employees can select those that meet their capacity building needs for reskilling and future career development

Provision of optional learning opportunities to talent, such as MBA, MOT and external leadership development programs

Overseas trainee system under which young employees in their fourth or more year at their company are provided with opportunities to work outside Japan

Early selective training program that provides young talent with three optional learning courses on interpersonal influence, business planning and global leadership

Co-creative leadership training program in which managers acquire basic knowledge and skills to improve their ability to communicate with their subordinates

Co-creative collaboration ability enhancement training in which participants learn about unconscious biases, psychological safety, facilitation and other topics useful for co-creation

Development of the next generation of management and business leaders

We will build a talent management system for the entire Resonac Group, including affiliated companies outside Japan. Under the system we will provide Group personnel who are aligned with our Purpose and Values and demonstrate high performance and potential with more promotion and growth opportunities, regardless of their nationality, gender, age or which Group company they work for.

In 2022, we started to implement a leadership program for those selected as candidates for top executive positions. Toward becoming a “Co-creative Chemical Company,” we are also implementing programs to provide employees with hands-on education on leadership, communication, listening, facilitation, design thinking and planning. In these programs, which are intended to promote exchange and co-creation among personnel, participants have interactive sessions with the management team and practice pair coaching among themselves.

Human Resource Management - Labor Practice

Human Resource Strategies
Development of Human Resources
Labor Practice
Diversity, Equity & Inclusion (DE&I)
Employees' Health

Basic ideas and policies

As a “Co-Creative Chemical Company,” Resonac aims to become a “global top-level functional chemical manufacturer from Japan.” To this end, in our personnel strategies we attribute importance to developing human resources based on our Purpose and Values. We will foster the growth of employees and develop talent in-house as well as enhance employee engagement toward increasing our corporate value. Since the launch of the new system in January 2023, we have introduced a new personnel system, aiming to enable autonomous and co-creative people who embody the Values to achieve further growth and demonstrate the full range of their abilities. Under this system we will implement personnel measures to evaluate and recommend actions that contribute to the Values, thereby improving the working environment to give employees more motivation and providing better working conditions so that they can maintain a balance between their personal and working lives.

Provision of safe and clean workplaces

We will provide employees with safe and clean workplaces where they can demonstrate their abilities. By making office space, where employees spend much of their time each day, as well as rest rooms, changing rooms and other facilities for employees even more comfortable, we hope that they will be able to work more proactively, increasing their engagement within the workplaces.

Moreover, at the Daimon and Marunouchi offices we have introduced a free-address system to provide employees with greater convenience. We are thus helping them adopt new work styles by improving the workplace environment.

Encouraging employees to take annual paid days off and reducing their working hours

In compliance with the Labor Standards Act of Japan, we are working to reduce overtime work and encouraging employees to take their annual paid leave. We also ensure that employees who work overtime exceeding the predefined threshold are interviewed by an industrial doctor to help them maintain their health.

In order to prevent working to excess, we are implementing the following measures at each of our sites and Group companies:

Share information about current problems and measures for improvement through labor-management activities

Set a target for the number of annual paid days off for employees and encourage them to actually take the days off

Designate a day on which employees will be asked to end their work on time

Team activity to make improvements for higher operational efficiency

*** About the system**

Resonac has long built relations of trust with the labor union based on the following two points as the core of the labor agreement: (1) Stable employment and enhancement of work satisfaction and (2) Improvement of working conditions through the growth of the Company and enhancement of its earning power. For reviews of the compensation system and various rules, the Company and the labor union proactively discuss the issues to reach an agreement. Resonac also complies with the statutory wage standards set in each country and region where it conducts business. In Japan, we are setting the amounts of salaries in consideration of social trends and standards generally adopted in society, exchanging opinions with the labor union.

System to support employees in maintaining their work-life balance

Resonac has systems to support employees in maintaining their work-life balance at each life stage, and we are continuously implementing measures to encourage employees to utilize the systems, including conducting a campaign to encourage male employees to take childcare leave. In order to provide employees with even more options for flexible work styles, we also introduced a telecommuting system for employees who need to take care of their children or other family members and subsequently updated the scope of the system to include all employees, aiming to provide greater job satisfaction.

Major work-life balance support systems

Flexible working time system; shortened working hours for childcare/family care; telecommuting system; use of annual paid days off in units of half a day; support leave (that can be taken in units of one hour and half a day); special leave system (for marriage, childbirth, bereavement, official duties, disaster damage and transfer); leave system for employees working apart from their families to return home; refreshment leave; absence for child nursing care (partially paid); absence for long-term nursing care (partially paid); leave for infertility treatment (partially paid); leave for maternity health management (partially paid); additional leave (for nursing care, long-term nursing care, infertility treatment and volunteer activities; unpaid); absence for the treatment of non-occupational illness/injury (partially paid); leave for the treatment of non-occupational illness/injury; childcare leave; long-term nursing care leave; and life support leave

Outline of major systems

Childcare leave: Can be taken by employees who live with and are raising children younger than two years old until the day before the child's second birthday. It is possible to take this leave up to twice per child during the period. Apart from this leave, male employees can also take paternity leave following the birth of the child. Moreover, if the Company gives special approval, employees can take childcare leave for up to a total of three years before the child enters elementary school.

Shortened working hours for childcare/family care: Can be taken by employees who have children under junior high school age or who are taking care of family members in need of long-term nursing care. These employees may choose to reduce their standard working hours by up to two hours per day. They can also shorten their working hours to four hours per day at the shortest, if approved by the Company.

Support leave: Employees are granted five days per year and can carry over any untaken days up to a total of 40 days. They can also take this leave in units of days, half-days and hours to participate in school

events for their preschool- and elementary school-aged children, to take care of their children in the event of temporary school closure/class cancellation or to provide (long-term) nursing care for their children or other family members.

Long-term nursing care leave: Can be taken by employees who have family members in need of long-term nursing care. Depending upon the relationship between the employee and the family member in need of long-term nursing care, a total of 93 days off, or a total of 12 months' leave during the two-year period from the start of the leave, can be taken.

Human Resource Management - Diversity, Equity & Inclusion (DE&I)

Human Resource Strategies
Development of Human Resources
Labor Practice
Diversity, Equity & Inclusion (DE&I)
Employees' Health

Basic ideas and policies

Basic ideas and policies

To become a “Co-creative Chemical Company” aiming to “Change society through the power of chemistry,” the Resonac Group seeks to utilize the broad technological platform it has built to work hand in hand with customers and various other stakeholders to co-create solutions to social issues.

For the creation of such solutions, we deem it necessary to secure human resources with diverse skills, experience and demographic backgrounds and provide these personnel with working environments where they can demonstrate their respective abilities and generate ideas. We then need to adopt a range of these ideas and transform them into collective knowledge. To meet this requirement, the Resonac Group defines DE&I as follows and will work to enhance it as a management priority.

Diversity

We define diversity as the unique features of diverse^{*} personnel that we should value.

* In terms of nationality, race, gender, age, disabilities, religion, other backgrounds, sexual orientation, skills, experiences and others

Equity

We define equity as the provision of an environment in which individuals are given equal opportunities to demonstrate their respective abilities.

Inclusion

We define inclusion as the acceptance of individuals' unique features and the maximization of the value of these features in our organization.

Promotion system

The Culture Communication Department, established under the CHRO, is leading the implementation of a range of measures in cooperation with those in charge of DE&I at each of our sites and other Group companies, such as measures to nurture an inclusive corporate culture and to help diverse personnel to demonstrate their abilities and maintain a good work-life balance.

Education for the promotion of DE&I

Through training on various themes, we aim to help all employees understand the essential elements of DE&I and incorporate those elements into their daily activities.

TOPICS Organization of co-creative collaboration ability enhancement training

Resonac independently designed a co-creative collaboration ability enhancement training program in which participants deepen their knowledge and understanding of unconscious biases and psychological safety. We expect that executives and other employees will make practical use of what they have learned in such training to build an even more inclusive corporate culture.




Co-creative collaboration ability enhancement training held for executives

Co-creative collaboration ability enhancement training held for executives

Resonac independently designed a co-creative collaboration ability enhancement training program in which participants deepen their knowledge and understanding of unconscious biases and psychological safety. We expect that executives and other employees will make practical use of what they have learned in such training to build an even more inclusive corporate culture.

Women's empowerment

The Resonac Group aims to increase the percentage of women in managerial roles to 7% on a consolidated basis in Japan and to 13% on a consolidated basis globally by the end of 2025 and has included these in its KPIs. We will develop female candidates for leadership positions through talent management, which is designed to promote the development of future leaders.

Performance data related to promotion of women's empowerment 

Supporting employees in maintaining their work-life balance

For employees with diverse backgrounds and lifestyles to continue demonstrating their abilities we have established systems including the following: systems that are better than those mandated under the Act on Childcare Leave, Caregiver Leave, and Other Measures for the Welfare of Workers Caring for Children or Other Family Members of Japan; and flexible working time and telecommuting systems that contribute to flexible work styles. We have also held a campaign to encourage male employees to take childcare leave. Moreover, we provide employees with babysitter support services and a program (seminars) to support those taking maternity/childcare leave in returning to work. In addition, we have a reemployment ("welcome back") system in place for former employees of our Group companies who wish to rejoin the Group.

In July 2021, we introduced a "concierge service," through which employees can search for and submit applications to commercially operated nursery schools as well as obtain information about childcare.

We expressed our support for the project implemented by the Japanese Ministry of Health, Labour and Welfare to encourage more fathers to take childcare leave.

<https://ikufes.fqmagazine.jp/booth/ikukyureport/>  (only in Japanese)

We expressed our support for the project implemented by Sekisui House, Ltd. to encourage men to take childcare leave.

<https://www.sekisuihouse.co.jp/ikukyu/>  (only in Japanese)

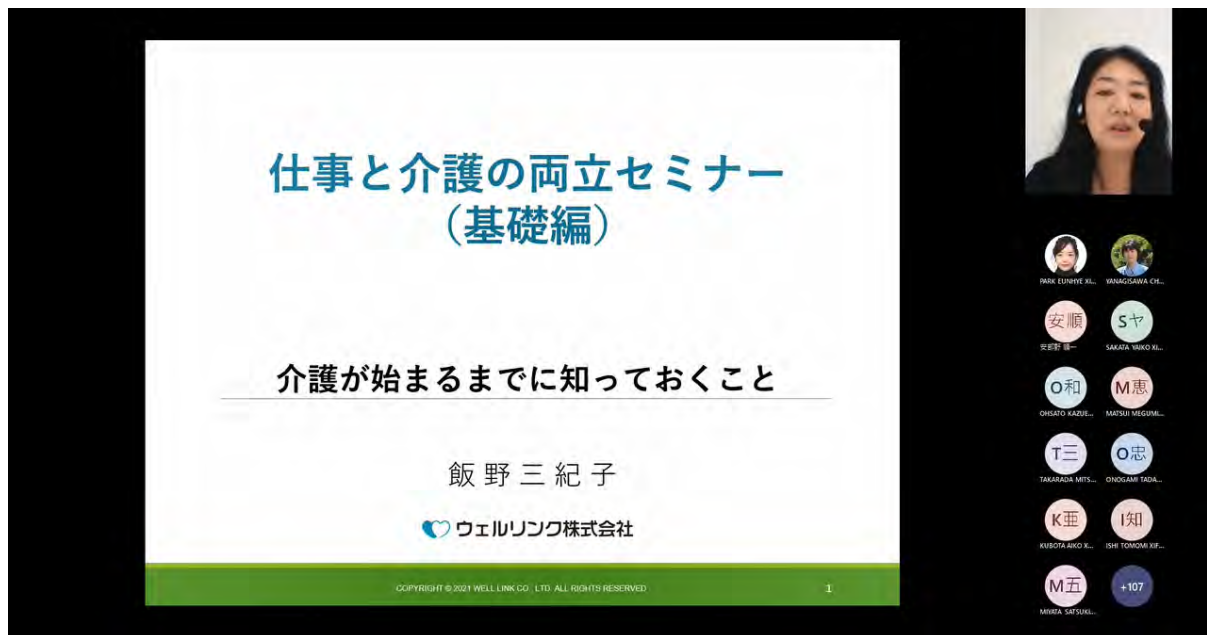
Related link:

Labor Practices

TOPICS Holding a seminar for fathers and fathers-to-be

We held a seminar and an online roundtable meeting for fathers and expectant fathers in June and July of 2022, respectively. The seminar was attended by a total of around 60 men, including fathers both new and soon-to-be as well as managers whose subordinates included dads and future dads. In the roundtable meeting, fathers and future new dads exchanged information and forged interpersonal ties, sharing tips and concerns about their daily childcare-related issues, and have continued to communicate via a chat app.

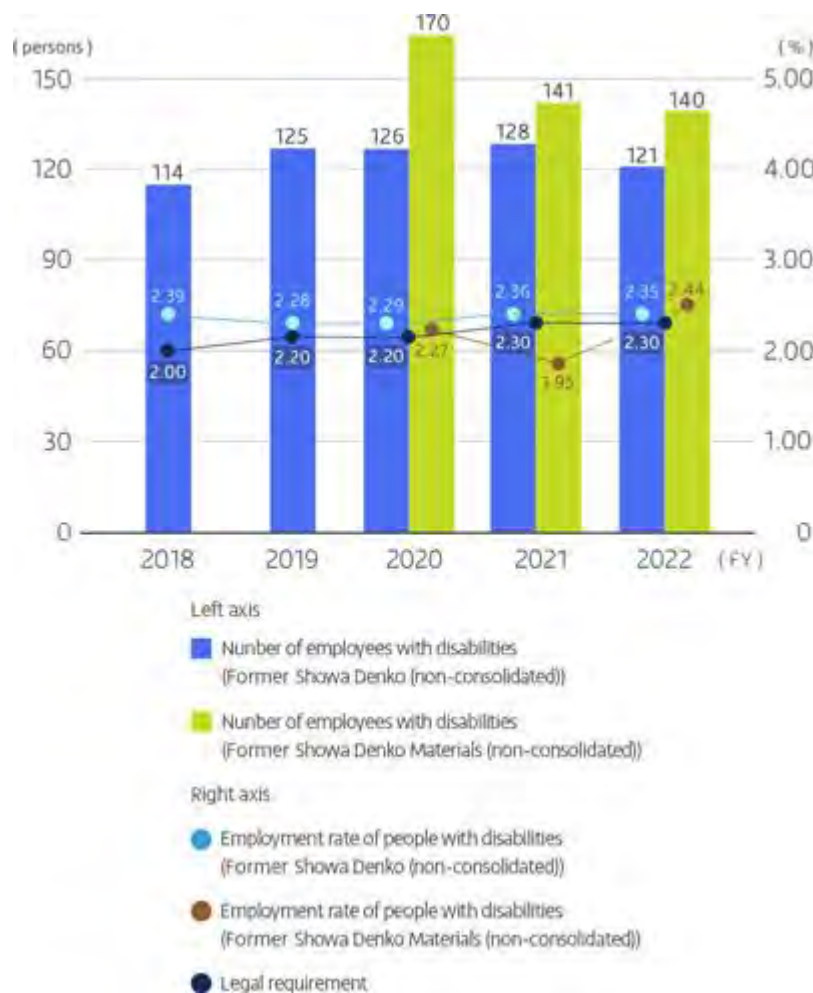
TOPICS Holding a seminar on how to make long-term care compatible with work



Held online in August 2022

In August 2022, we held an online seminar on how to make long-term care compatible with work, in which around 180 employees participated. In the post-seminar questionnaire survey, around 95% of respondents indicated that they were satisfied with the seminar. We will continue to improve the working environment and support employees so that they can work longer into the future.

Employment of people with disabilities



Employment rate of people with disabilities

We are proactively employing people with disabilities toward the goal of disability inclusion under the slogan, “We change unique personality into power.” In 2014, we established a model workplace for the employment of people with disabilities within the head office. Since then, we have continuously been working to provide employees with physical, intellectual, mental and developmental disorders jobs that are suitable for their individual character, including printing business cards and envelopes and removing data from PCs slated for disposal. By sharing the know-how across the Group, people with intellectual, mental and developmental disorders are now accepted as interns and employed at our sites and Group companies. We have also established a contact for consultation through which employees serving as “job coaches” support Resonac Group’s employees with disabilities and those working with them.

Joins “The Valuable 500”

On September 1, 2020, we signed a document to declare joining “The Valuable 500*” and set up commitments as follows:

The Resonac Group will promote diversity and inclusion, aiming to let all employees shine in the company as a stage, regardless of whether each employee has been disabled or not. We will act to move people’s heart and society, and provide the world with surprises and excitements.




1. Under the slogan that “We change unique personality into power” which aims to promote inclusion of persons with disabilities, the Resonac Group will promote establishment of inclusive workplaces where each employee, whether with or without disabilities or medical conditions, can feel peace of mind and show what everybody can do. (DE&I: Diversity, Equity and Inclusion)
2. We will provide differently abled employees with environment and opportunities that enable them to show what they can do, career vision that fit to their personalities, and support to realize these.
3. We will promote employment of persons with disabilities (inclusion of persons with disabilities) with specific targets.

※ The Valuable 500 was launched at the World Economic Forum Annual Meeting in Davos held in January 2019. This international initiative was launched to promote inclusion of persons with disabilities under an idea that “inclusive business creates inclusive society.” The Valuable 500 aims to encourage business leaders to make their own companies’ businesses inclusive ones in order to let persons with disabilities demonstrate their potential to add value to businesses, society and economy.

Related link: Our initiative was introduced by The Nippon Foundation

First half of the article: <https://www.nippon-foundation.or.jp/en/news/articles/2022/20220422-70160.html> 

Second half of the article: <https://www.nippon-foundation.or.jp/en/news/articles/2022/20220422-70215.html> 

TOPICS Starting an in-house campaign named “Uniqueness Supporter 500”

After joining The Valuable 500, Resonac distributed copies of a brochure on the inclusion of people with disabilities to all employees and called for 500 or more employees to voluntarily support the idea of creating inclusive workplaces where people with disabilities or illness can feel safe psychologically and demonstrate their respective strengths. As a result, as of the end of September 2022, Showa Denko and Showa Denko

Materials have a total of more than 7,300 Uniqueness Supporters, receiving original stickers distributed to help them constantly commit themselves to the inclusion of people with disabilities.

Employment of retired employees and support for employees' career management

We reemploy retirees so that they can continue to contribute their long-accumulated skills and expertise to their respective workplaces. We also support older employees with measures such as holding a training seminar in which those in their 50s are encouraged to think about their own post-retirement plans.

Human Resource Management - Employees' Health

Human Resource Strategies
Development of Human Resources
Labor Practice
Diversity, Equity & Inclusion (DE&I)
Employees' Health

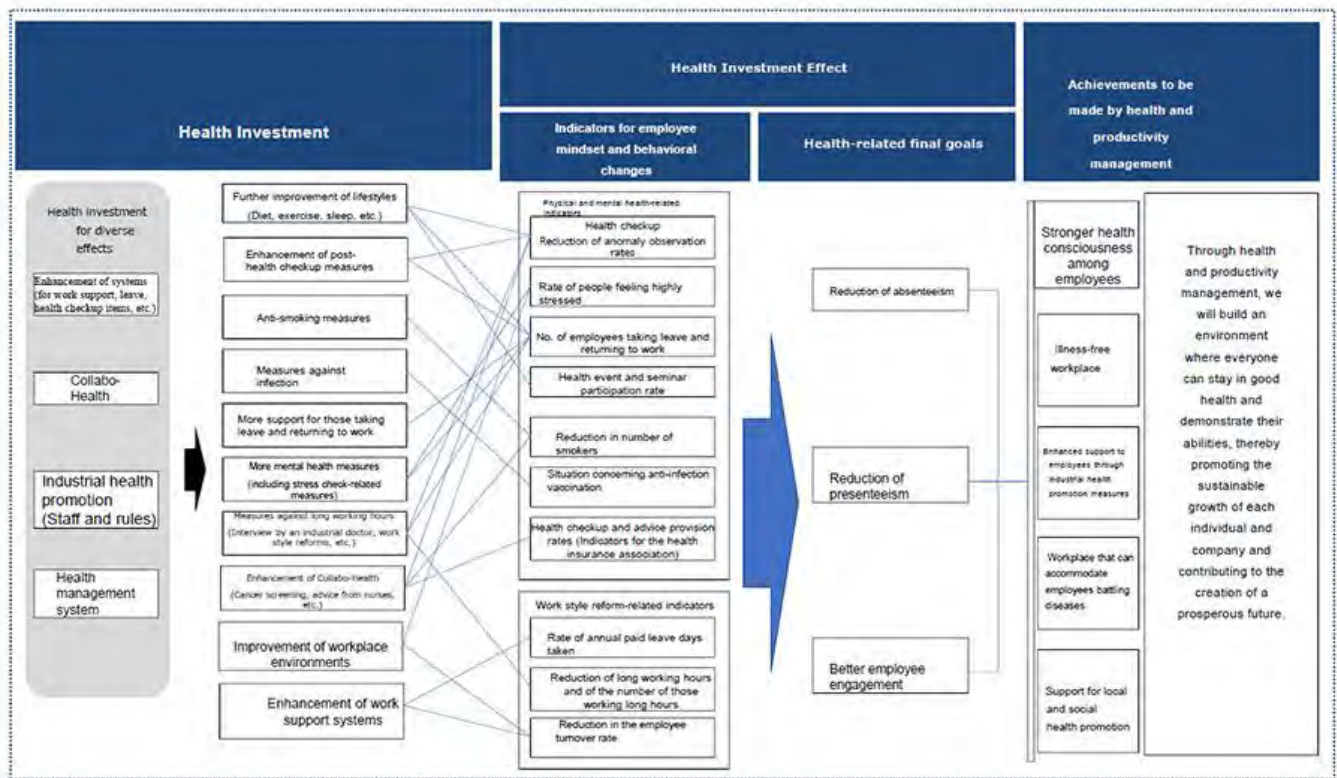
Basic ideas and policies

Resonac upholds “Change society through the power of chemistry” as its Purpose and aims to become a company that contributes to the sustainable development of the global society. To this end, the Company deems it important to help employees and their families maintain and promote their health by enhancing its health and productivity management.

Providing employees with a physically and psychologically safe environment that helps them perform at a higher level will in turn help the Company achieve sustainable growth. Based on this recognition, Resonac will foster measures for employees' health as the foundation that underpins all its business activities, thereby maximizing its corporate value and making even more contributions to society.

[The Resonac Group's declaration on health and productivity management]

Through health and productivity management, the Resonac Group will build an environment where everyone can demonstrate their abilities while remaining in good health, thereby promoting the sustainable growth of each individual and company and contributing to the creation of a prosperous future.



Health and productivity management strategy map

Click here to enlarge the map

Promotion system

At Resonac, the health and productivity management group of the Human Resources Department at the head office is in charge of promoting and supervising health and productivity management on a companywide basis. This group, in cooperation with health supporters (industrial doctors, nurses and administrative staff) working at each of the Company's sites and affiliated companies, is striving to help employees maintain and promote their health.

Major activities

We are working to build an industrial health promotion system and develop necessary human resources in consideration of compliance and risk management issues. We have been continuously achieving a rate of 100% of employees undergoing regular health checkups. We also conduct an annual stress check of employees at our sites and affiliated companies, including those with 50 or fewer employees that are not obliged to carry it out.

Moreover, in order to give support to our sites and affiliated companies where no industrial doctors or nurses are stationed, we are formulating an industrial health promotion system and rules to implement it while also promoting necessary human resource development under the leadership of the supervising industrial doctor.

Through the special management system for employees taking leave and then returning to work, we identify those who are absent/taking leave due to a non-occupational illness/injury as well as for childbirth and childcare to support their return to work and improve their workplace environment.

By registering employees who are taking leave due to a non-occupational illness/injury as well as for childbirth and childcare through the system, we have enhanced the management of the related procedures and the monitoring of their status. We are also undertaking examinations to provide even more support for their return to work and further improve their workplace environment.

We conduct a “pulse survey” on new employees every month for the first two years to check their level of satisfaction with their company and their health status. According to their answers to the survey, we provide them with individual counseling and work to improve their workplace environment based on cooperation between the related departments, thereby helping new employees maintain and improve their mental and physical health.

Since 2017, as a corporation excellent in health and productivity management, we have been obtaining certification under the Japanese government’s program to recognize companies with outstanding health and productivity management.



Indicators for employees’ health (as of 2021)

Percentage of employees undergoing regular health checkups: 100%

Proportion of employees diagnosed as having a healthy BMI (between 18.5 and less than 25): 61.5%

Percentage of employees undergoing the stress check: 94.2%

Measures against COVID-19

To combat the COVID-19 pandemic, Resonac has been collecting information from both within and outside Japan under the leadership of the headquarters established in response to the outbreak of the disease and regularly provides employees with cautionary advice, including instructions on measures to prevent infection. We have also been promoting telecommuting, and in the head office district the proportion of employees working on-site has been kept to around 20%, regardless of whether or not a state of emergency has been declared by the government. Employees commuting to their workplaces are advised to wear masks and maintain good hand hygiene and also to make use of the staggered commuting and flex time systems.

Moreover, to give support to local communities around our sites, we contributed to the government’s anti-infection measures by conducting workplace vaccination at three locations, namely Oita, Kawasaki and the head office, in both 2021 and 2022.

Resonac will continue to proactively contribute to the solution of global health issues and work to ensure the safety and health of employees of the Resonac Group and its partner companies as well as their families.

Related link:

[Risk Management \(Measures against COVID-19 as part of BCP\)](#)

About asbestos

At present, we do not manufacture or sell products in which asbestos is used. For employees who have worked with asbestos at any time in the past, we provide them with regular health checkups and make appropriate responses in line with the related laws and regulations. We also respond to related inquiries made by former employees who are now retired.

Sustainable Procurement - Management System

- ☐ [Sustainable Procurement - Management System](#)
- ☐ Evaluation of Suppliers
- ☐ White Logistics

Basic ideas and policies

We are currently facing a range of social issues, including environmental problems such as the depletion of resources and energy issues as well as problems related to human rights, corporate ethics and compliance.


Through its business activities and the provision of products and services, the Resonac Group has been striving to contribute to the solution of these social problems and to the creation of a global sustainable society.

In recent years, a number of arrangements have been made for the international community to deal with global issues under the framework of the United Nations, including the adoption in June 2011 of the Guiding Principles on Business and Human Rights (dubbed the “Ruggie Principles”) and the adoption in September 2015 of the Sustainable Development Goals. Accordingly, across the globe, companies are strongly expected to play proactive roles to ensure adherence to these agreements and contribute to the solution of the issues. This trend will become more conspicuous going forward.

However, the Resonac Group cannot fulfill its role for sustainable development on its own and absolutely needs the understanding and cooperation of all its stakeholders.

Based on this recognition, we established the Resonac Group’s Sustainable Procurement Guidelines, which we share with our business suppliers so that we can contribute to the creation of a sustainable society.

Related link:

- ☐ [Resonac Group Sustainable Procurement Guidelines](#) 
- ☐ Respect for Human Rights

Promotion system

The Resonac Group is fostering sustainable procurement under the leadership of the director in charge of procurement, with the Procurement & SCM Department supervising procurement operations.

The Resonac Group requests all suppliers to comply with the Sustainable Procurement Guidelines. Specifically, we ask all new suppliers to fill out the related CSR self-assessment questionnaire before starting business with us and also ask major existing suppliers to do so every three years, thereby raising suppliers' awareness about sustainable procurement. We also visit around 40 suppliers each year to check their activities from the perspectives of the environment, human rights and compliance. We score the measures taken by the suppliers who conducted CSR self-assessments and those to whom we made CSR visits, and send feedback reports to each of the former. In the reports we clearly indicate their CSR level against the total average and industry average and give them advice for improvements. We conduct this in a cycle of three years as a means to evaluate the supplier-related risks for all the products and services that we purchase from them. For details, please refer to "[Promotion of sustainable procurement.](#)"

Training of Procurement personnel

For sustainable procurement, we deem it important to increase the awareness and improve the skills of our staff in charge of Procurement. Accordingly, we provide them with a range of training and study opportunities. For the educational activities, we provide learning on various themes, including the concept of compliance; laws such as those related to antimonopoly, subcontractors, customs and foreign exchange; the civil code and other regulations; and also our internal Procurement procedures and rules on approval authority. We thus help the Procurement personnel at our plants and divisions to improve their performance. In 2021, a total of 1,236 Group employees received training on Procurement.

Sustainable Procurement - Evaluation of Suppliers

- ☐ Sustainable Procurement - Management System
- ☒ [Evaluation of Suppliers](#)
- ☐ White Logistics

Activities in 2021

Self-assessments

Each year we ask about 400 business suppliers to fill out the self-assessment questionnaires regarding the Resonac Group's CSR Procurement Guidelines and thereby self-check their CSR activities. We ask major business suppliers to do it once every three years and all new suppliers to do it when starting business with us. In 2021, the total response rate came to 92%.

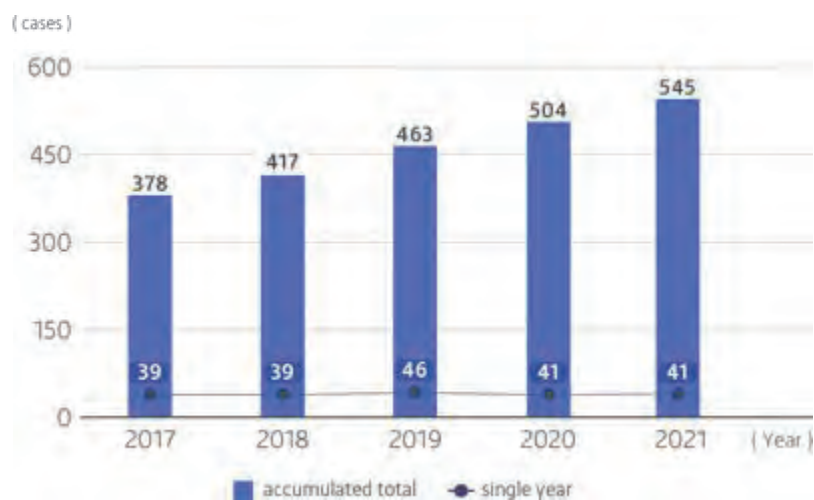


Results of CSR self-assessments made in 2021
(average score by item)

CSR visits

Since we launched this initiative in 2010, we have visited a total of 504 suppliers. We engage in dialogue with the suppliers to check their CSR activities and introduce them to some examples of our excellent CSR activities. In 2020, we visited 41 suppliers and found no serious cases of human rights infringement or noncompliance for these companies.

If a noncompliance is detected concerning a supplier, we will discuss with the supplier and implement necessary measures for early improvement. We will also review our business relations with suppliers who we think do have a serious negative impact on our business continuity. According to the level of negative impact that might be caused by a supplier, we will stop requesting quotes from and placing orders with the supplier for a certain period, reduce the trade volume, or cancel the sales contracts concluded with the supplier. We will decide whether to resume transactions with the supplier or not after our Procurement personnel check how the supplier has made improvements by interviewing the supplier and confirm that our concerns about the negative impact have been mitigated or eliminated.



Number of CSR visits
(Former Showa Denko (non-consolidated))

Follow up

We scored the CSR measures taken by the suppliers who conducted CSR self-assessments and those to whom we made CSR visits. We clearly indicated to each their CSR level against the total average and industry average. We also sent feedback reports to all the suppliers who performed CSR self-assessments to give them advice for improvements.

Total average score for the 2021 CSR self-assessments and measures taken for improvements

Number of suppliers respondent: 327 companies, average score 65.4 points

(Sent a feedback report (including a comparison with the total average score and industry average score, and requests for improvements) to each of the respondent companies)

	Number of cases	Rate	Measures for improvements
50 and higher	239	73%	Requested improvements for the items for which problems were identified while working to further increase the scores for the items with high scores.
From 30 to below 50	78	24%	Requested improvements for the items for which problems were identified and proposed improvement measures. *Made visits as required to exchange views about each other's measures.

	Number of cases	Rate	Measures for improvements
			Will check the status of improvements in the next round of self-assessments.
Below 30	10	3%	Requested improvements for the items for which problems were identified and proposed improvement measures. *Made visits as required to discuss measures for early improvements. Will check the status of improvements in the next round of self-assessments.

Sustainability: Site Map

- ⊗ Message from CEO
- ⊗ Sustainability Vision
- ⊗ Sustainability Management
- ⊗ Dialogue with Stakeholders
- ⊗ Integrated Reports, Website
- ⊗ Data collection
- ⊗ Amazing Discoveries! Science Experiments for Kids

ESG Information

- ⊗ Environment
- ⊗ Social
- ⊗ Governance

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Sustainable Procurement - White Logistics

- ☐ Sustainable Procurement - Management System
- ☐ Evaluation of Suppliers
- ☐ [White Logistics](#)

Basic ideas and policies

"White Logistics" is a movement launched in March 2019 by the Japanese Ministry of Land, Infrastructure, Transport and Tourism, Ministry of Economy, Trade and Industry, and Ministry of Agriculture, Forestry and Fisheries to improve the work environment of the logistics industry. The purpose of this movement is to:

- Increase the productivity of truck transportation and enhance the efficiency of logistics operations

- Create better workplaces where women and people aged 60 and older can also work in comfort

"White Logistics" can be said to be a work style reform movement in the logistics industry, and it is important for shippers to ensure compliance to contribute to the reform. In support of this movement, Resonac became one of the first companies in the chemical industry to make a declaration to voluntarily take actions for sustainable logistics in May 2019 and has since been acting in accordance with the declaration.

Major activities

1. Meeting employees in charge of logistics operations

Since 2018, we have been holding a meeting biannually for Resonac Group employees in charge of logistics operations to share the latest logistics trends and exchange opinions on measures to improve truck drivers' working environment and increase the efficiency of logistics operations.

2. Establishment of shipper's guidelines on logistics operations in the event of abnormal weather

We established the Resonac Group's guidelines in reference to the criteria set for transportation companies by the Ministry of Land, Infrastructure, Transport and Tourism. Based on the guidelines we make decisions on whether or not to place orders with transportation companies as shippers in the event of abnormal weather, thereby helping the companies ensure the safety of drivers.

3. Dialogue with partner transportation companies for the improvement of truck drivers' working conditions

Each of our sites selects their major partner transportation company and engages in dialogue with the transporter to share awareness concerning legal compliance, improvements in truck drivers' working conditions and transportation efficiency.

If asked by any of the companies to cooperate with them for the rationalization of their transportation services and other purposes, we engage in good faith discussions with the company and also proactively make improvement proposals, such as establishing a set transportation route within the premises to prevent minor collisions, providing drivers with more safety tools for their work and setting cargo collection times and places in consideration of waiting times.

Social Contribution Activities

Basic ideas and policies

Resonac Group will contribute to society through social contribution activities that make use of the strengths of the Group, based on our purpose of “Changing society through the power of chemistry.”

Promotion system

Members from the General Affairs Department, the Human Resources Department, Environment & Safety Office and the Sustainability Department, CRO, CHRO and other departments gather and are holding meetings to discuss activities to be conducted and the system as the “Social contribution activities working group” for the activities to be implemented by the newly integrated company.

We collect information about social issues recognized by local stakeholders by communicating with them and implementing measures to solve these issues. Specifically, based on past activities conducted by our sites and affiliated companies, we implement the measures according to the situation of each local community:

Also, in 2021, to prevent the further spread of COVID-19, we canceled many of the activities that had been planned at our sites. In 2022, we are continuing to work to contribute to the solution of local issues by implementing the action plans while giving due consideration to the COVID-19 situation.

Details of the activities		Results(Former Showa Denko (consolidated in Japan))	Results(Former Showa Denko Materials (consolidated))	Results
Education (Developing Human Resources to Lead the Next Generation)	Dispatched employees as instructors	12 cases; Dispatched 143 man-hours	0	12 cases; Dispatched 143 man-hours
	Accepted interns	29 events implemented; Accepted 58 interns	3 events implemented; Accepted 14 interns	32 events implemented; Accepted 72 interns
	Offering guided plant tours (For students)	424 persons	2 persons	426 persons

Details of the activities		Results(Former Showa Denko (consolidated in Japan))	Results(Former Showa Denko Materials (consolidated))	Results
Improvement of the environment around the worksites	Cleaning activities	109 cases; Conducted for 5,411 man-hours in total	131 cases; Conducted for 2,396 man-hours in total	240 cases; Conducted for 7,807 man-hours in total
Promotion of arts, culture and sports	Cooperation for and granting subsidies to arts, culture and sports: spend	Spent 1,805,000 yen	Spent 3,105,000 yen	Spent 4,910,000 yen
Exchange with local communities	Events	210 residents participated	35 residents participated	245 residents participated
	Facilities rented	Rented for 988 hours in total	Rented for 918 hours in total	Rented for 1,016 hours in total

Details of the activities		Results(Former Showa Denko (consolidated in Japan))	Results(Former Showa Denko Materials (consolidated))	Results
	Offering guided plant tours (For Local communities and authorities, and the families of employees)	328 residents visited plants	0	328 residents visited plants
Community development and social welfare	Harmonizing with local economy: spend	Spent 1,217,000 yen	0	Spent 1,217,000 yen
	Aluminum can recycling: proceeds *Donated to a range of facilities and organizations, including local social welfare councils	1,123,368 yen	0	1,123,368 yen

Details of the activities		Results(Former Showa Denko (consolidated in Japan))	Results(Former Showa Denko Materials (consolidated))	Results
	Collaborating with NPOs and local organizations	Spent 268,000 yen	Spent 2,900,000 yen	Spent 3,168,000 yen
Social Contribution Expenditures	Social Contribution Expenditures including above	29,591,000 yen	57,312,000 yen	86,903,000 yen

Local and social contribution activities—Example(1)

Conducting an aluminum can recycling activity

The Resonac Group has been continuously conducting an aluminum can recycling activity with the participation of its employees as well as employees from partner companies.

A part of the proceeds from this activity is donated to various facilities and organizations, including local social welfare councils, welfare facilities and circles of people with disabilities.



Donation to the local social welfare council
(Kitakata Plant)

Local and social contribution activities—Example(2)

Sports promotion support in Oita Prefecture

The multi-purpose stadium in Oita Sports Park is one of the representative facilities of Oita Prefecture, where Resonac houses its Oita Complex as a central base for one of its core businesses. The stadium is used for a range of sports events, such as J. LEAGUE football matches. Resonac acquired the naming rights for the stadium from Oita Prefecture. From January 2023, the nickname of the dome will be changed from "Showa Denko Dome Oita" to "Resonac Dome Oita". We will continue to deepen and act as a supportive entity. The fees for the naming rights will partially be used for the prefecture's "partnership project," through which we can make local contributions, promote local sports, and revitalize local communities.



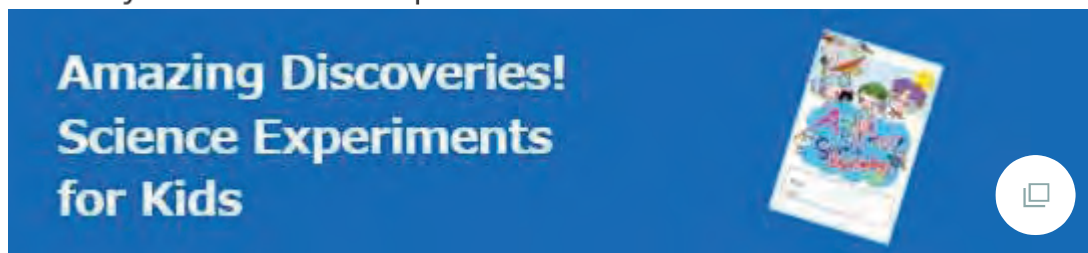
Resonac Dome Oita

Moreover, we decided to become a uniform sponsor for Oita Trinita from 2020, believing that the football club is making great contributions to local revitalization and sports promotion as an Oita-based football team belonging to the Japan Professional Football League (J.LEAGUE). We believe that providing support to the team will in turn help us to improve our CSR activities.

Local and social contribution activities—Example (3)

Developing Human Resources to Lead the Next Generation

In order to address the social issue of declining interest in science among children, the Resonac Group provides kindergartens, nursery schools and elementary and junior high schools located around its sites with texts and materials for experiment classes and also provides instructors for such classes from among its own employees, with the aim of helping children discover the joys of learning about science and chemistry. Moreover, on our official website, we post videos offering easy-to-understand explanations about how to conduct experiments like those included in the experiment classes at home, as well as the teaching materials (in PDF format) on the wonders of chemistry that we created and published for the classes.



Local and social contribution activities—Example (4)

Environmental Rehabilitation Activity around Kasumigaura

The Resonac Group obtains water for industrial use from Kasumigaura. In order to deal with the social issue of deteriorating water quality in Kasumigaura, we are working with an NPO named "Asaza Fund" to improve both water quality and the local biodiversity. Specifically, since fiscal 2012, we have been carrying out activities to regenerate the Satoyama environment (undeveloped woodland near populated areas) by planting asaza (aquatic algae) in Kasumigaura while also growing rice and improving the environment on abandoned cultivated land in Sakuragawa City, Ibaraki Prefecture. (Since 2020, we have been refraining from conducting face-to-face activities to prevent the further spread of COVID-19.)



Participants in the activity

Local and social contribution activities—Example (5)

Green Curtain Project

We are conducting this activity to deal with the social issue of global warming. Specifically, we are working to create more “green curtains” on and around the premises of our sites in and outside Japan. In this activity, participants can enjoy creating green curtains that will help them stay comfortable without relying on air conditioners. (Cooperation by an NPO named “Midorinoka-ten Oendan”)



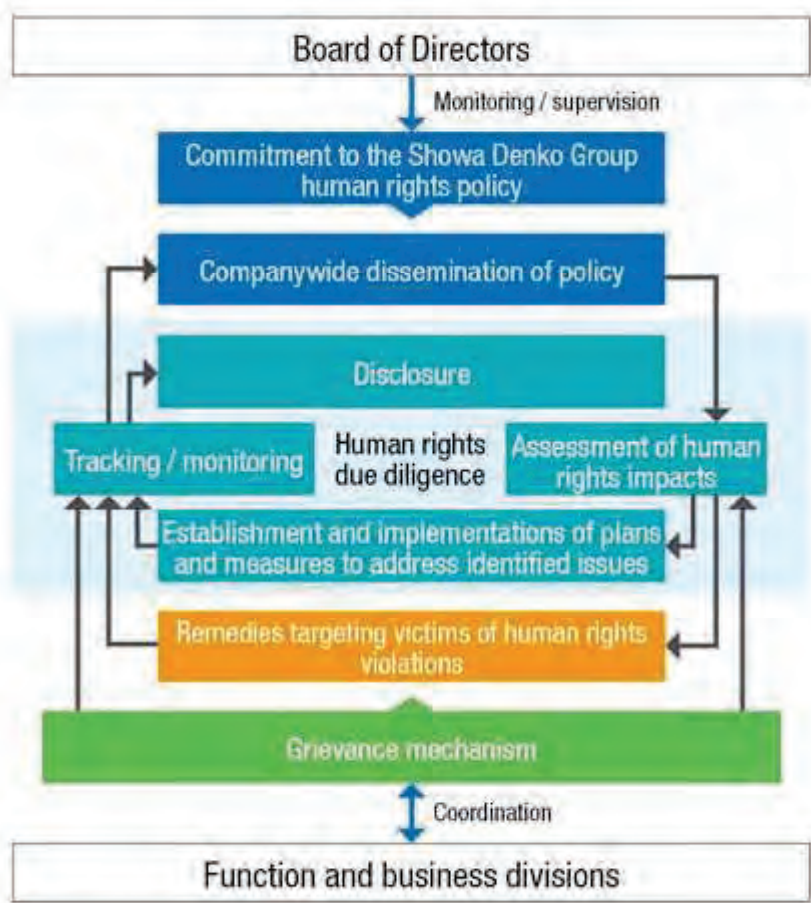
Respect for Human Rights

Basic ideas and policy

The Resonac Group Human Rights Policy was established in 2021. All employees are expected to conform their actions to this policy, and we request that suppliers and all other business partners adopt the spirit of the policy. We also continue to build upon human rights due diligence activities in accordance with this policy.

In 2021, focus was placed on human rights risk assessments of the Resonac Group employees in Japan and process assessments of sustainable procurement activities. Any human rights issues identified through these assessments will be addressed through concrete improvement activities, including training to raise awareness, revisions to regulations, and reforms to procurement processes. In 2022, we expanded the scope of human rights due diligence activities to include overseas Group employees, workers with indirect employment contracts in Japan and overseas, and the supply chain. This move was made based on rising geopolitical risks and on our need to act as a newly integrated company. Through this expanded scope of activities, we have begun identifying high-risk areas.

Priority measures	Targets for 2025	Results in 2021
Human rights	Establishment of human rights due diligence process and implementation frameworks	Establishment of Human Rights Policy, identification of human rights issues in Japan, and implementation of response measures



The Resonac Group Human Rights Policy

The Resonac Group aims to contribute to the sustainable development of a global society based on its significance of existence (purpose) of "changing society with the potential of chemistry." The Resonac Group has human rights as the basis of its business activities in all countries and regions where it operates in order to realize a society in which the dignity of all people is ensured and everyone is equally respected without being left behind. We have clarified these ideas and attitudes, and have formulated a human rights policy (hereinafter referred to as this policy) here as a promise to our stakeholders.

Scope of human rights policy

This policy applies to all officers and employees (including contract employees) working in the Resonac Group (Resonac Holdings Corporation and its consolidated subsidiaries). We also expect all business partners, including our suppliers, to understand and support the content of this policy, and will continue to work to ensure that this policy is respected by them.

Commitment to respect for human rights

We are aware that the businesses of the Resonac Group and all business partners including suppliers, directly or indirectly affect human rights in each process of the value chain from product development to procurement, manufacturing, distribution, use, final consumption, and disposal. The Resonac Group is committed to prohibiting all discrimination and harassment, providing a safe working environment and reducing excessive working hours, ensuring minimum wages, and respecting freedom of association and the right to collective bargaining. We also do not allow child labor, forced labor or human trafficking for the purpose of labor exploitation, especially in the field of supply chain management.

Support for international human rights principles

The Resonac Group supports internationally recognized human rights principles ("International Bill of Human Rights", the International Labour Organization's (ILO's) "Declaration on Fundamental Principles and Rights at work", "the Children's Rights and Business Principles", etc.) and make them our own standards.

In addition, as a UN Global Compact signatory company, we will respect human rights in all aspects of our business activities and strive to prevent and mitigate adverse impacts by operating our business in accordance with the "the Ten Principles of the UN Global Compact" and "the UN Guiding Principles on Business and Human Rights."

Remediation

In the unlikely event that the operations, products and services of the Resonac Group and its business partners including suppliers, have an adverse impact on the human rights of our customers, local communities and other stakeholders, we will endeavor to provide for remediation through appropriate procedures.

Compliance with applicable laws and regulations

In making business decisions, the Resonac Group will comply with all applicable laws and regulations in each country and region in which it operates. In the unlikely event that the laws and regulations of the country or region differ or conflict with the internationally recognized human rights principles, or when faced with conflicting requirements, we will pursue ways to

respect the internationally recognized human rights principles. In the context of stakeholders and circumstances where the Resonac Group cannot control decision-making, we will strive to exert influence so that this policy will be respected, and will continue to work to avoid complicity in human rights violations.

Governance

In order to fulfill our responsibility to respect human rights, the Resonac Group will maintain an internal system to steadily implement human rights due diligence initiatives based on this policy. In addition, we will reflect this policy in relevant policies, procedures and operations so that it can be properly incorporated into our business activities.

Human rights due diligence

In accordance with the UN Guiding Principles on Business and Human Rights, the Resonac Group will establish a process to properly assess the impact of business decision-making and execution on human rights, identify, prevent and mitigate risks that cause or contribute to serious human rights violations, and strive to provide for remediation.

In addition, in order to verify whether the adverse impact on human rights is being dealt with, we will continuously track and evaluate the effectiveness of the response.

Grievance mechanism

The Resonac Group will establish grievance mechanisms both internally and externally with the aim of early detection of concerns, including adverse impacts on human rights, and the resolution of problems. The grievance mechanisms are available to all stakeholders such as employees, business partners including suppliers, and local communities. We will ensure the anonymity of the person making the report and the confidentiality of the content of the report. In addition, we will prohibit unfavorable treatment and retaliation against the whistleblowers, and will thoroughly protect them.

Stakeholder engagement

The Resonac Group recognizes that it is important to understand the adverse impacts on human rights from the perspective of those affected. Therefore, we will endeavor to utilize it in our efforts to respect human rights by continuously conducting dialogues and discussions with our stakeholders.

Information disclosure

The Resonac Group regularly discloses information on initiatives on respecting human rights and human rights due diligence taken based on this policy through its website and other means.

Dissemination / education

The Resonac Group will not only continue to provide appropriate education and training to all officers and employees (including contract employees) but also work on capability building necessary to put this policy into practice so that this policy will permeate the company. In addition, we will strive to respect human rights throughout the value chain by thoroughly communicating the contents of this policy to our business partners, including suppliers.

Human rights policy formulation process and review.

This policy is informed by the advice of external experts who have expertise and practical experience in human rights and has been formulated based on internationally recognized human rights principles, "the Ten Principles of the UN Global Compact", and "the UN Guiding Principles on Business and Human Rights" with the approval of the Board of Directors.

We will review this policy on a regular basis in light of changes in the social environment and dialogues and discussions with stakeholders, and strive to enhance efforts to respect human rights.

Resonac Holdings Corporation
Group CEO
Hidehito Takahashi
October 1, 2021

[○ The Resonac Group Human Rights Policy](#) 

Promotion system

The management team and the organization in charge of human rights are working together to foster human rights-related measures. The organization is composed of the secretariat (department in charge) and project members selected from all Business Segments and Divisions, serving as the main driving force for our human rights commitment.



Related link

[○ Sustainability Promotion Council](#)

Due diligence for human rights

The Resonac Group is committed to fostering due diligence for human rights so that we can identify any events that might lead to the infringement of human rights and deal with the identified issues in an appropriate manner to prevent human rights violations and any complicit acts.

In 2021, for human rights due diligence for human rights, we conducted a risk survey on employees of the Resonac Group companies in Japan and a survey for CSR-oriented procurement in consideration of our present situation regarding respect for human rights and the magnitude of the impact that we may have. For the human rights-related issues thus detected, we are raising its awareness through training, reviewing related rules, improving the procurement process, and conducting specific measures for improvement.

For this initiative, we are receiving professional advice from KPMG AZSA Sustainability Co., Ltd.

In 2022, in addition to the aforementioned measures, we will expand our target of human rights due diligence to include Group employees outside Japan, those working for the Group through indirect employment, and the supply chain. will start this by identifying problems in high-risk areas.

Human rights education

On Human During Human Rights Day in December 2021, we provided all employees with education on the fundamental concept of respect for human rights as described in The Resonac Group Human Rights Policy, important human rights-related issues, and how business activities are related to human rights through e-learning and workplace discussions.

The education was provided in Japanese, English and (traditional and simplified) Chinese, and 89.9% of employees (of Resonac and its consolidated subsidiaries) received the education in Japan.

Human rights throughout the supply chain

In order to conduct business that takes human rights into consideration throughout our supply chain, we ask suppliers to respect fundamental human rights, prohibit discrimination, ensure proper working conditions and protect the rights of their workers. We are continuously working with suppliers to help them comply.

Related link

- ☐ Sustainable Procurement
- ☐ Compliance

Protection of Intellectual Property

Intellectual Property Strategies

Intellectual property (IP) strategies are intimately related to business strategies and R&D strategies and are imperative to a company. Accordingly, close coordination is pursued between divisions responsible for these three types of strategies to promote seamless information sharing and co-creative strategy formulation.

Moreover, the newly integrated company regards its IP strategies as one of its important managerial strategies, and formulates and implements its business, R&D, and IP strategies in a manner that promotes synergistic resonances among them. We are also working constantly to build a robust and broad network of patents for our major business segments and important products, to maintain our competitive edge.

The four IP functions of planning and foundations, technologies and strategies, research and analysis, and contracts and relationships are housed within the Intellectual Property Department, to promote IP activities that inform and promote R&D and business activities from the standpoint of each function.

IP Utilization

IP Analysis/AI

Patent Monitoring

Management System

Public Relations

IP Planning

Six Pillars of the IP Strategies of the Newly Integrated Company

IP Utilization

The integration of Showa Denko and Showa Denko Materials has enabled us to design our patent portfolio around a wide range of businesses. The integrated IP divisions are thus enacting an aggressive IP policy to strengthen our global IP position.

IP Analysis / AI

The integration of IP landscape functions has made it possible to provide IP-related advice to a wide range of areas of the organization, encompassing everything from R&D to management, while allowing IP functions to be employed in new business exploration. Furthermore, we are strengthening the functions of our AI-powered patent reading support systems (ai-PAT and ai-SRT).

Patent Monitoring

Our patent monitoring system is a bulwark that protects our operations. By enhancing this system and how it is used, we are now able to develop optimal monitoring systems based on the circumstances surrounding our business and our patent strategies.

Management System

Our proprietary SWIPS IP management system has been refined to develop the new SWIPS2 system, which is capable of integrated management of the patent portfolios of both Showa Denko and Showa Denko Materials. This system is scheduled to go into effect at the same time as the integration of the two companies.

Public Relations

Public relations activities related to IP are one way of advertising the strength of our technology and IP capabilities. We plan to inform stakeholders about the synergistic benefits of the integration of IP, along with other matters, through future public relations activities.

IP Planning



By sharing IP utilization activities, such as the ToBIWo* IP utilization workshop, we aim to strengthen the connections between people as well as the connections between people and information and to promote integration. * Name and associated graphics are registered trademarks.



Support for businesses through IP that informs business activities and R&D and drives management strategies

Evolution into a world-leading IP company that coordinates business strategies, R&D strategies, and IP strategies to create new businesses and grow existing businesses

Corporate Governance

- Corporate Governance Basic Policies (Amended January 1, 2023) 
- Corporate Governance Report (March 31, 2023) 

- ✓ Basic Views on Corporate Governance
- ✓ Corporate Governance System
- ✓ Corporate Governance Initiatives

Basic Views on Corporate Governance

Resonac (the “Company”) shall hereby establish the Corporate Governance Basic Policies in order to increase corporate value and shareholders’ common interests through appropriate cooperation with all stakeholders including shareholders.

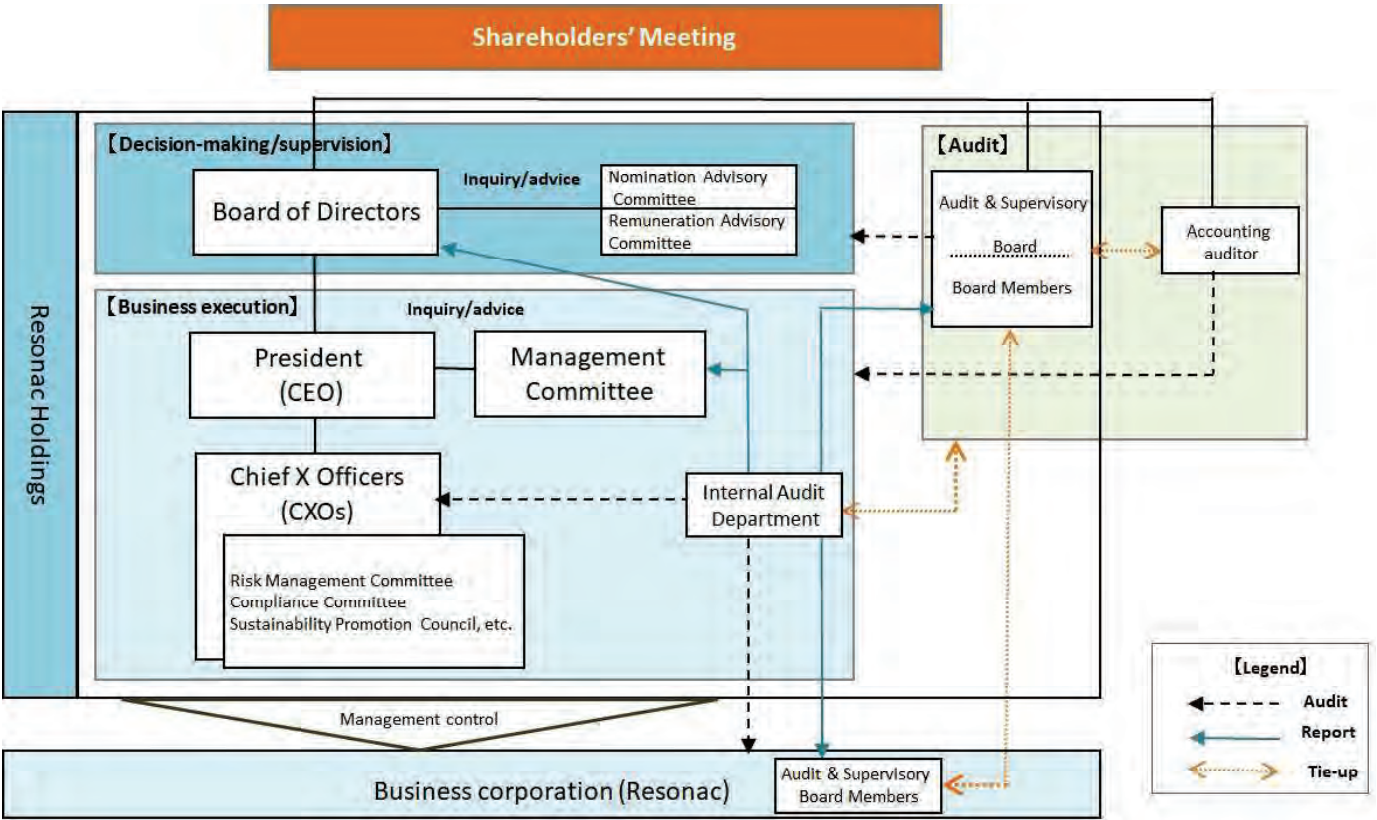
- Our Vision
- Our viewpoint about sustainability

The Company formulated the Corporate Governance Basic Policies in line with Japan’s Corporate Governance Code and discloses the policies at its website.

Corporate Governance System

The Company, as a pure holding company, specializes in Group strategy and listed company functions. While flexibly responding to business challenges, the Company appropriately allocates its management resources in consideration of the entire Group, for business tie-up, M&A, etc.

The Company introduced a corporate officer system to explicitly divide management oversight and business execution functions, giving authority to Chief X Officers (CXOs) and chiefs of Business Units to execute business. In order to strengthen functional independence, objectivity, and accountability of the Board of Directors, the Company has organized the Nomination Advisory Committee and the Remuneration Advisory Committee as advisory bodies for the Board of Directors. Independent Outside Directors represent the majority of both committees. The Company has also organized the Audit & Supervisory Board and the Accounting Auditor as audit bodies for the Board of Directors. The Audit & Supervisory Board and the Accounting Auditor are independent of the Board of Directors and the Management Committee.



Corporate Governance System

Board of Directors

To increase agility of business execution, the Board of Directors delegates part of decisions on important business execution to President and other corporate officers. The Board of Directors mainly focuses on deliberations and decisions concerning basic policies for management, establishment of the internal control system, etc. as well as oversight of execution of duties by Directors and Corporate Officers. We have also established an agile management system to quickly respond to changes in the business environment, and limit the term of office of directors to one year to more clearly define management responsibilities of Directors.

○ Management Team

Audit & Supervisory Board

The Company has adopted the Audit & Supervisory Board system. The Audit & Supervisory Board Members attend the Board of Directors' meetings and other important internal meetings, offering opinions as necessary. They also conduct audits on business execution through on-site investigations, interviews with responsible persons, inspection of important documents, and other appropriate measures, so as to provide suggestions, advice, and recommendations for securing soundness in management. In addition, Standing Statutory Members of the Audit & Supervisory Board concurrently serve as Audit & Supervisory Board Members of the business corporation to enhance audits on Group companies.

○ Management Team

Nomination Advisory Committee

The Company has established the Nomination Advisory Committee, advisory bodies to the Board of Directors. Independent Outside Directors represent the majority of its members for the Nomination Advisory Committee. The Committee reports to the Board of Directors after deliberating matters related to election of candidates for Directors and Audit & Supervisory Board Members.

Remuneration Advisory Committee

The Company has established the Remuneration Advisory Committee, advisory bodies to the Board of Directors. Independent Outside Directors represent the majority of its members for the Remuneration Advisory Committee. The Committee reports to the Board of Directors after deliberating matters related to appointment of senior management, and remuneration of Directors and Corporate Officers, respectively.

Management Committee

The Company and its business corporation Resonac have formed the Integrated Management Committee that gives advice to President on important matters and serves as a body preceding the Board of Directors. For investment matters escalated to the Management Committee, their risks are analyzed and their results and progress are managed through preliminary risk review and assessment by task teams.

Committees and Promotion Councils

Under CXOs in charge of respective functional areas, the Company has established the Risk Management Committee, Compliance Committee, Sustainability Promotion Council, and other committees.

Risk Management Committee

The Committee deliberates on the Group's overall risk management system, the content of risk information to be disclosed externally, and the evaluation of the Group's most important risks and measures to address them. [○ Risk Management](#)

Compliance Committee

The Committee discusses the Company-wide compliance promotion policy, mid-term activity plan, etc., and reports on the progress of the annual plan and the status of issues to be addressed. [○ Compliance](#)

Sustainability Promotion Council

The Promotion Council discusses mid- to long-term strategies, non-financial KPIs, stakeholder engagement, and other issues. For important issues that cross organizational boundaries, projects, etc., are established under the Promotion Council. [○ Sustainability](#)

Internal Audit Department

The Company has organized the Internal Audit Department reporting directly to the President. The Internal Audit Department forms annual internal audit plan under the provisions of the Company's Internal Audit Rules, audits situations of compliance, conduct of business and internal control system of the Group including affiliated companies, reveals potential risks concerning overall business activities, and reports results of internal audit to the top management, the Board of Directors and the Audit & Supervisory Board.

In addition, the Internal Audit Department cooperates with the Accounts Auditor and Audit & Supervisory Board Members through various measures including periodic briefing session about annual internal audit plan and results of internal audit, while paying attention to each auditing body's ...dependence.

Accounting audits

The Company concluded an auditing contract with KPMG AZSA, and this audit corporation performs accounting audits for the Company. The Accounting Auditor confirms the annual audit plan with the Audit & Supervisory Board Members and reports the audit results to them. The Accounting Auditor and the Audit & Supervisory Board Members also exchange information and views as required, to promote their cooperation.

Corporate Governance Initiatives

Attendance at Meetings of the Board of Directors and Audit & Supervisory Board (2022)

* Marked Directors and Audit & Supervisory Board Member :

Number of attendances after appointment at the Ordinary General Meeting of Shareholders held in March 2022

Positions of each Director and Auditor are as of January 1, 2023.

Directors

		Bord of Directors
Representative Director, Chairman	Kohei Morikawa	14/14 (100%)
Representative Director, President	Hidehito Takahashi	14/14 (100%)
Director	Hisashi Maruyama	14/14 (100%)
Director	Hiroshi Sakai	14/14 (100%)
Director	Hideki Somemiya*	11/11 (100%)
Director	Tomomitsu Maoka*	11/11 (100%)
Outside Director	Masaharu Oshima	14/14 (100%)
Outside Director	Kiyoshi Nishioka	14/14 (100%)
Outside Director	Kozo Isshiki	14/14 (100%)

		Bord of Directors
Outside Director	Noriko Morikawa	14／14 (100%)

Audit & Supervisory Board Members

		Board of Directors	Audit & Supervisory Board
Audit & Supervisory Board Members	Toshiharu Kato	14／14 (100%)	13／13 (100%)
Audit & Supervisory Board Members	Jun Tanaka	14／14 (100%)	13／13 (100%)
(Outside Member)	Kiyomi Saito	14／14 (100%)	13／13 (100%)
(Outside Member)	Masako Yajima	14／14 (100%)	13／13 (100%)
(Outside Member)	Yasuyuki Miyasaka*	11／11 (100%)	10／10 (100%)

Attendance at Nomination Advisory Committee and Remuneration Advisory Committee (April 2022～March 2023)

Positions of each Director and Auditor are as of January 1, 2023.

Nomination Advisory Committee

		Attendance records
Representative Director, Chairman	Kohei Morikawa	3/3 (100%)
Representative Director, President	Hidehito Takahashi	3/3 (100%)
Outside Director	Masaharu Oshima (Chairman)	3/3 (100%)
Outside Director	Kiyoshi Nishioka	3/3 (100%)
Outside Director	Kozo Isshiki	3/3 (100%)
Outside Director	Noriko Morikawa	3/3 (100%)

Remuneration Advisory Committee

		Attendance records
Representative Director, President	Hidehito Takahashi	3/3 (100%)
Director	Hideki Somemiya	3/3 (100%)
Outside Director	Kiyoshi Nishioka (Chairman)	3/3 (100%)

Directors (excluding outside directors)

A compensation scheme appropriate for recruiting and maintaining excellent human resources inside and outside Japan as the Company aims to become a world-leading chemical company for advanced functional materials

A compensation scheme that will help motivate efforts to achieve financial goals and increase medium-to-long-term enterprise value, thereby contributing to sustainable growth of the Group

A transparent, fair and rational process for deciding compensation from the viewpoint of accountability to all stakeholders, including shareholders

Outside directors

A compensation scheme appropriate for the role and responsibility for supervising the management of the Company from an independent and objective standpoint

2.Composition and levels of compensation

The compensation for executive directors and corporate officers consists of basic compensation (fixed compensation) based on position, short-term performance-linked compensation, and medium-to-long-term performance-linked compensation (stock-based compensation). In case of a standard amount for President and CEO, the proportions of basic, short-term performance-linked, and medium-to-long-term performance-linked compensations are roughly 40%:30%:30%. Compensations for other executive directors and corporate officers are decided in line with the case of president. As for director and chairman of the board (without right of representation), short-term performance-linked compensation will not be given in view of its basic role of supervising the management. Compensation paid to outside directors and members of the Audit & Supervisory Board will be only basic compensation in consideration of their roles and responsibilities. In deciding the composition and levels of compensation, we will use objective market research data provided by external specialized institutions (such as Willis Towers Watson's database regarding compensation for executives). We will consider the results of comparison with global chemical or other material companies of a similar scale.

		Attendance records
Outside Director	Kozo Isshiki	3/3 (100%)
Outside Director	Noriko Morikawa	3/3 (100%)

Approach to the balance and size of the Board of Directors and Audit & Supervisory Board

1. Board of Directors

The Board of Directors shall have a personnel structure giving thoughtful attention to a good balance among specialties, experience, and other factors, regardless of gender, nationality or age, and the size of the Board of Directors shall be set so as to ensure prompt decision-making and appropriate oversight of business execution. In addition, one-third or more of the Board of Directors shall consist of Independent Outside Directors with extensive experience and broad insight in order to secure the appropriateness of business execution and to increase the effectiveness of oversight.

The Board of Directors shall identify necessary skills so that the composition will help increase its effectiveness in view of the Company's management strategies.

2. Audit & Supervisory Board

The Audit & Supervisory Board shall have a personnel structure that includes Member(s) who has sufficient expertise in financing or accounting. In order to ensure a structure that will increase the effectiveness of audits through independence and advanced information gathering capabilities, Standing Statutory Members of Audit & Supervisory Board shall be appointed and a half or more of the Audit & Supervisory Board shall be Outside Members of Audit & Supervisory Board.

Criteria on the independence of outside directors

The Board of Directors has established independence standards for Outside Directors based on independence criteria stipulated by law and the Tokyo Stock Exchange and selects candidates who meet the standards. See the Attachment of Corporate Governance Basic Policies for the independence standards.

Policies and procedures for determining the remuneration of directors, Audit & Supervisory Board members, and corporate officers

Outline of Director Compensation Scheme

The outline of the Company's director compensation scheme in and after 2022 is as follows:

1.Basic policy

Directors (excluding outside directors)

- A compensation scheme appropriate for recruiting and maintaining excellent human resources inside and outside Japan as the Company aims to become a world-leading chemical company for advanced functional materials
- A compensation scheme that will help motivate efforts to achieve financial goals and increase medium-to-long-term enterprise value, thereby contributing to sustainable growth of the Group
- A transparent, fair and rational process for deciding compensation from the viewpoint of accountability to all stakeholders, including shareholders

Outside directors

- A compensation scheme appropriate for the role and responsibility for supervising the management of the Company from an independent and objective standpoint

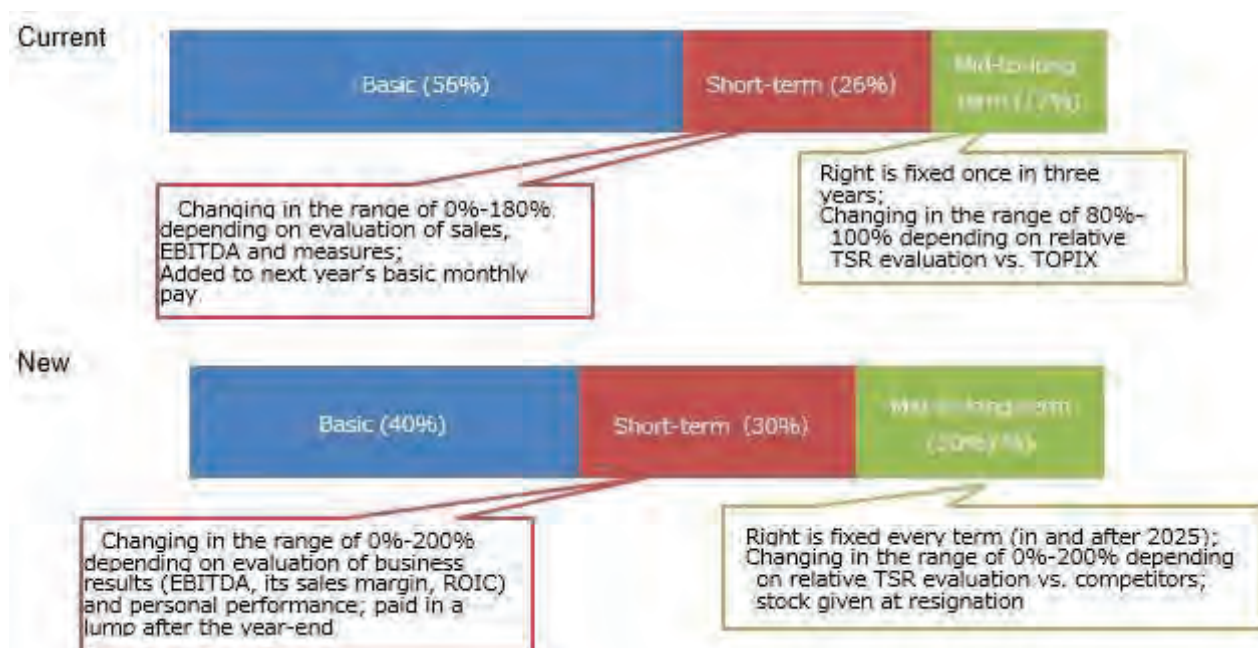
2.Composition and levels of compensation

The compensation for executive directors and corporate officers consists of basic compensation (fixed compensation) based on position, short-term performance-linked compensation, and medium-to-long-term performance-linked compensation (stock-based compensation). In case of a standard amount for President and CEO, the proportions of basic, short-term performance-linked, and medium-to-long-term performance-linked compensations are roughly 40%:30%:30%. Compensations for other executive directors and corporate officers are decided in line with the case of president. As for director and chairman of the board (without right of representation), short-term performance-linked compensation will not be given in view of its basic role of supervising the management. Compensation paid to outside directors and members of the Audit & Supervisory Board will be only basic compensation in consideration of their roles and responsibilities. In deciding the composition and levels of compensation, we will use objective market research data provided by external specialized institutions (such as Willis Towers Watson's database regarding compensation for executives). We will consider the results of comparison with global chemical or other material companies of a similar scale.

Graph 1 Type of compensation and scope of payment

Type of compensation			Scope			
Fixed/fluctuating	Money or not money	Composition	Executive directors/corporate officers	Director/chairman of the board (without right of representation)	Outside directors	Members of the Audit & Supervisory Board

Type of compensation			Scope			
Fixed	Money	Basic	○	○	○	○
Fluctuating		Short-term performance-linked (Bonuses)	○	—	—	—
	Not money Current	Medium-to-long-term performance linked (Stock-based)	○	○	—	—



Graph 2 Percentage of compensation components for President and CEO (image)

3.Incentive compensation

Incentive compensation will be granted according to performance based on indexes of long-term numerical goals included in the integrated company's long-term vision. It is intended to urge performance of tasks for realizing vision and strategy under the compensation scheme linked to business results and enterprise value.

i)Short-term performance-linked compensation (bonuses)

Payment to each person is decided by multiplying standard value (decided in advance based on position) by performance evaluation coefficient (changing in the range of 0%-200%). The coefficient consists of overall business results evaluation (70%) and personal evaluation (30%). In the case of representative director and chairman of the board, only overall business results evaluation is considered.

Indexes of overall business results evaluation consist of the amount of consolidated EBITDA (20%), the ratio of consolidated EBITDA to sales (30%), and ROIC (20%). As for the first two, evaluation is made relative to the degree of achievement of goals for each term. As for ROIC, evaluation is made on the basis of the average for the past three years.

Personal performance evaluation is made by the Compensation Advisory Committee entrusted by the Board of Directors concerning individual goals, evaluation, and the amount of payment. In case of misconduct, the Company may nullify the right to receive benefit or demand return of compensation, depending on the timing of misconduct and the timing of its revelation. The Board of Directors will make a decision on the matter after deliberations at the Compensation Advisory Committee.

Graph 3 Evaluation indexes of short-term performance-linked compensation (bonuses)

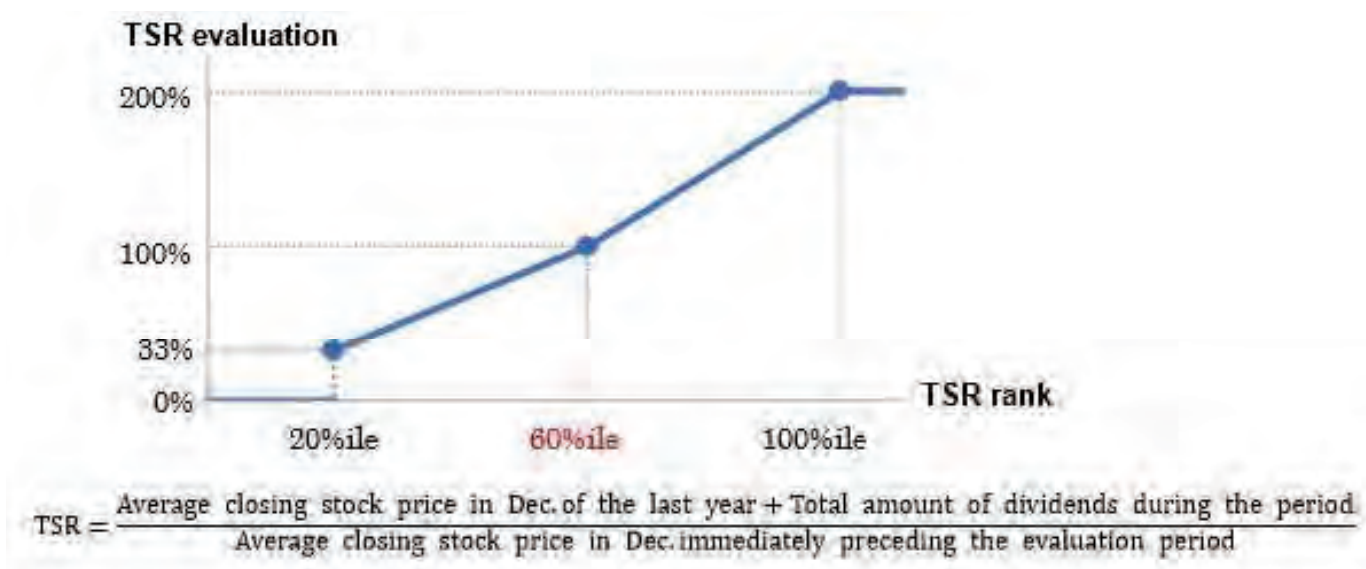
Evaluation indexes		Weighting of evaluation
Evaluation of overall business results	Consolidated EBITDA (amount)	20%
	Ratio of consolidated EBITDA to sales (%)	30%
	ROIC	20%
Personal performance evaluation		30%

ii) Medium-to-long-term compensation (stock-based compensation)

Under the new scheme, points are given by multiplying standard figures (decided in advance based on position) by TSR evaluation coefficient (changing in the range of 0%-200%). TSR evaluation coefficient will be decided based on the Company's rank order of three-year relative TSR evaluation (percentile, hereinafter "%ile") by comparison with competitors in the chemical/textile industries having similar business models and of the same size or larger. To encourage realization of the long-term vision, TSR coefficient will be set at 100% when the Company's rank order is in 60%ile, while it will be 0% when the Company's rank order is below 20%ile. To promote long-term sharing of value with shareholders, shares will be given in a lump after resignation according to cumulative points. In case of misconduct, the Company may nullify the right to receive benefit or demand return of compensation, depending on the timing of misconduct and the timing of its revelation. The Board of Directors will make a decision on the matter after deliberations at the Compensation Advisory Committee.

	2022	2023	2024	2025	2026	2027	...	Resignation
2022 plan	← TSR evaluation period →			● Point fixed				● Share grant
2023 plan		← TSR evaluation period →			● Point fixed			● Share grant
2024 plan			← TSR evaluation period →			● Point fixed		● Share grant

Graph 4 TSR evaluation period and share grant (image)



Graph 5 TSR evaluation coefficient

4. Compensation governance

The Company's Compensation Advisory Committee is chaired by an independent outside director, and independent outside directors/auditors account for the majority of committee members. The committee will make proposals and reports as necessary to the Board of Directors in view of the latest situation concerning executive compensation and market trends, results of comparison with relevant competitors, and other pieces of advice. To ensure high levels of independence and objectivity, decisions on compensation for respective directors will be entrusted to the Compensation Advisory Committee as from 2022. the Company has appointed Willis Towers Watson, an external consultancy, as advisor.

	Remuneration, etc.(Millions of yen)	Total Amount by Type of Remuneration, etc. (Millions of yen)			Number of applicable persons
		Basic Compensation	Short-term Performance- linked Compensation	Stock Compensation	
Directors	557	340	106	109	12
Outside members included in above	65	65	—	—	4
Audit & supervisory Board Members	104	104	—	—	6
Outside members	38	38	—	—	4

included in above					
----------------------	--	--	--	--	--

1. The amounts of "Base Compensation" and "Short-Term Performance-Linked Compensation" above are the total amount of compensation paid in fiscal 2022 (all monetary compensation).
2. The amount of "STI" above is the total amount of remuneration paid in March 2022 (all monetary remuneration) based on the results of business performance, etc. in FY 2021. The Company resolved at the 113th Ordinary General Meeting of Shareholders held on March 30, 2022 to pay a total of ¥119 million or less to five Directors excluding Outside Directors.
3. The above "LTI" amount is the total amount expended in FY2022. The Company's LTI is the number of shares of the Company's stock determined based on the results of the three-year TSR (Total Shareholder Return) evaluation, which is deferred and delivered at the time of retirement. The LTI is managed through a stock benefit trust (BBT) of Mizuho Trust & Banking Co.
4. The amount of remuneration for directors for FY 2022 and beyond was resolved at the 113th Annual General Meeting of Shareholders held on March 30, 2022 as follows: for STI and LTI, the amount is for directors excluding outside directors.

	Date of resolution of the General Meeting of Shareholders	monetary remuneration (Base Compensation + STI)	Stock Compensation(LTI) (Amount of BBT contribution / Points granted)	Number of applicable persons
Director	the 113th Ordinary General Meeting of Shareholders held on March 30, 2022	Up to 850 million yen per year (Of which, outside directors: 100 million yen)	Up to 1.35 billion yen for 3 fiscal years (Up to 410,000 points per fiscal year)	10 (Of which, 4 outside directors)

5. At the 96th Ordinary General Meeting of Shareholders held on March 30, 2005, it was resolved that the amount of remuneration for Audit & Supervisory Board Members shall be no more than 12 million yen per month. As of the close of the said General Meeting of Shareholders, the number of Audit & Supervisory Board Members was four, including three outside auditors.

[Sitemap](#)[Terms of Use](#)[Privacy Policy](#)[Resonac Group Hotline](#)

Copyright © 2023 Resonac Holdings Corporation. All rights reserved.

Evaluation of the Board of Directors' Effectiveness

- ☐ [Evaluation of the Board of Directors' Effectiveness](#)
- ☐ Risk Management
- ☐ Information Security
- ☐ Compliance
- ☐ Anti-corruption

Basic ideas and policies

The Resonac Group aims to achieve sustainable corporate growth and to increase its medium- to long-term corporate value. To this end, as its responsibility and role, the Board of Directors is expected to build a system to make decisions in a transparent, fair, prompt, and resolute manner and to supervise the management of the system. The Company issues a questionnaire survey to directors and Audit & Supervisory Board members to evaluate the effectiveness of the Board of Directors as a whole and whether it has fulfilled that responsibility and role. Based on the survey results, issues to be resolved are discussed by the Board of Directors.

Results for 2021(former Showa Denko)

Evaluation Method

Regarding the effectiveness of the Board of Directors in 2021, we conducted a survey in December 2021 in which the directors and Audit & Supervisory Board members answered questions and made free comments. Then, in March 2021, the Board of Directors held a meeting for all directors and Audit & Supervisory Board members to discuss the collected self-evaluation results, create a summary of the evaluation results for fiscal 2021, and formulate an action plan for fiscal 2022. To ensure the objectivity of the survey and further boost the effectiveness of the Board of Directors, the survey is conducted and the results are tabulated by an external organization.

Evaluation Results

The evaluation results have determined that, in Board of Directors' meetings, highly effective Board members with a broad perspective and values reflecting a variety of experiences and expertise are engaged in discussions that help to increase corporate value. Handouts and explanations about agendas are standardized and provided beforehand to encourage the members to take part in vigorous and constructive discussions and allow sufficient time for discussions. With regard to the action plan for 2021, which was made based on the results of evaluation of overall effectiveness of the Board of Directors for 2020, members of the Board of Directors and Audit & Supervisory Board have confirmed facts and issues as follows.

Regarding preparations for the substantial integration of former Showa Denko and former Showa Denko Materials in January 2022, important issues including the optimization of the business portfolio were discussed sufficiently at the Board of Directors' meetings, at meetings involving exchanges of views among all directors and corporate officers, and at other opportunities to discuss these issues.

Taking into account the expansion of the Resonac Group and the progress in globalization of business activities of the Group, the Board of Directors will continue discussing how the governance and compliance systems of the Group should be developed to boost effectiveness.

To facilitate the evolution into a "Co-creative Chemical Company," as put forth in the long-term vision, further discussion from a broader perspective is required with regard to management strategies and the ideal state of the Board of Directors.

The Board of Directors should revise the internal rules and regulations on the referring of proposals to Board of Directors' meetings to secure sufficient time to discuss issues effectively and efficiently, even when a Board of Directors' meeting is held by teleconference. In the action plan for fiscal 2022, the Board of Directors decided to ensure thorough discussion of management strategies for realizing the long-term vision, the ideal state of the Board of Directors, and the management of the Group at Board of Directors' meetings by securing sufficient time and opportunities for such discussion. The Board of Directors also decided to continue taking measures to improve the effectiveness and efficiency of proceedings at the Board of Directors' meetings and other meetings of executives.

(Additional comments)

For the optimization of the business portfolio, measures are being taken based on the results of discussions held as required on the direction of corporate strategies and medium- to long-term outlooks at the opinion exchange meetings as well as at the Board of Directors' meetings. These measures can be said to be substantially sufficient.

As for the governance of overseas subsidiaries, it is necessary to conduct in-depth discussions on how to build an effective governance system to enhance the relevant functions.

For the two years beset with the COVID-19 crisis, we were unable to engage in the full-scale exchange of information, but we are being given a range of opportunities to foster cooperation, not limited to those provided at the meetings of the Board of Directors.

Risk Management

- ☐ Evaluation of the Board of Directors' Effectiveness
- ☐ [Risk Management](#)
- ☐ Information Security
- ☐ Compliance
- ☐ Anti-corruption

Basic ideas and policies

The Resonac Group is striving to build a system to control risks in both ordinary times and emergencies and to minimize the detected risks. Also, aiming to take actions before the materialization of risks, we are working on the establishment of a system to manage risk-related information in a collective and central manner for the efficient and effective escalation of important information to top managers, thereby supporting them in making decisions on business strategies and resource allocation.

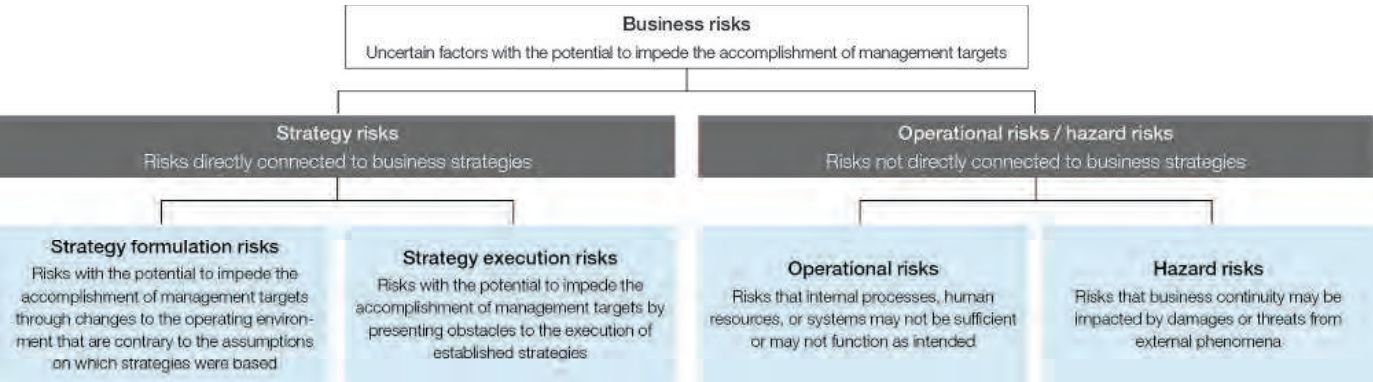
Promotion system

Important issues related to risk management are discussed and examined at the Risk Management Committee, which is an advisory body for the CEO. The Committee reports the results of deliberations on important management issues to the Management Committee and the Board of Directors. The Resonac Group has adopted a risk assessment, response, and review process that is compliant with the ISO 31000 standard. Once a year, a comprehensive identification of risks, including potential risks associated with business activities, and an evaluation of risks (risk inventory) are conducted at more than 140 frontline organizations, such as sections and groups. Results of risk inventory activities are reviewed at the site level by the top leadership of the respective division, plant, or Group company before being registered in the Group's risk management system. Registered risks may be identified as serious risks based on their potential frequency or degree of impact. The Risk Management Committee deliberates on the directions of countermeasures for identified serious risks and their appropriateness before reporting its findings to the Management Committee and the Board of Directors. The risk management departments of business sites then carry out the measures approved through this process. Of the risks examined by the Risk Management Committee, strategy risks are overseen by the CSO and the CFO, while operational and hazard risks are overseen by the CRO. These officers coordinate with business divisions to address the respective risks. Moreover, the perspective of risks management is installed within the scenario planning and business intelligence functions of the CSO, to effectively embed risk management into management strategies. The chief officer organizations act as risk oversight divisions by drafting risk scenarios and countermeasures for their respective areas of risk responsibility. Business divisions, meanwhile, take risk inventory of the subsidiaries they oversee. In these ways, risk management is conducted on a Groupwide scale.



Resonac's Definition of Risks

Resonac divides risks into three categories: strategy risks, operational risks, and hazard risks. Strategy risks are then further subdivided into risks of changes in the assumptions on which strategies are based and risks that the established strategies cannot be implemented as intended. Passive risk management based on the conventional focuses of safety and compliance will not be enough to ensure ongoing improvements in corporate value; it will also be necessary to engage in aggressive risk management that entails promoting appropriate risk taking. Based on this recognition, the newly integrated company will judge risks from a comprehensive perspective and reflect these judgments in management strategies.



Risk Inventory Activities

In 2021, the RSA Archer® Suite* was introduced as a shared tool for integrated management for use by both former Showa Denko and former Showa Denko Materials. This decision was made after a comparative assessment of the risk management systems of both companies. Approximately 3,000 serious risks from among the risks threatening both companies have been registered in this system. These risks were then categorized based on their potential frequency and degree of impact, to identify serious and priority risks. Risks that are judged to have both an incredibly high frequency and a potential degree of impact have been positioned as top risks. The risk phenomena and response plans for the top risks were discussed among the relevant divisions, with information shared, and reports were issued to the management committee. Moreover, the results of assessments through the system were shared with Companywide managers to help mitigate frontline risks.

* A risk management system provided by RSA Security LLC

Results of Serious Risk Assessments Conducted through Risk Inventories

(Identification and registration of Companywide serious risks)

Risks registered by former Showa Denko

1,136

Risks registered by former Showa Denko Materials

1,812

Total number
of risks registered

**Approx.
3,000**

Integrated risk management through increased
comprehensiveness via shared standards

Risk Map

Latest frequency assessment	Incredibly high	107	65	32	25
	High	203	157	Rated incredibly high in the latest frequency assessment Rated incredibly high in the latest impact assessment 25 risks	
	Medium	423	321	163	108
	Low	502	362	168	207
		Low	Medium	High	Incredibly high
		Latest impact assessment			

Top risks
identified through
frequency and
impact assess-
ments of approx.
3,000 serious
risks

Specific Risks and Countermeasures

Specific Risks and Countermeasures

Accidents	Information security risks	Supply chain risks (Natural disasters, infectious diseases, environmental and human rights issues, conflicts, trade friction, etc.)
Risk of impediments to product supply due to damages to the production facility or loss of employee safety as a result of accidents, etc.	Risk of leaks of confidential or personal information, halts to operation of internal systems due to cyberattacks, alteration of corporate websites, etc.	Risk of impediments to product supply due to damages to production facilities as a result of earthquakes, floods, or other natural disasters; pandemics; environmental or human rights issues; conflicts; or trade friction occurring in areas of the Company's supply chains
Countermeasures <ul style="list-style-type: none">• Extensive utilization of the safety management system• Analyses and training based on case studies of past accidents occurring inside and outside the Company, etc.	Countermeasures <ul style="list-style-type: none">• Training programs to improve information security awareness• Measures to prevent information security incidents• Response measures to limit the impact of incidents, etc.	Countermeasures <ul style="list-style-type: none">• Preemptive identification of multiple risks and implementation of swift response measures• Establishment of risk mitigation regulations and rules, and dissemination to business partners• Identification of priority products, establishment of business continuity plan manuals, institution of training programs, etc.

Enhancement of business continuity plans (BCPs)

We at the Resonac Group are aware of the importance of ensuring our business continuity as our responsibility as a supplier, recognizing the fact that the availability of our products has an impact on society at large. While expanding our business domain, we have been making BCPs based on the idea that we need to build a business system that is highly resistant to disasters and other crises both in Japan and overseas.

We make specific BCPs in consideration of the features of each of our businesses and products and work to implement equipment-related measures and build systems for disaster control and mitigation, and improve stockpiling plans in preparation against possible disasters, and to clarify and solve problems by continuing the aforementioned “risk inventory” activity to make risk assessments. We are thereby managing our business in a manner that enables us to continue it while giving first priority to people’s lives. Moreover, we regularly conduct drills to foster collaboration for BCPs between the divisions, plants and Group companies, through which participants can share the lessons learned, problems and best practices. We also incorporate the findings made through the drills in our BCPs.

Information Security

- ☐ Evaluation of the Board of Directors' Effectiveness
- ☐ Risk Management
- ☒ [Information Security](#)
- ☐ Compliance
- ☐ Anti-corruption

Basic ideas and policies

The Resonac Group has established information security rules to be applied across the company both in Japan and outside the country to maintain and improve its level of information security. We handle our own information assets and those entrusted to us by those outside the company in strict compliance with the rules under the leadership of the Chief Digital Officer (CDO), who is in charge of information security across the board. We thereby protect such information assets from various threats and treat them appropriately regarding information security.

Management system

We have a department devoted to information management and protection, have established an information security system to be operated organizationally on a company-wide basis, and have clarified the roles and responsibilities to be fulfilled under the system. Moreover, we regularly evaluate our information security management system and measures for continuous improvement so that we can respond to changes in the management environment and society at large and ensure compliance with various laws and regulations with regard to information security.

Security measures

We set our basic information security measures to protect the Group's information assets from external threats, including using anti-virus software, conducting access control and limiting the use of external storage media, and have introduced these measures to our sites in Japan and abroad. We regularly monitor the implementation of these measures at the sites.

Employee education

We provide all employees with e-learning opportunities, including training with regard to targeted e-mail attacks, with a view toward helping them to increase their information security awareness and prepare against more skillful targeted attacks.

Management of outsourcing companies

Before outsourcing operations to other companies, we check their information security risk-related education, enlightenment and initiative levels to confirm that they are on par with the Resonac Group in terms of information security.

Compliance

- ☐ Evaluation of the Board of Directors' Effectiveness
- ☐ Risk Management
- ☐ Information Security
- ☐ [Compliance](#)
- ☐ Anti-corruption

Basic ideas and policies

The Resonac Group believes that compliance provides the basis of its business continuity and is essential for the achievement of its vision. Accordingly, we comply with social norms of each country and region, and corporate ethics as well as laws and regulations. In addition, we are implementing the system and conducting a range of activities to spread ethical values based on honesty, impartiality, and integrity.

Resonac Group Hotline

We operate the Resonac Group Hotline so as to be able to detect from across the Resonac Group any incidents of noncompliance or unfair and other behaviors that contravene corporate ethical standards at an early stage in order to resolve them.

Employees can make a report via Resonac website and intranet as well as through the external law firm designated by the company. Not only Group employees but also all other stakeholders, including suppliers and local residents, can make reports to the Group through the hotline. We operate the Resonac Group Hotline so as to be able to detect from across the Resonac Group any incidents of noncompliance or unfair and other behaviors that contravene corporate ethical standards at an early stage in order to resolve them.

Employees can make a report via Resonac website and intranet as well as through the external law firm designated by the company. Not only Group employees but also all other stakeholders, including suppliers and local residents, can make reports to the Group through the hotline.

For all staff of Group companies, we have also been providing a multilingual hotline service (external service in 24 languages). The hotline service can be used anonymously, and we clearly state that we respect the privacy of service users and prohibit any disadvantageous treatment of users by their companies. For each of the reports made to the hotline internally and via the external contact, we talk to the company/site in question, and the department in charge conducts a survey on the issue to confirm the facts. If noncompliance with laws, regulations and others is confirmed as a result of the survey, we promptly take corrective actions. For serious issues, reports are made to the Board of Directors, including details of the internal report made to the hotline, the survey, corrective actions, and measures to be taken to prevent the recurrence of similar problems.

The secretariat of the Resonac Group Hotline received 99 reports and requests for consultation in 2021. After prompt and careful investigation of the details, we took corrective measures as necessary. Regarding the cases of harassment, including those involving sexual harassment and abuse of power, which account for about 50% of the cases for which requests for consultation were made, we conduct relevant training for managers of Group companies toward the reduction of such cases.

 [Resonac Group Hotline](#)

Tax compliance

The Resonac Group set the tax code of conduct based on the recognition that it is one of the social responsibilities of an enterprise to contribute to society's growth through tax payment in all countries and regions where it conducts business activities. We will make appropriate and prompt responses to the taxation system and regulations of each country and region, while continuing to provide employees with training to maintain and raise their tax compliance awareness.

Related link

 [Tax Code of Conduct](#)

Compliance education

The Resonac Group annually translates the Group CEO's message for Corporate Ethics Month into multiple languages to share it with Group employees both in and outside Japan. In 2021, based on Our Code of Conduct, which was revised in 2020, and with a focus on themes familiar to each workplace, we held workplace meetings to talk about how we felt in our daily operations and what we needed to pay attention to with regard to ethics and compliance.

Anti-corruption

- ☐ Evaluation of the Board of Directors' Effectiveness
- ☐ Risk Management
- ☐ Information Security
- ☐ Compliance
- ☐ [Anti-corruption](#)

Basic ideas and policies

The Resonac Group takes the expectations of all stakeholders seriously and is committed to fulfilling its promises to them in a sincere manner. In all countries and regions, we will eliminate acts of corruption, such as breach of loyalty, abuse of authority, forcible transactions using undue influence, bribery, embezzlement, concealment, obstruction of justice, and money laundering as well as other unfair and anti-social actions. We clearly state our policies on "Anti-corruption" and "Compliance with competition laws" in the respective sections of Our Code of Conduct, which sets out the basic behavioral rules that all Group employees are expected to follow when performing their day-to-day duties. Moreover, we work to ensure the implementation of the policies by all employees.

Compliance with anti-bribery laws and regulations, and prevention of corruption

Bribery of public servants, etc. (including executives and employees of companies under substantial control of national and local governments, executives and employees of public international organizations, candidates for public office and others) or executives and employees of companies in the private sector and the compulsion, offer, and inducement to bribe are acts that cause corruption in national economy and politics, and prevent the sustainable growth of the international community. The Resonac Group has formulated the Resonac Group's Global Anti-Bribery Policy, and we are implementing drastic measures to comply with anti-bribery laws and regulations enforced in each country. The Resonac Group has also been holding an e-learning seminar to provide basic knowledge on bribery to its employees in Japan and abroad, and a total of over 800 employees have participated so far. Through this e-learning seminar, we clearly explain that it is a violation of the bribery regulations enforced in each country and of the Group's internal rules to provide government officials or executives/employees of companies in the private sector with excessive entertainment or gifts, either directly or through third parties, for the purpose of unfairly obtaining sales orders or to receive entertainment or gifts, engage in collusion or make facilitation payments for such purpose. The Group also educates employees on how to avoid bribery-related risks.

Also, for the provision of benefits and exchange/entertainment opportunities that do not constitute bribery, we conduct sufficient examinations as to the reason why we need to provide them, recognizing that providing them for the purpose of making profit unfairly may lead to corruption. Moreover, we prohibit, in principle, individual employees and workplaces from accepting any money or gifts from suppliers and other related parties. Specifically, we prohibit in our in-house rules the provision and receipt of benefits, exchange/entertainment opportunities, and gifts that could be suspected as being intended to produce unfair profit. We also set an upper limit on the amount of money that can be spent for the purpose of socializing, thereby preventing the provision of excessive benefits. We have also set an approval process for the provision of such benefits.

Furthermore, we are enhancing anti-corruption measures targeting businesses and transactions with high corruption-related risks. In particular, for transactions with governmental agencies, we ensure through internal audits that no form of bribery—including the provision and receipt of entertainment or gifts—collusion or embezzlement has occurred. In addition, through the Sustainable Procurement Guidelines, we raise the awareness of all our suppliers, agents, consultants, distributors and other intermediaries about Resonac's anti-corruption policy, which prohibits the entertaining of government officials and giving/receiving of inappropriate benefits. Also, in the self-check questionnaire on CSR that we ask suppliers to fill out, we include questions about corruption risks to evaluate the suppliers in regard to such risks and prevent their materialization.

- ☐ Resonac Global Anti-Bribery Policy
- ☐ Resonac Sustainable procurement Guidelines

Compliance with competition laws

For complying with competition laws, which are designed to ensure fair and open competition, in each country, we formulated our own anti-cartel rules in 2010 and have been implementing the rules to control cartel risks appropriately in our daily business operations. Also, since 1999, we have been carrying out internal audits every year to check for illegal sales activities to ensure compliance with competition laws and reported the results to top management. We also published a range of guidelines, including the handbook on antimonopoly laws for sales personnel, the Antitrust Compliance Guideline, and the Compliance Program of EU Competition Laws, with an eye to raising employees' compliance awareness regarding competition laws across the Group. Furthermore, we have been holding an annual seminar on competition laws for the Group's sales personnel (including national staff of Group companies outside Japan), inviting external experts in competition law to serve as lecturers. (Cancelled in 2020 due to the COVID-19 pandemic)

Data Collection

<input type="radio"/> ESG Performance Data
<input type="radio"/> Editorial Policies / Report Scope
<input type="radio"/> Third-party Verification
<input type="radio"/> List of Data Collection Boundaries
<input checked="" type="radio"/> List of Declarations and Certifications
<input type="radio"/> External Evaluation
<input type="radio"/> GRI Sustainability Reporting Guideline

ESG Performance Data

- ☒ [ESG Performance Data](#)
- ☐ Editorial Policies / Report Scope
- ☐ Third-party Verification
- ☐ List of Data Collection Boundaries
- ☐ List of Declarations and Certifications
- ☐ External Evaluation
- ☐ GRI Sustainability Reporting Guideline

Environment, society and governance (ESG)-related data are posted in this website section. Data for fiscal 2017 to fiscal 2021 as well as for fiscal 2021 are posted for former Showa Denko and former Showa Denko Materials, respectively. The data can be downloaded in Excel/PDF format.

For the scope of data collection, please refer to [List of Data Collection Boundaries](#).

We receive third-party verification for environment- and safety-related data. For details, please refer to [the “Third-party Verification” section](#).

For former Showa Denko Materials’ data for fiscal 2019 and before, details are disclosed in [Showa Denko Materials Sustainability Databook 2020](#)

Environment

Society

Governance

<

Prevention
of global

Resource
recycling

Pollution
prevention

>

Former Showa Denko



Former Showa Denko Materials



Former Showa Denko



		2017	
Energy consumption (crude oil equivalent)	Ten thousand kl	158	
Scope1(energy source origin) ①	kt-CO ₂ e	2,901	
Scope1(non-energy source origin) ②	kt-CO ₂ e	100	
Scope1(6gass total) ③	kt-CO ₂ e	56	

Former Showa Denko

		2017	2018	2019	2020	2021
Energy consumption (crude oil equivalent)	Ten thousand kl	158	147	146	142	135
Scope1(energy source origin) ①	kt-CO ₂ e	2,901	2,955	3,001	2,979	2,911
Scope1(non-energy source origin) ②	kt-CO ₂ e	100	96	91	41	46
Scope1(6gass total) ③	kt-CO ₂ e	56	45	43	45	44
Scope1(CH ₄)	kt	1	1	1	1	1
Scope1(N ₂ O)	kt	6	5	5	5	5
Scope1(PFC)	kt	26	25	27	35	33
Scope1(HFC)	kt	23	14	10	9	11
Scope1(SF ₆)	kt	0	0	0	0	0
Scope1(NF ₃)	kt	0	0	0	0	0
Scope1(total) ①+②+③	kt-CO ₂ e	3,056	3,095	3,135	3,064	3,001
Scope2 (energy source origin)	kt-CO ₂ e	597	322	284	236	282
Total (Scope1,Scope2)	kt-CO ₂ e	3,654	3,416	3,419	3,300	3,283
GHG emissions intensity (GHG emissions/Energy consumption(crude oil equivalent))	t-CO ₂ e/kl	2.42	2.43	2.42	2.39	2.43
Transportation sector's CO ₂ emissions	kt	24.6	23.1	20.6	19.0	19.3
Unit energy consumption rate for transport	kl per million ton-km	22.4	22.0	21.4	21.3	22.2
Freight ton-km	million ton-km	415	397	364	337	328

Notes

1.Scope1(CH₄) - Includes values less than 3kt that are not subject to warm-to-war method aggregation

2.Scope1(N₂ O) - Includes values less than 3kt that are not subject to warm-to-war method aggregation

3.GHG emissions intensity (GHG emissions/Energy consumption(crude oil equivalent)) - The greenhouse gas emission intensity is the value obtained by dividing the greenhouse gas emission amount by the energy consumption (crude oil equivalent).

4.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Former Showa Denko

		2017	2018	2019	2020	2021
Tap water	thousand m³	410	419	442	402	387
Groundwater	thousand m³	10,960	10,916	11,196	11,357	11,393
Surface water (rivers)	thousand m³	3,004	2,958	2,545	2,923	2,872
Seawater	thousand m³	366,006	352,020	367,000	368,193	381,741
Water supplied from other organizations	thousand m³	45,355	43,447	44,655	43,956	43,023
Total	thousand m³	425,735	409,760	425,838	426,830	439,419
Water usage (excluding seawater)	ten thousand m³	5,947	5,775	5,884	5,905	5,768
Water usage (excluding seawater) (consolidated)	ten thousand m³	6,305	6,300	6,357	6,297	6,148
Displacement (sea)	thousand m³	17,660	16,365	16,615	15,542	17,156
Displacement (river)	thousand m³	14,561	15,800	15,735	17,050	14,538
Displacement (lake)	thousand m³	837	812	793	691	423
Displacement (sewer)	thousand m³	0	0	0	0	1
Total amount of drainage	thousand m³	33,057	32,976	33,141	33,283	32,118
Amount of industrial waste generated	t	116,926	118,414	109,580	110,354	111,149
External emissions of industrial waste	t	37,311	41,466	41,100	42,424	47,041
Final landfill disposal amount of industrial waste	t	448	378	385	300	435
Final landfill rate of industrial waste	%	0.38	0.32	0.35	0.27	0.39
Effective use of industrial waste externally (reuse)	t	-	-	3,633	2,955	3,698
Effective use of industrial waste externally (raw material)	t	-	-	14,443	16,147	17,414
Effective use of industrial waste externally (fuel conversion)	t	-	-	1,666	2,468	2,803
Effective use of industrial waste externally (others)	t	-	-	1,059	1,160	1,557
Effective use of industrial waste externally total	t	21,622	22,883	20,802	22,730	25,472
Effective utilization rate of waste plastic	%	65.7	65.7	68.6	74.7	75.7

Notes
1.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Former Showa Denko

		2017	2018	2019	2020	2021
Water discharge (COD)	t	364	365	380	338	370
Water discharge (total phosphorus)	t	8	8	9	9	10
Water discharge (total nitrogen)	t	459	457	452	422	481
Nikkakyo PRTR Target Substances: Atmospheric Emissions	t	561	542	628	500	268
Nikkakyo PRTR Target Substances Water Emissions	t	16	16	15	13	13
Total emissions of substances subject to Nikkakyo PRTR	t	577	558	643	513	280
Hazardous air pollutant emissions (VOC) emissions	t	15	17	13	13	13
Air Environmental Hazardous Substance Emissions (SOx)	t	330	376	266	215	207
Air Environmental Hazardous Substance Emissions (NOx)	t	1,345	1,310	1,384	1,375	1,446
Soot and dust	t	72	66	58	38	55

Notes

1. Water discharge (COD) - No discharge to sewer

2. Water discharge (total phosphorus) - No discharge to sewer

3. Water discharge (total nitrogen) - No discharge to sewer

4. If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Former Showa Denko

		2017	2018	2019	2020	2021
Environmental accounting Capital investment total	MJPY	1,560	2,708	3,392	982	1,376
Environmental accounting costs total	MJPY	3,488	3,815	5,590	3,270	3,253
Environmental accounting financial effect total	MJPY	851	697	524	533	532
Number of violations of laws and regulations related to environmental pollution (Fines and other penalties) (consolidated)	Cases	0	0	0	0	0
Serious noncompliance regarding water-related permits, standards and rules	Cases	0	0	0	0	0

Notes

1.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Supplied by ©  **EUROLAND** EUROPEAN

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Energy consumption (crude oil equivalent)	Ten thousand kl	-	-	-	-	9
Scope1(energy source origin)	kt-CO ₂ e	-	-	-	50	54
Scope1(non-energy source origin)	kt-CO ₂ e	-	-	-	9.88	11.40
Scope1(6gass total)	kt-CO ₂ e	-	-	-	0.10	0.11
Scope1(CH ₄)	kt	-	-	-	0	0
Scope1(N ₂ O)	kt	-	-	-	0	0
Scope1(SF ₆)	kt	-	-	-	0	0
Scope2 (energy source origin)	kt-CO ₂ e	-	-	-	117	134
Total	kt-CO ₂ e	-	-	-	177	199
Greenhouse gas emission intensity * 1	t-CO ₂ e/kl	-	-	-	-	-
CO ₂ emissions in the transportation sector	kt-CO ₂ e	-	-	-	-	12
Transport energy consumption intensity	kl per million ton-km	-	-	-	-	168
Transport ton kilo	million ton-km	-	-	-	-	46

- Notes**
- 1.Scope1(CH₄) - Includes values less than 3kt that are not subject to warm-to-war method aggregation
 - 2.Scope1(N₂ O) - Includes values less than 3kt that are not subject to warm-to-war method aggregation
 - 3.Greenhouse gas emission intensity * 1 - The greenhouse gas emission intensity is the value obtained by dividing the greenhouse gas emission amount by the energy consumption (crude oil equivalent).
 - 4.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Supplied by ©  EUROLAND.com[®]

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Tap water	thousand m ₃	-	-	-	-	361
Groundwater	thousand m ₃	-	-	-	-	2,202
Surface water (rivers)	thousand m ₃	-	-	-	-	0
Seawater	thousand m ₃	-	-	-	-	0
Water supplied from other organizations	thousand m ₃	-	-	-	-	2,736
Total	thousand m ₃	-	-	-	-	5,298
Water usage (excluding seawater)	ten thousand m ₃	-	-	-	-	530
Displacement (sea)	thousand m ₃	-	-	-	-	-
Displacement (river)	thousand m ₃	-	-	-	-	-
Displacement (sewer)	thousand m ₃	-	-	-	-	-
Total amount of drainage	thousand m ₃	-	-	-	-	5,072
Amount of industrial waste generated	t	-	-	-	-	20,567
External emissions of industrial waste	t	-	-	-	-	15,343
Final landfill disposal amount of industrial waste	t	-	-	-	-	38
Final disposal rate of industrial waste	%	-	-	-	-	0.18
Effective use of industrial waste externally	t	-	-	-	-	9,147

Notes
1.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Water discharge (COD)	t	-	-	-	-	17
Water discharge (BOD)	t	-	-	-	-	7
Water discharge (total phosphorus)	t	-	-	-	-	0
Water discharge (total nitrogen)	t	-	-	-	-	7
Nikkakyo PRTR Target Substances: Atmospheric Emissions	t	-	-	-	-	108
Nikkakyo PRTR Target Substances Water Emissions	t	-	-	-	-	0.00
Total emissions of substances subject to Nikkakyo PRTR	t	-	-	-	-	108
Hazardous air pollutant emissions (VOC) emissions	t	-	-	-	-	0
Air Environmental Hazardous Substance Emissions (SOx)	t	-	-	-	-	6
Air Environmental Hazardous Substance Emissions (NOx)	t	-	-	-	-	302
Atmospheric environmentally friendly substance emissions (dust)	t	-	-	-	-	55

Notes

1.Water discharge (total phosphorus) - No discharge to sewer

2.Water discharge (total nitrogen) - No discharge to sewer

3.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Environmental accounting Capital investment total	MJPY	-	-	-	-	1,153
Environmental accounting costs total	MJPY	-	-	-	-	6,166
Environmental accounting financial effect total	MJPY	-	-	-	-	1,152
Number of violations of laws and regulations related to environmental pollution (consolidated)	Cases	-	-	-	-	0
Serious noncompliance regarding water-related permits, standards and rules	Cases	-	-	-	-	0

Notes

1.If there is no note, Former Showa Denko is a domestic group connection (excluding Former Showa Denko Materials), and Former Showa Denko Materials is a single data.

Supplied by ©  **EUROLAND** com [®]

Former Showa Denko

		2017	2018	2019	2020	2021
Male	persons	3,198	2,919	2,995	3,060	2,852
Female	persons	418	428	442	455	446
Single unit total	persons	3,616	3,347	3,437	3,515	3,298
Domestic group company (Male)	persons	2,147	2,160	2,172	2,008	1,804
Domestic group company (Female)	persons	324	336	342	320	263
Domestic group companies total	persons	2,471	2,496	2,514	2,328	2,067
Overseas group companies (Male)	persons	3,599	3,526	3,695	3,673	3,192
Overseas group companies (Female)	persons	1,178	1,107	1,167	1,117	1,071
Overseas group companies total	persons	4,777	4,633	4,862	4,790	4,263
Consolidated (Male)	persons	8,944	8,605	8,862	8,741	7,848
Consolidated (Female)	persons	1,920	1,871	1,951	1,892	1,780
Consolidated (Female ratio)	%	17.7	17.9	18.0	17.8	18.5
Consolidated total	persons	10,864	10,476	10,813	10,633	9,628
By region (Japan) (consolidated)	persons	-	-	-	5,843	5,365
By region (Asia) (consolidated)	persons	-	-	-	3,759	3,303
By region (others)) (consolidated)	persons	-	-	-	1,031	960
Overseas employee ratio(consolidated)	%	44.0	44.2	45.0	45.0	44.3
Number of employees (under 20s)	persons	777	747	784	795	673
Number of employees (30s)	persons	804	736	762	776	744
Number of employees (40s)	persons	1,240	1,067	1,101	1,057	940
Number of employees (Over 50s)	persons	764	767	790	887	936
The average age	age	40.0	39.9	40.1	40.2	41.1
Number of managers (Male)	persons	724	684	683	696	654
Number of managers (Female)	persons	28	33	35	39	39
Number of managers (Total)	persons	752	717	718	735	693
Percentage of female managers	%	3.7	4.6	4.9	5.3	5.6
Number of managers (Male)	persons	1,464	1,416	1,457	1,444	1,283
Number of managers (Female)	persons	121	127	137	136	120
Number of managers (Total)	persons	1,585	1,543	1,594	1,580	1,403
Percentage of female managers	%	7.6	8.2	8.6	8.6	8.6
Number of people with disabilities	persons	136	114	125	126	128
Employment rate of people with disabilities	%	2.64	2.39	2.28	2.29	2.36

Notes
1. By region (Asia) (consolidated) - Excluding Japan
2. Number of managers (Male) - Manager or above
3. Number of managers (Female) - Manager or above
4. Number of managers (Total) - Manager or above
5. Percentage of female managers - Manager or above
6. Number of managers (Male) - Manager or above
7. Number of managers (Female) - Manager or above
8. Number of managers (Total) - Manager or above
9. Percentage of female managers - Manager or above
10.If there is no note, it will be single data.
11.Former; Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

Former Showa Denko

		2017	2018	2019	2020	2021
Number of newly hired employees (Male)	persons	78	116	126	129	57
Number of newly hired employees (Female)	persons	14	25	22	24	13
Number of newly hired employees (Total)	persons	92	141	148	153	70
Ratio of female in newly hired employees	%	15.2	17.7	14.9	15.7	18.6
Training hours per new career-track employee	hours	-	-	56	32	41
Number of employees hired through the mid-career recruitment(Male)	persons	17	80	83	38	16
Number of employees hired through the mid-career recruitment (Female)	persons	3	21	13	7	3
Number of employees hired through the mid-career recruitment (Total)	persons	20	101	96	45	19
Mid-career recruitment ratio	%	-	41.7	39.3	22.7	19.3
Average years employed by the company (Male)	years	17.0	16.8	16.8	16.8	17.6
Average years employed by the company (Female)	years	13.8	12.5	12.6	12.7	13.6
Average years employed by the company (Total)	years	16.9	16.6	16.3	16.3	17.1
Number of voluntary turnover	persons	67	59	49	52	58
Voluntary turnover rate	%	1.85	1.76	1.43	1.48	1.76
Number of reemployed employees	persons	359	284	275	246	218
Ratio of reemployed employees	%	83.0	78.4	89.2	94.7	93.2
Working hours (per employee per year)	hours	2,011.9	2,013.5	1,963.4	1,961.0	1,990.7
The average over time work per month	hours	18.8	18.9	16.8	15.7	17.8
Number of days of annual leave taken per person	days	13.8	13.6	14.3	13.9	14.6
Number of days of annual leave granted per person	days	19.4	19.4	19.3	19.4	19.5
Annual leave acquisition rate	%	71.1	70.1	74.1	71.6	74.9
Training time per person who attends group training	hours	-	-	30.3	16.2	14.1
Average monthly wage (Male)	yen	314,638	315,015	324,165	326,846	331,005
Average monthly wage (Female)	yen	293,266	290,641	301,093	304,400	307,409

Notes

- 1. Number of newly hired employees (Male) - Data revised back to 2018
- 2. Number of newly hired employees (Female) - Data revised back to 2018
- 3. Number of newly hired employees (Total) - Data revised back to 2018
- 4. Ratio of female in newly hired employees - Data revised back to 2018
- 5. Training hours per new career-track employee - Average hours of attendance among career-track employees at the head office (in their 1st to 5th years at the company)
- 6. Number of employees hired through the mid-career recruitment(Male) - Data revised back to 2018
- 7. Number of employees hired through the mid-career recruitment (Female) - Data revised back to 2018
- 8. Number of employees hired through the mid-career recruitment (Total) - Data revised back to 2018
- 9. Number of reemployed employees - Data revised back to 2018
- 10.Ratio of reemployed employees - Data revised back to 2018
- 11.Average monthly wage (Male) - Mager and minor career path
- 12.Average monthly wage (Female) - Mager and minor career path
- 13.If there is no note, it will be single data.
- 14.Former Showa Denko's domestic group and consolidated data do not include Former Showa Denko Materials' data.

Former Showa Denko

		2017	2018	2019	2020	2021
Childcare leave (Male)	persons	56	52	74	82	64
Childcare leave(Female)	persons	24	18	24	32	30
Childcare leave (Total)	persons	80	70	98	107	94
Ratio of taking childcare leave (Male)	%	31.7	55.2	63.6	86.3	79.0
Ratio of taking childcare leave (Female)	%	100	90	100	100	100
Number of days of child care leave (Male)	days	7	6	7	7	15
Number of days of child care leave (Female)	days	371	350	345	307	329
Ratio of reinstated employees to those who took childcare leave	%	100	100	100	100	100
Family care leave (Male)	persons	2	0	0	0	0
Family care leave (Female)	persons	1	0	1	1	0
Family care leave (Total)	persons	3	0	1	1	0
Shortened working hours for childcare/family care (Male)	persons	0	0	0	0	3
Shortened working hours for childcare/family care(Female)	persons	33	45	57	41	53
Shortened working hours for childcare/family care(Total)	persons	33	45	57	41	56
Number of unionized Employees	persons	2,832	2,590	2,678	2,760	2,561
Percentage of unionized Employees(Percentage of those with the right to collective bargaining)	%	78.3	77.4	77.9	78.5	77.7

Notes

1.If there is no note, it will be single data.

2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

3.The number of employees taking childcare leave, the number of days taken, and the rate of taking childcare leave are counted including employees who have not born children during the year.

Former Showa Denko

		2017	2018	2019	2020	2021
Number of incidents resulting in non-lost-time injuries (including those of partner companies)	Cases	1	5	4	8	7
Number of incidents resulting in lost-time injuries within the Group	Cases	3	1	8	1	2
Number of incidents resulting in fatal accidents within the Group	Cases	0	0	0	0	0
Number of incidents resulting in lost-time injuries at partner companies	Cases	4	3	7	2	3
Number of incidents resulting in fatal accidents at partner companies	Cases	0	0	1	0	0
Infrequency rate of lost-time injuries		0.22	0.07	0.59	0.08	0.16
Employee health checkup rate	%	-	-	100	100	100
Percentage of employee BMI (18.5 or more and less than 25) at health checkup	%	-	-	64.1	63.3	63.8
Employee stress check exam rate	%	-	-	96.5	92.0	95.1

Notes
 1.If there is no note, the data will be for domestic group consolidation.
 2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

Former Showa Denko

		2017	2018	2019	2020	2021
Number of partner visit (CSR Visit)	cases	39	39	46	41	41
Annual numbers of complaints about quality	cases	117	80	51	25	14
Annual numbers of complaints about quality (consolidated)	cases	-	-	-	-	55
Total social contribution activity costs excluding personnel costs	thousand yen	-	-	158,882	43,089	29,591
Education-related: Offering guided plant tours	persons	-	2,522	1,628	346	424
Political donation	million yen	8.6	8.7	9.0	7.9	7.8

Notes

1.If there is no note, the data will be for domestic group consolidation.

2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

3.Social contribution activity costs were calculated based on the Keidanren standard. The cost of former; Showa Denko in 2019 has been retroactively revised.

Supplied by ©  **EUROLAND** COM

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Number of newly hired employees (Male)	persons	68	77	86	103	64
Number of newly hired employees (Female)	persons	25	34	26	27	18
Number of newly hired employees (Total)	persons	93	111	112	130	82
Ratio of female in newly hired employees	%	26.9	30.6	23.2	20.8	22.0
Training hours per new career-track employee	hours	-	-	-	54	40
Number of employees hired through the mid-career recruitment(Male)	persons	-	-	30	39	73
Number of employees hired through the mid-career recruitment (Female)	persons	-	-	12	25	19
Number of employees hired through the mid-career recruitment (Total)	persons	-	-	42	64	92
Mid-career recruitment ratio	%	-	-	27.3	32.0	52.9
Average years employed by the company (Male)	years	18.9	18.9	19.0	19.1	19.4
Average years employed by the company (Female)	years	14.2	14.2	14.4	15.0	15.8
Average years employed by the company (Total)	years	18.9	18.9	19.0	18.6	18.9
Number of voluntary turnover	persons	-	-	-	124	127
Voluntary turnover rate	%	-	-	-	2.08	2.04
Number of reemployed employees	persons	-	-	-	175	88
Ratio of reemployed employees	%	-	-	-	82.5	76.5
Working hours (per employee per year)	hours	-	-	-	1,978.7	2,009.4
The average over time work per month	hours	-	-	-	22.9	25.3
Number of days of annual leave taken per person	days	-	-	-	16.5	16.7
Number of days of annual leave granted per person	days	-	-	-	23.9	23.8
Annual leave acquisition rate	%	-	-	-	69.0	70.2
Training time per person who attends group training	hours	-	-	-	14.6	17.1
Average monthly wage (Male)	yen	-	-	-	295,368	300,534
Average monthly wage (Female)	yen	-	-	-	264,684	276,147

Notes
1.Training hours per new career-track employee - Average hours of attendance among career-track employees at the head office.
2.Average monthly wage (Male) - Mager and minor career path
3.Average monthly wage (Female) - Mager and minor career path
4.If there is no note, it will be single data.
5.Former Showa Denko's domestic group and consolidated data do not include Former Showa Denko Materials' data.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Childcare leave (male)	persons	-	-	-	28	55
Childcare leave(female)	persons	-	-	-	84	89
Childcare leave (Total)	persons	40	43	46	112	144
Ratio of taking childcare leave (Male)	%	-	-	-	8.1	47.0
Ratio of taking childcare leave (Female)	%	-	-	-	100	100
Number of days of child care leave (Male)	days	-	-	-	7	12
Number of days of child care leave (Female)	days	-	-	-	114	112
Ratio of reinstated employees to those who took childcare leave	%	100	98	100	100	100
Family care leave (Male)	persons	-	-	-	4	0
Family care leave (Female)	persons	-	-	-	9	1
Family care leave (Total)	persons	-	-	-	13	1
Shortened working hours for childcare/family care (Male)	persons	-	-	-	3	3
Shortened working hours for childcare/family care(Female)	persons	-	-	-	158	174
Shortened working hours for childcare/family care(Total)	persons	-	-	-	161	177
Number of unionized Employees	persons	-	-	-	5,525	4,314
Percentage of unionized Employees(Percentage of those with the right to collective bargaining)	%	-	-	-	81.3	81.0

Notes

1.If there is no note, it will be single data.

2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

3.The number of employees taking childcare leave, the number of days taken, and the rate of taking childcare leave are counted including employees who have not born children during the year.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Number of incidents resulting in non-lost-time injuries (including those of partner companies)	Cases	-	-	-	16	6
Number of incidents resulting in lost-time injuries within the Group	Cases	4	5	5	1	3
Number of incidents resulting in fatal accidents within the Group	Cases	-	-	-	0	0
Number of incidents resulting in lost-time injuries at partner companies	Cases	-	-	-	1	0
Number of incidents resulting in fatal accidents at partner companies	Cases	-	-	-	0	0
Infrequency rate of lost-time injuries		-	-	-	0.00	0.09
Employee leave accident intensity rate		-	-	-	0.00	0.00
Employee health checkup rate	%	-	-	100	100	100
Percentage of employee BMI (18.5 or more and less than 25) in health examination (single)	%	-	-	-	56.5	59.0
Employee stress check exam rate	%	-	-	92.6	97.0	93.6

Notes
 1.If there is no note, the data will be for domestic group consolidation.
 2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Number of procurement transaction audits	companies	147	215	314	181	245
Annual numbers of complaints about quality	cases	-	-	-	-	346
Total cost of social contribution activities	thousand yen	262,805	170,730	127,642	52,732	57,312
Education-related: Offering guided plant tours	persons	-	-	-	60	2
Political donation	million yen	0.3	1.9	0.2	0.0	0.0

Notes

- 1.If there is no note, the data will be for domestic group consolidation.
- 2.Former Showa Denko's domestic group and consolidated data do not include former; Showa Denko Materials' data.
- 3.Social contribution activity costs were calculated based on the Keidanren standard. The cost of former; Showa Denko in 2019 has been retroactively revised.

Supplied by ©  EUROLAND.com[®]

Former Showa Denko

		2017	2018	2019	2020	2021
Number of requests for consultation received by the Corporate Ethics Hotline (Sexual harassment/Power harassment)	Cases	26	24	26	10	9
Number of requests for consultation received by the Corporate Ethics Hotline (Violation of compliance (Violation of laws))	Cases	0	2	4	32	1
Number of requests for consultation received by the Corporate Ethics Hotline (Others)	Cases	19	28	22	12	9
Number of requests for consultation received by the Corporate Ethics Hotline (Total)	Cases	45	54	52	54	19
Number of staff members dismissed due to noncompliance with the anti-bribery/corruption policies	persons	0	0	0	0	0
Number of violations of laws and regulations related to environmental pollution (Fines and other penalties)	Cases	0	0	0	0	0
Serious noncompliance regarding water-related permits, standards and rules	Cases	0	0	0	0	0
Number of Outside Directors Male	persons	3	3	3	3	3
Number of Outside Directors Female	persons	0	0	0	1	1
Number of Outside Directors Male Total	persons	9	9	9	9	9
Number of Outside Directors Female Total	persons	0	0	0	1	1

Notes
1.If there is no note, it will be concatenated data.
2.The number of outside directors and the number of directors are data only for the relevant company. The number of directors includes outside directors.

Former Showa Denko Materials

		2017	2018	2019	2020	2021
Number of requests for consultation received by the Corporate Ethics Hotline (Sexual harassment/Power harassment)	Cases	13	13	25	16	20
Number of requests for consultation received by the Corporate Ethics Hotline (Violation of compliance (Violation of laws))	Cases	16	27	51	54	51
Number of requests for consultation received by the Corporate Ethics Hotline (Others)	Cases	0	5	11	11	9
Number of requests for consultation received by the Corporate Ethics Hotline (Total)	Cases	29	45	87	81	80
Number of staff members dismissed due to noncompliance with the anti-bribery/corruption policies	persons	0	0	0	0	0
Number of Directors Male	persons	10	9	8	6	6
Number of Directors Female	persons	1	1	1	1	1
Number of Directors Total	persons	11	10	9	7	7

Notes

1.If there is no note, it will be concatenated data.

2.The number of outside directors and the number of directors are data only for the relevant company. The number of directors includes outside directors.

Editorial Policies/ Report Scope

- ☐ ESG Performance Data
- ☒ [Editorial Policies / Report Scope](#)
- ☐ Third-party Verification
- ☐ List of Data Collection Boundaries
- ☐ List of Declarations and Certifications
- ☐ External Evaluation
- ☐ GRI Sustainability Reporting Guideline

Editorial policies

In this Sustainability section of our official website, we are committed to posting information about our Group's initiatives including those for the environment, society and governance (ESG) and showcasing the Group's ideas, policies, systems, activity details and numerical data in an exhaustive manner.

In our integrated report, we publish both financial and nonfinancial information to help our stakeholders understand our Group's value creation story.

We invite you to read this report along with the Sustainability section of the website.

Related link

- ☐ [Integrated report](#)

Report scope

Publication date

As for sustainability information (in English), we made an annual update on August 31, 2022 to disclose the actual results for 2021. In addition, the information was updated in January 2023 when the Resonac Group was established. In order to provide our stakeholders with the latest information, we will continue to update it from time to time.

Period covered by this report

This report covers information for the period from January 1 to December 31, 2021, with some information also provided for April 1, 2021 to March 31, 2022.

Organizations covered by this report

All companies of the Resonac Group are covered, but if a limited range of items is included, that fact is clearly stated. Please check the boundary list for the boundaries of environmental and safety data.

Related link

- ☐ [List of Data Collection Boundaries](#)

Third-party certification of the performance data

Our environment- and safety-related performance data are annually certified by a third party.

Related link

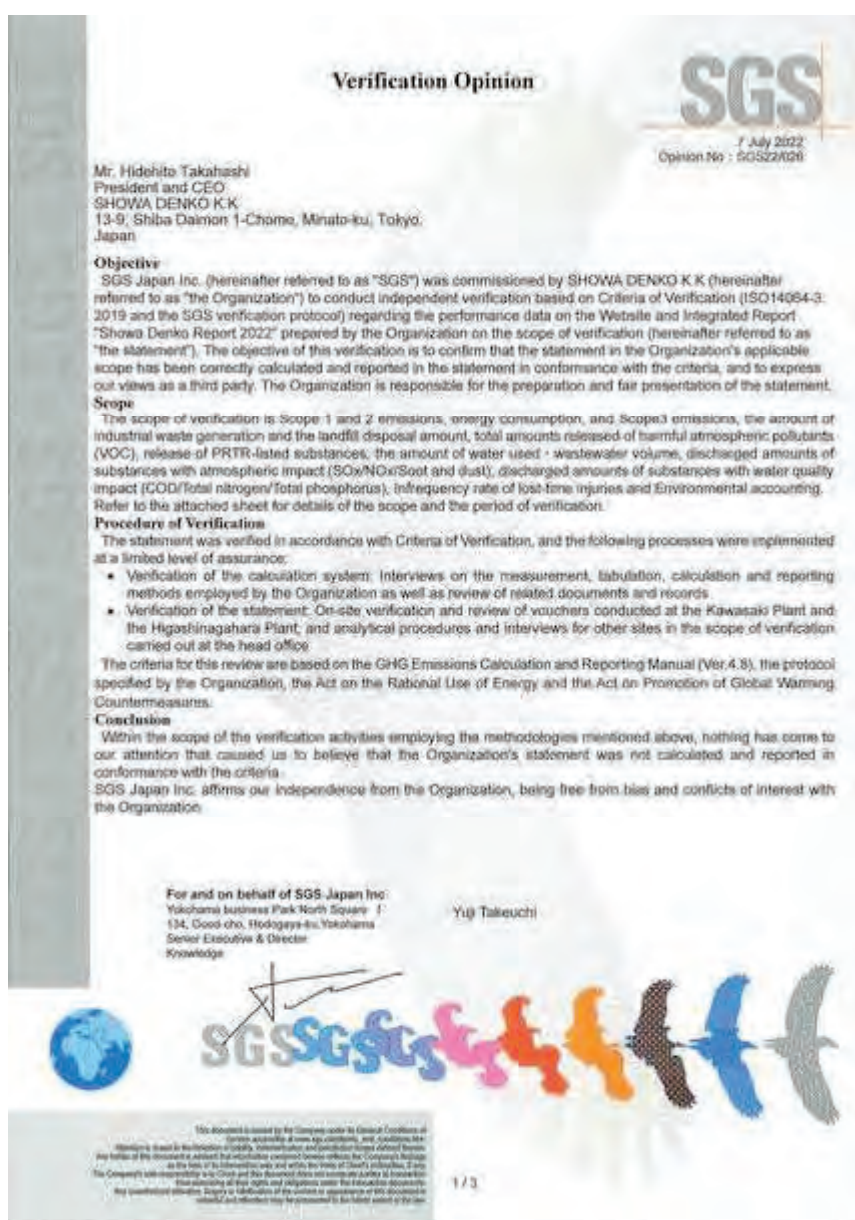
[○ Verification report by a third party](#)

Third-party Verification

- ESG Performance Data
- Editorial Policies / Report Scope
- [Third-party Verification](#)
- List of Data Collection Boundaries
- List of Declarations and Certifications
- External Evaluation
- GRI Sustainability Reporting Guideline

We receive third-party verification for our environment- and safety-related data from SGS Japan Inc. in July 2022.

- [Third-party Verification Report](#) 



List of Data Collection Boundaries

- ☐ ESG Performance Data
- ☐ Editorial Policies / Report Scope
- ☐ Third-party Verification
- ☐ [List of Data Collection Boundaries](#)
- ☐ List of Declarations and Certifications
- ☐ External Evaluation
- ☐ GRI Sustainability Reporting Guideline

“The Resonac Group”, “Resonac” or “the Group” as used in the text of this report refers to the entire Resonac Group. We use “the former Showa Denko” to refer to the Showa Denko Group before 2022 and “the former Showa Denko Materials” to refer to the Showa Denko Materials Group before 2022.

Click here for the scope of aggregation for data related to the environment and safety. (Because the data before 2022 is disclosed, the former company name is entered.)

- ☐ For the scope of environment- and safety-related data, please click here. 

List of Data Collection Boundaries (As of December 2021)

For details of organizations covered for each data item;

		a) CO2(energy source origin)/Scope1,2	Number of companies	b) CO2 and six greenhouse gas emissions (not from energy use)/Scope1	Number of companies	c-1) Water consumption	c-2) Water drainage (environmentally hazardous substance emissions are included in only the data of Japan)	c- 3) COD/N/P	d) Amount of industrial waste generated (landfill disposal amount)	e) VOC emissions	f) PRTR substance emissions	g) Amounts of substances with atmosphere (SOx, NOx, Soot and dust)	h) Transportation sector(CO2 emissions and energy consumption rate, Freight ton-km, Ratios for use of various modes of transport)	j) Environmental accounting
	Number of sites in Japan and abroad (Total)	52		31		62	56	32	61	10	32	29	15	15
Showa Denko (non-consolidated)		(16)	(1)	(16)	(1)	(16)	(16)	(15)	(16)	(6)	(13)	(13)	(15)	(15)
1	Oita Complex	○		○		○	○	○	○	○	○	○	○	○
2	Tokuyama Plant	○		○		○	○	○	○	○	○		○	○
3	Kawasaki Plant	○		○		○	○	○	○	○	○	○	○	○
4	Higashinagahara Plant	○		○		○	○	○	○	○	○	○	○	○
5	Yokohama Plant	○		○		○	○	○	○		○	○	○	○
6	Shiojiri Plant	○		○		○	○	○	○	○	○	○	○	○
7	Omachi Plant	○		○		○	○	○	○		○	○	○	○
8	Oyama Plant	○		○		○	○	○	○		○	○	○	○
9	Oyama Plant (Nasu)	○		○		○	○	○			○		○	○
10	Hikone Plant	○		○		○	○	○	○			○		○
11	Kitakata Plant	○		○		○	○	○	○		○	○	○	○
12	Ichihara Site	(※)		(※)		○	○	○	○		○	○	○	○
13	Chichibu Plant	○		○		○	○	○	○		○	○	○	○
14	Tatsuno Plant	○		○		○	○	○	○	○	○	○	○	○
15	Isesaki Plant	○		○		○	○	○	○		○	○	○	○
16	Institute for Integrated Product Development (Toke)	○		○		○	○		○					○
17	Process Solutions Center	○		○					○					
* Head Office (Aluminum Specialty Components Division, Metal Group)													○	

(※) included in the affiliates company

Subsidiaries of Showa Denko (in Japan)	(12+14)	(8)	(4+3)	(3)	(13+14)	(7+14)	(5+12)	(12+14)	(1+4)	(8+11)	(5+11)		
1 Tsurusaki Kyodo Doryoku Co., Ltd.	○	1			(included in Oita Complex)	(included in Oita Complex)		(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)	(included in Oita Complex)		
2 Showa Denko Gas Products Co. Ltd. (Kawasaki)	○	2	○	1	○	(excluded because there is no specific facility)		○					
3 Showa Denko Gas Products Co. Ltd. (Yokkaichi)	○	2	○	1	○	(excluded because there is no specific facility)		○		○			
4 Showa Denko Gas Products Co. Ltd. (Oita)	○	2	○	1	○	○	○						
5 Showa Denko Ceramics Co., Ltd.,(Toyama)	○	3			○	○	○	○		○	○		
6 Showa Denko Kenso Co., Ltd.								○		○			
7 Showa Denko Electronics K.K. (Ichihara)	○	4			(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)	(included in Ichihara site)		
8 Showa Denko HD Yamagata K.K. (Including Oyama Plant)	○	5	○	2	○	○		○			○		
9 Showa Denko Packaging Co., Ltd. (Hikone)	○	6			○			○		○	○		
10 Showa Denko Packaging Co., Ltd. (Isehara)	○	6			○			○		○			
11 Niigata Showa K.K.					○	○		○			○		
12 SunAllomer Co., Ltd. (Kawasaki)	○	7			○	○	○	○		○			
13 SunAllomer Co., Ltd. (Oita)	○	7			○	○	○	○		○			
14 SunAllomer Co., Ltd. Research and Development Division	○	7			○			○					
15 Union Showa K.K. (Yokkaichi)													
16 Union Showa K.K. (Aizu)													
17 Fuyo Perlite Co., Ltd.													
18 HIPACK Co.,LTD.													
19 Shoko Electronics Co., Ltd.													
20 Showa Denko Materials Co., Ltd. (14 sites)	○(14)	8	○(3)	3	○(14)	○(14)	○(12)	○(14)	○(4)	○(11)	○(11)		
Yamazaki Works (Yamazaki)	○				○	○	○	○		○	○		
Yamazaki Works (Sakuragawa)	○				○	○	○	○		○	○		
Yamazaki Works (Katsuta)	○				○	○	○	○		○	○		
Goi Works (Goi)	○				○	○	○	○		○	○		
Goi Works (Kashima)	○		○		○	○	○	○	○	○	○		
Goi Works (Noda)	○				○	○	○	○		○	○		
Goi Works (Tokushima-Anan)	○				○	○	○	○	○	○	○		
Shimodate Works (Simodate-MinamiYuki)	○		○		○	○	○	○	○	○	○		
Shimodate Works (Goshomiya)	○				○	○	○	○		○	○		
Matsudo Works (Matsudo)	○				○	○	○	○		○	○		
Matsudo Works (Katoni)	○				○	○	○	○		○	○		
Hikone Works	○		○		○	○	○	○	○	○	○		
Advanced Technology Research & Development Center (Tsukuba)	○				○	○		○					
Packaging Solution Center (Kawasaki)	○				○	○		○					

Subsidiaries of Showa Denko (outside Japan)	(10)	(10)	(8)	(8)	(19)	(16)		(18)					
1 Taiwan Showa ChemicalsManufacturing.co., Ltd. (including ShowaSpecialty Gas (Taiwan.) Co., Ltd.)	○	1	○	1	○	○		○	★About overseas Group companies: targeting the consolidated subsidiaries, but the scope of discharged amounts of greenhouse gases includes only sites				
2 Zhejiang Quzhou Juhua Showa EelectronicChemical Materials Co., Ltd.					○	○							
3 Shanghai Showa Highpolymer Co., Ltd.					○	○		○					
4 Showa Denko New Material (Zhejiang) Co.,Ltd.					○			○					
5 Showa Denko Carbon Inc.	○	2	○	2	○	○		○					
6 Showa Denko Sichuan Carbon Inc.	○	3	○	3	○			○					
7 SHOWA DENKO CARBON Austria GmbH	○	4	○	4	○	○		○					
8 SHOWA DENKO CARBON Spain S.A.	○	5	○	5	○	○		○					
9 SHOWA DENKO CARBON Malaysia Sdn.Bhd	○	6	○	6	○	○		○					
10 SHOTIC Europa Industria de Aluminio Lda.					○			○					
11 SHOTIC MALAYSIA Sdn. Bhd.	○	7			○	○		○					
12 Showa Aluminum ManufacturingPhilippines Corporation					○	○		○					
13 Showa Denko HD Singapore Pte Ltd.	○	8	○	7	○	○		○					
14 Showa Denko HD (Malaysia) Sdn. Bhd.	○	9			○	○		○					
15 Showa Denko HD Trace corp.	○	10	○	8	○	○		○					
16 Industrielack AG(ISW)					○	○		○					
17 Zhuhai Sunbright New Materials Co., Ltd.(GCZ)					○	○		○					
18 GMM Coatings Private Limited(GIA)					○	○		○					
19 ILAG RUI ZHONG NEW MATERIAL (SHANGHAI) CO.,LTD(ICQ)					○	○		○					

List of Data Collection Boundaries of Social data (As of December 2021)

i) Lost time incident rate

52 sites in Japan (Showa Denko (non-consolidated):13 sites, subsidiaries:39 sites (18 companies))

1	Showa Denko K.K.	Oita Complex
2	Showa Denko K.K.	Kawasaki site
3	Showa Denko K.K.	Higashinagahara Plant
4	Showa Denko K.K.	Tokuyama Plant
5	Showa Denko K.K.	Isesaki Plant
6	Showa Denko K.K.	Tatsuno Plant
7	Showa Denko K.K.	Chichibu Plant
8	Showa Denko K.K.	Omachi Plant
9	Showa Denko K.K.	Oyama Plant
10	Showa Denko K.K.	Institute for Integrated Product Development (Toke)
11	Showa Denko K.K.	Chiba Plant
12	Showa Denko K.K.	Hikone Plant
13	Showa Denko K.K.	Process Solutions Center
14	(Subsidiaries in Japan)	Tsurusaki Kyodo Doryoku Co., Ltd.
15	(Subsidiaries in Japan)	Union Showa K.K. (Yokkaichi)
16	(Subsidiaries in Japan)	Union Showa K.K. (Aizu)
17	(Subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Kawasaki)
18	(Subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Yokkaichi)
19	(Subsidiaries in Japan)	Showa Denko Gas Products Co. Ltd. (Oita)
20	(Subsidiaries in Japan)	HIPACK Co.,LTD.
21	(Subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Toyama)
22	(Subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Shiojiri)
23	(Subsidiaries in Japan)	Showa Denko Ceramics Co., Ltd.,(Yokohama)
24	(Subsidiaries in Japan)	Shinshu Showa K.K.
25	(Subsidiaries in Japan)	Showa Denko Kitakata Aluminum
26	(Subsidiaries in Japan)	Chichibu Showa Denko
27	(Subsidiaries in Japan)	Showa Denko Electronics K.K.,
28	(Subsidiaries in Japan)	Showa Denko Packaging Co., Ltd. (Hikone)
29	(Subsidiaries in Japan)	Niigata Showa K.K.
30	(Subsidiaries in Japan)	SunAllomer Co., Ltd. (Kawasaki)
31	(Subsidiaries in Japan)	SunAllomer Co., Ltd. (Oita)
32	(Subsidiaries in Japan)	SunAllomer Co., Ltd.Research and Development Division
33	(Subsidiaries in Japan)	Showa Denko Kenso Co., Ltd.
34	(Subsidiaries in Japan)	Showa Denko HD Yamagata K.K. (Head Office)
35	(Subsidiaries in Japan)	Showa Denko HD Yamagata K.K. (Oyama Plant)
36	(Subsidiaries in Japan)	Showa Denko Packaging Co., Ltd. (Isehara)
37	(Subsidiaries in Japan)	Fuyo Perlite Co., Ltd.
38	(Subsidiaries in Japan)	Shoko Electronics Co., Ltd.
39	Showa Denko Materials Co., Ltd.	Yamazaki Works (Yamazaki)
40	Showa Denko Materials Co., Ltd.	Yamazaki Works (Sakuragawa)
41	Showa Denko Materials Co., Ltd.	Yamazaki Works (Katsuta)
42	Showa Denko Materials Co., Ltd.	Goi Works (Goi)
43	Showa Denko Materials Co., Ltd.	Goi Works (Kashima)
44	Showa Denko Materials Co., Ltd.	Goi Works (Noda)
45	Showa Denko Materials Co., Ltd.	Goi Works (Tokushima・Anan)
46	Showa Denko Materials Co., Ltd.	Shimodate Works (Simodate・MinamiYuki)
47	Showa Denko Materials Co., Ltd.	Shimodate Works (Goshomiya)
48	Showa Denko Materials Co., Ltd.	Matsudo Works (Matsudo)
49	Showa Denko Materials Co., Ltd.	Matsudo Works (Katori)
50	Showa Denko Materials Co., Ltd.	Hikone Works
51	Showa Denko Materials Co., Ltd.	Advanced Technology Research & Development Center (Tsukuba)
52	Showa Denko Materials Co., Ltd.	Packaging Solution Center (Kawasaki)

List of Declarations and Certifications

- ☐ ESG Performance Data
- ☐ Editorial Policies / Report Scope
- ☐ Third-party Verification
- ☐ List of Data Collection Boundaries
- ☐ [List of Declarations and Certifications](#)
- ☐ External Evaluation
- ☐ GRI Sustainability Reporting Guideline

Environmental management system

Sites with certified systems among Showa Denko's 16 plants and 13 affiliated companies (17 plants) in Japan and 21 affiliated companies outside the country:

Company name	Operation site	Category
Showa Denko K.K.	Oita Complex	ISO14001
Showa Denko K.K.	Kawasaki Plant, Higashinagahara Plant	ISO14001
	Kawasaki Plant	
	Higashinagahara Plant (excluding Power Generation Group)	
	Kawasaki Unit, Institute for Integrated Product Development	
	Carbon Group, Institute for Integrated Product Development	
	Flow battery Group, Institute for Integrated Product Development	
	Green Project, Institute for Integrated Product Development	
	Battery Materials Unit, Okawa Development Center, Institute for Integrated Product Development	

Company name	Operation site	Category
Showa Denko K.K.	Tokuyama Plant	ISO14001
Showa Denko K.K.	Isesaki Plant	ISO14001
Showa Denko K.K.	Tatsuno Plant, HIPACK Co.,LTD. Tatsuno Plant	ISO14001
Showa Denko K.K.	Omachi Plant	ISO14001
Showa Denko K.K.	Shiojiri Plant, Showa Denko Ceramics Co.,Ltd Shiojiri Plant	ISO14001
Showa Denko K.K.	Yokohama Plant	ISO14001
Showa Denko K.K.	Oyama Plant	ISO14001
Showa Denko K.K.	Sakai Plant	ISO14001
Showa Denko K.K.	Kitakata Plant	ISO14001
Showa Denko K.K.	Chichibu Plant	ISO14001
Showa Denko K.K.	Chiba Plant, SHOWA DENKO Electronics K.K.	ISO14001
Showa Denko K.K.	Institute for Integrated Product Development (Toke)	ISO14001

Company name	Operation site	Category
Tsurusaki Kyodo Doryoku Co., Ltd.		ISO14001
Sun Allomer Ltd.	Oita Plant	ISO14001
Sun Allomer Ltd.	Kawasaki Plant	ISO14001
Showa Denko Ceramics Co., Ltd.	Toyama Plant	ISO14001
Shinshu Showa Co., Ltd.	Omachi Plant	ISO14001
Union Showa K.K.	Head Office, Yokkaichi Plant, Aizu Plant	ISO14001
Shoko Electronics Co.,Ltd.		ISO14001
Showa Denko Gas Products Co., Ltd.	Production Division(Kawasaki Plant/Yokkaichi Plant/Quality Assurance Department/Environmental Safety Department/Engineering Department/Okawa Gas Center) Sales Division(Industrial Materials Department/Development Department)	ISO14001
Showa Denko HD		ISO14001

Company name	Operation site	Category
Yamagata K.K.		
Niigata Showa K.K.		ISO14001
Showa Denko Packaging Co.,Ltd.	Whole company	Eco-action 21
SHOTIC Europa Industria de Aluminio Lda.		ISO14001
Showa Aluminum Manufacturing Philippines Corporation		ISO14001
Showa denko Sichuan Carbon Inc.		ISO14001
Shanghai Showa Highpolymer Trading Co., Ltd.		ISO14001
Showa Denko HD Singapore Pte Ltd.		ISO14001
Showa Denko HD Trace corp.		ISO14001
Showa Denko HD (Malaysia) Sdn.Bhd.		ISO14001

Company name	Operation site	Category
Showa Specialty Gas(Taiwan) Co., Ltd.	Showa Specialty Gas(Taiwan) Co., Ltd., Taiwan Showa Chemicals Manufacturing Co., Ltd.	ISO14001
Showa Denko (Dalian) Co., Ltd.		ISO14001
Zhejiang Quzhou Juhua Showa Electronic Chemical Materials Co., Ltd.		ISO14001
Showa Specialty Gas Singapore (Pte.) Ltd.		ISO14001
SHOWA DENKO New Material (Zhuhai) CO.,LTD.		ISO14001

Occupational health and safety management systems

(As of June 2021)

Sites with certified systems among Showa Denko's 16 plants and 13 affiliated companies (17 plants) in Japan and 21 affiliated companies outside the country:

Company name	Operation site	Certification
Showa Denko K.K.	Oita Complex	ISO45001
Showa Denko K.K.	Kawasaki Plant	OSHMS

Company name	Operation site	Certification
Showa Denko K.K.	Higashinagahara Plant	ISO45001
Showa Denko K.K.	Tokuyama Plant	ISO45001
Showa Denko K.K.	Isesaki Plant	ISO45001
Showa Denko K.K.	Tatsuno Plant, HIPACK CO.,LTD. Tatsuno Plant	ISO45001
Showa Denko K.K.	Omachi Plant	OSHMS
Showa Denko K.K.	Oyama Plant	OSHMS
Showa Denko K.K.	Kitakata Plant	ISO45001
Showa Denko K.K.	Chichibu Plant	OSHMS
Showa Denko K.K.	Chiba Plant, SHOWA DENKO Electronics K.K.	ISO45001
Showa Denko K.K.	Institute for Integrated Product Development (Toke)	ISO45001
Tsurusaki Kyodo Doryoku Co.,Ltd.		ISO45001
Sun Allomer Ltd.	Oita Plant	ISO45001

Company name	Operation site	Certification
Sun Allomer Ltd.	Kawasaki Plant	ISO45001
Showa Ceramics Co., Ltd.	Toyama Plant, Shiojiri Plant, Yokohama Plant	ISO45001
Showa Denko Gas Products Co., Ltd.	Kawasaki Plant	JISHA Good Safety Company
Showa Denko Gas Products Co., Ltd.	Yokkaichi Plant	JISHA Good Safety Company
Showa Denko HD Yamagata K.K.		ISO45001
Showa Denko HD Singapore Pte Ltd.		ISO45001
Showa Denko HD Trace corp.		ISO45001
Showa Denko HD Malaysia SDN.BHD		ISO45001

Rate of the Group's domestic and overseas manufacturing bases with certified systems (as of June 2021):

Environmental management systems: 76% (41/54 plants)

Occupational health and safety management systems: 41% (22/54 plants)

OHSAS 18001/ISO 45001: 37% (20/54 plants)

※1 For Group companies, the following companies are excluded from the calculation target: Certified as a Showa Denko plant, has a plant on the premises for manufacturing services, and does not involve Showa Denko directly with the promotion of Responsible Care at the company.

Quality management system

(As of June 2021)

Company name	Operation site	Category
Showa Denko K.K.	Oita Complex	ISO9001
Showa Denko K.K.	Kawasaki Plant	ISO9001
Showa Denko K.K.	Higashinagahara Plant	ISO9001
Showa Denko K.K.	Isesaki Plant	ISO9001
Showa Denko K.K.	Tatsuno Plant	ISO9001
Showa Denko K.K.	Oita Production Department, Tatsuno Plant	ISO9001
Showa Denko K.K.	Tokuyama Plant	ISO9001
Showa Denko K.K.	Omachi Plant	ISO9001
Showa Denko K.K.	Shiojiri Plant	ISO9001
Showa Denko K.K.	Yokohama Plant	ISO9001
Showa Denko K.K.	Aluminum Rolled Products Division	ISO9001

Company name	Operation site	Category
Showa Denko K.K.	Oyama Plant	ISO9001
Showa Denko Photonics Co., Ltd.		ISO9001 IATF16949
Sun Allomer Ltd.	Head Office, Oita Plant, Kawasaki Plant, Research and Development Division, Osaka Branch	ISO9001
Showa Denko Gas Products Co., Ltd.	Production Division, Sales Division, STT	ISO9001
Union Showa K.K.	Head Office, Yokkaichi Factory, Aizu Factory	ISO9001
HIPACK Co.,LTD.		ISO9001
Showa Denko Ceramics Co., Ltd.	Shiojiri Plant, Toyama Plant,Yokohama Plant	ISO9001
Showa Fine Ceramics Co., Ltd.		ISO9001
Showa Denko Sakai Aluminum K.K.		ISO9001
Showa Denko Sakai Aluminum K.K.		ISO9001

Company name	Operation site	Category
Showa Denko Kitakata Aluminum K.K.		ISO9001 IATF16949
Showa Denko Electronics		ISO9001
Showa Denko HD Yamagata K.K.		ISO9001
Showa Denko Packaging Co.,Ltd.	Hikone Plant , Tokyo branch, Osaka branch, Isehara Plant	ISO9001 IATF16949
Showa Denko Kenzai K.K.	Head Office	ISO9001
Niigata Showa K.K.		ISO9001
Shoko Electronics Co.,Ltd.		ISO9001 IATF16949
F2 Chemicals Limited		ISO9001
Shanghai Showa Highpolymer Co., Ltd.		ISO9001
Showa Specialty Gas (Taiwan) Co., Ltd.		ISO9001
Taiwan Showa Chemicals Manufacturing Co., Ltd.		ISO9001

Company name	Operation site	Category
Shanghai Showa Chemicals Co., Ltd.		ISO9001
Zhejiang Quzhou Juhua Showa Electoronic Chemical Materials Co., Ltd.		ISO9001
Showa Specialty Gas Singapore (Pte.) Ltd.		ISO9001
Anseong Gas Center, Korea Showa Chemicals Co.		ISO9001
Shanghai Showa Electronics Materials Co., Ltd.		ISO9001
SHOWA DENKO New Material (Zhuhai) CO.,LTD.		ISO9001
Lianyungang Zaoling Abrasives Co., Ltd.		ISO9001
Showa Denko Carbon, Inc.		ISO9001
Showa Denko Sichuan		ISO9001

Company name	Operation site	Category
Carbon Inc.		
SHOTIC Europa Industria de Aluminio Lda.		ISO9001 IATF16949
Showa Aluminum Manufacturing Philippines Corporation		ISO9001
SHOTIC MALAYSIA SDN. BHD.		ISO9001 IATF16949
Showa Denko (Dalian) Co., Ltd.		ISO9001
Showa Denko HD Singapore Pte Ltd.		ISO9001
Showa Denko HD Trace corp.		ISO9001
Showa Denko Battery Materials (Shanghai) Co., Ltd.		ISO9001 IATF16949
Showa Denko Europe GmbH		ISO9001

External Evaluation

- ☐ ESG Performance Data
- ☐ Editorial Policies / Report Scope
- ☐ Third-party Verification
- ☐ List of Data Collection Boundaries
- ☐ List of Declarations and Certifications
- ☐ [External Evaluation](#)
- ☐ GRI Sustainability Reporting Guideline

ESG Investment Indexes adopting Showa Denko

As of April 2022, We are included in the following ESG investment indexes:

FTSE4Good Global Index



This socially responsible investment index was launched by FTSE International, Ltd., a subsidiary of the London Stock Exchange. The index is intended to foster investments in companies that are highly rated based on widely approved international criteria on corporate social responsibility.

☐ FTSE4Good Global Index 

FTSE Blossom Japan Index



Included in this index are Japanese companies that are excellent in terms of ESG-related performance. This ESG index is designed to be industry-neutral by weighting based on the FTSE Japan Index (parent index).

☐ FTSE Blossom Japan Index 

FTSE Blossom Japan Sector Relative Index



The new FTSE Blossom Japan Sector Relative Index is designed as a sector neutral benchmark that reflects the performance of companies demonstrating strong Environmental, Social and Governance

(ESG) practices in Japan. The index selects companies with higher ESG Ratings within the top 50% of each sector and supports climate transition to a low carbon economy by evaluating companies' climate governance and climate change efforts via the Transition Pathway Initiative's Management Quality Score.

○ FTSE Blossom Japan Sector Relative Index 

MSCI Japan Empowering Women Index (WIN)



Included in this index are companies that are highly rated for gender diversity among those included in the MSCI Japan IMI Top 500 Index (parent index).

○ MSCI Japan Empowering Women Index (WIN) 

* THE INCLUSION OF SHOWA DENKO K.K. IN ANY MSCI INDEX, AND THE USE OF MSCI LOGOS, TRADEMARKS, SERVICE MARKS OR INDEX NAMES HEREIN, DO NOT CONSTITUTE A SPONSORSHIP, ENDORSEMENT OR PROMOTION OF SHOWA DENKO K.K. BY MSCI OR ANY OF ITS AFFILIATES. THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES AND LOGOS ARE TRADEMARKS OR SERVICE MARKS OF MSCI OR ITS AFFILIATES.

S&P/JPX Carbon Efficient Index



This index by S&P Dow Jones Indices and the Tokyo Stock Exchange overweights or underweights the companies comprising the index based on their disclosure of environmental information and the level of their carbon efficiency.

○ S&P/JPX Carbon Efficient Index 

SNAM Sustainability Index



Launched by Sompo Japan Nipponkoa Asset Management (SNAM), this index comprises companies highly rated for ESG and is utilized to enable the company to make sustainable investments.

○ SNAM Sustainability Index ☐

Certification

Certification as a good company in terms of balance between work and family life



SDK has been promoting a good balance between employees' work and family life so that employees with diversified backgrounds and lifestyles can continue working vigorously. SDK was certified by the health and labor minister as one of the good companies in Japan in this respect in 2008, 2013 and 2016.

"Good healthy company"



SDK has been certified since 2017 by the Ministry of Economy, Trade and Industry and Nippon Kenko Kaigi (Japan Health Conference) as a good corporation promoting employees' health and productivity.

Excellent company in Gomez ESG site ranking 2021









SDK was selected as one of the excellent companies in “Gomez ESG site ranking 2021.” The ranking evaluates user-friendliness and richness of content of websites that transmit ESG information.

GRI Sustainability Reporting Guideline

- ESG Performance Data
- Editorial Policies / Report Scope
- Third-party Verification
- List of Data Collection Boundaries
- List of Declarations and Certifications
- External Evaluation
- [GRI Sustainability Reporting Guideline](#)






Our website refers to "GRI Sustainability Reporting Standards 2016". (As of September 2022)

Related documents

- Integrated Report "SHOWA DENKO Report 2022" 
- 113th Securities Report (Japanese only) 
- Corporate Governance Basic Policies 
- Corporate Governance Report (Last updated: March 31, 2022) 
- Showa Denko Group Sustainable Procurement Guidelines 
- SHOWA DENKO FINANCIAL REPORT 2021 


GRI 102:General Disclosures

Indicator		References (As of September 2022)
102-1	Name of the organization	<input type="radio"/> Profile
102-2	Activities, brands, products, and services	<input type="radio"/> Profile <input type="radio"/> Company History <input type="radio"/> Business Segments
102-3	Location of headquarters	<input type="radio"/> Profile
102-4	Location of operations	<input type="radio"/> Profile <input type="radio"/> Locations(Japan) <input type="radio"/> Locations (Subsidiaries(Japan)) <input type="radio"/> Locations (Subsidiaries(Global))
102-5	Ownership and legal form	<input type="radio"/> Profile
102-6	Markets served	<input type="radio"/> Profile <input type="radio"/> Locations(Japan) <input type="radio"/> Locations (Subsidiaries(Japan)) <input type="radio"/> Locations (Subsidiaries(Global))

Indicator		References (As of September 2022)
102-7	Scale of the organization	<ul style="list-style-type: none"> ○ Profile ○ Locations(Japan) ○ Locations (Subsidiaries(Japan)) ○ Locations (Subsidiaries(Global)) ○ Performance Trends (Tool for financial analysis) ○ Financial Results ○ Basic Stock Information ○ Financial Report 2021: Financial Data (P.10) 
102-8	Information on employees and other workers	<ul style="list-style-type: none"> ○ ESG Performance Data (Society: Number of employees) ○ Securities Report: 5 Employees (Japanese only) (P.11) 
102-9	Supply chain	<ul style="list-style-type: none"> ○ Sustainable procurement ○ Sustainable Procurement (P.68) 
102-10	Significant changes to the organization and its supply chain	<ul style="list-style-type: none"> ○ Showa Denko Signs Agreement on Simplified Absorption-type Company Split for Graphite Electrode Business  ○ Showa Denko Decides on Absorption-type Merger & Company Split, Trade Name Change, and Partial Amendment to Articles of Incorporation to Prepare for Its Transformation into Holding Company Structure 

Indicator		References (As of September 2022)
102-11	Precautionary Principle or approach	○ Risk Management
102-12	External initiatives	○ Participation in Initiatives
102-13	Membership of associations	○ Participation in Initiatives

2.Strategy


Indicator		References
102-14	Statement from senior decision-maker	○ Message from CEO
102-15	Key impacts, risks, and opportunities	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD) ○ Risk Management ○ Financial Report 2021: Risk Factors (P.8) 





3.Ethics and Integrity

Indicator		References
102-16	Values, principles, standards, and norms of behavior	<ul style="list-style-type: none"> ○ Corporate philosophy ○ Our Code of Conduct




Indicator		References
102-17	Mechanisms for advice and concerns about ethics	<ul style="list-style-type: none"> ○ Corporate Ethics Hotline

4.Governance

Indicator		References
102-18	Governance structure	<ul style="list-style-type: none"> ○ Corporate Governance ○ Sustainability Management
102-19	Delegating authority	<ul style="list-style-type: none"> ○ Corporate Governance ○ Sustainability Management
102-20	Executive-level responsibility for economic, environmental, and social topics	<ul style="list-style-type: none"> ○ Sustainability Management ○ Management Team
102-21	Consulting stakeholders on economic, environmental, and social topics	<ul style="list-style-type: none"> ○ Materiality for sustainability of the newly integrated company ○ Stakeholder communications
102-22	Composition of the highest governance body and its committees	<ul style="list-style-type: none"> ○ Corporate Governance ○ Corporate Governance Report: [Directors] (P.7)  ○ Securities Report: 2 Status of Corporate Officers (Japanese only) (P.51) 
102-23	Chair of the highest governance body	<ul style="list-style-type: none"> ○ Corporate Governance

Indicator		References
		<ul style="list-style-type: none"> ○ Notice of Convocation of the 113th Ordinary General Meeting of Shareholders (Proposal No. 3: Election of Ten Directors) (P.7) 
102-24	Nominating and selecting the highest governance body	<ul style="list-style-type: none"> ○ Corporate Governance ○ Corporate Governance Basic Policies: (3) Election (P.4)  ○ Notice of Convocation of the 113th Ordinary General Meeting of Shareholders (Proposal No. 3: Election of Ten Directors) (P.7) 
102-25	Conflicts of interest	<ul style="list-style-type: none"> ○ Corporate Governance Basic Policies: 5. Related Party Transactions (P.2) 
102-26	Role of highest governance body in setting purpose, values, and strategy	<ul style="list-style-type: none"> ○ Sustainability Management
102-27	Collective knowledge of highest governance body	<ul style="list-style-type: none"> ○ Corporate Governance
102-28	Evaluating the highest governance body's performance	<ul style="list-style-type: none"> ○ Evaluation of the Board of Directors' Effectiveness
102-29	Identifying and managing economic, environmental, and social impacts	<ul style="list-style-type: none"> ○ Materiality for sustainability of the newly integrated company ○ Measures against Climate Change (Disclosure in Line with TCFD)

Indicator		References
102-30	Effectiveness of risk management processes	<ul style="list-style-type: none"> ○ Risk Management ○ Governance and risk management
102-31	Review of economic, environmental, and social topics	<ul style="list-style-type: none"> ○ Sustainability Management ○ Risk Management ○ Governance and risk management
102-32	Highest governance body's role in sustainability reporting	<ul style="list-style-type: none"> ○ Sustainability Management
102-33	Communicating critical concerns	<ul style="list-style-type: none"> ○ Risk Management
102-34	Nature and total number of critical concerns	-
102-35	Remuneration policies	<ul style="list-style-type: none"> ○ SHOWA DENKO Report 2022: New Remuneration System for Directors and Corporate Officers (P.89)  ○ Securities Report: 4. Remuneration of executives (Japanese only) (P.63) 
102-36	Process for determining remuneration	<ul style="list-style-type: none"> ○ SHOWA DENKO Report 2022: New Remuneration System for Directors and Corporate Officers (P.89) 


Indicator		References
		○ Securities Report: 4. Remuneration of executives (Japanese only) (P.63) 
102-37	Stakeholders' involvement in remuneration	○ SHOWA DENKO Report 2022: New Remuneration System for Directors and Corporate Officers (P.89)  ○ Securities Report: 4. Remuneration of executives (Japanese only) (P.63) 
102-38	Annual total compensation ratio	-
102-39	Percentage increase in annual total compensation ratio	-







5.Stakeholder Engagement

Indicator		References
102-40	List of stakeholder groups	○ Stakeholder communications
102-41	Collective bargaining agreements	○ ESG Performance Data (Society: Promoting sound work-life balance, Labor union)
102-42	Identifying and selecting stakeholders	○ Stakeholder communications

Indicator		References
102-43	Approach to stakeholder engagement	○ Stakeholder communications
102-44	Key topics and concerns raised	○ Materiality for sustainability of the newly integrated company ○ Participation in Community Activities

6.Reporting Practice

Indicator		References
102-45	Entities included in the consolidated financial statements	○ Locations(Japan) ○ Securities Report: 4 Subsidiaries and Affiliates (Japanese only) (P.8) 
102-46	Defining report content and topic boundaries	○ Editorial Policies/ Report Scope ○ Materiality for sustainability of the newly integrated company
102-47	List of material topics	○ Materiality for sustainability of the newly integrated company
102-48	Restatements of information	-
102-49	Changes in reporting	-



Indicator		References
102-50	Reporting period	<ul style="list-style-type: none"> ○ Report scope ○ SHOWA DENKO Report 2022: Editorial Policies (P.101) 
102-51	Date of most recent report	<ul style="list-style-type: none"> ○ SHOWA DENKO Report 2022: Publication Date (P.101) 
102-52	Reporting cycle	<ul style="list-style-type: none"> ○ Report scope ○ SHOWA DENKO Report 2022: Editorial Policies (P.101) 
102-53	Contact point for questions regarding the report	<ul style="list-style-type: none"> ○ Prepared by ○ SHOWA DENKO Report 2022: Prepared by (Back cover) 
102-54	Claims of reporting in accordance with the GRI Standards	<ul style="list-style-type: none"> ○ SHOWA DENKO Report 2022: Referenced Guidelines (P.101) 
102-55	GRI content index	This table
102-56	External assurance	<ul style="list-style-type: none"> ○ Third-party Verification ○ SHOWA DENKO Report 2022: Third-Party Verification of Environmental and Safety Data (P.101) 

GRI 103:Management Approach

Indicator		References
103-1	Explanation of the material topic and its boundary	○ Materiality for sustainability of the newly integrated company
103-2	The management approach and its components	○ Materiality for sustainability of the newly integrated company
103-3	Evaluation of the management approach	○ Materiality for sustainability of the newly integrated company

GRI 200:Economic

GRI 201:Economic Performance

Indicator		References
201-1	Direct economic value generated and distributed	<ul style="list-style-type: none"> ○ ESG Performance Data (Society: Other) ○ Participation in Community Activities ○ Financial Report 2021: Financial Data (P.10) 
201-2	Financial implications and other risks and opportunities due to climate change	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD)
201-3	Defined benefit plan obligations and other retirement plans	<ul style="list-style-type: none"> ○ Financial Report 2021: Financial Data (P.10) 

Indicator		References
201-	Financial assistance received from government	-

GRI 202:Market Presence

Indicator		References
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	-
202-2	Proportion of senior management hired from the local community	-

GRI 203:Indirect Economic Impacts

Indicator		References
203-1	Infrastructure investments and services supported	○ Participation in Community Activities
203-2	Significant indirect economic impacts	-

GRI 204:Procurement Practices

Indicator		References
204-1	Proportion of spending on local suppliers	-

GRI 205:Anti-corruption

Indicator		References
205-1	Operations assessed for risks related to corruption	-
205-2	Communication and training about anti-corruption policies and procedures	○ Anti-corruption
205-3	Confirmed incidents of corruption and actions taken	○ ESG Performance Data (Governance)

GRI 206:Anti-competitive Behavior

Indicator		References
206-1	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	-

GRI 207:Tax (2019)

Indicator		References
207-	Approach to tax	○ Showa Denko Group's Tax Code of Conduct
207-2	Tax governance, control, and risk management	○ Showa Denko Group's Tax Code of Conduct
207-3	Stakeholder engagement and management of concerns related to tax	○ Showa Denko Group's Tax Code of Conduct
207-4	Country-by-country reporting	-

GRI 300:Environmental

GRI 301:Materials

Indicator		References
301-	Materials used by weight or volume	-
301-2	Recycled input materials used	○ ESG Performance Data (Environment: Resource recycling)
301-3	Reclaimed products and their packaging materials	-

GRI 302:Energy

Indicator		References
302-1	Energy consumption within the organization	○ ESG Performance Data (Environment: Prevention of global warming)
302-2	Energy consumption outside of the organization	-
302-3	Energy intensity	○ ESG Performance Data (Environment: Prevention of global warming)
302-4	Reduction of energy consumption	○ Challenges to Realize Carbon Neutrality ○ ESG Performance Data (Environment: Prevention of global warming)
302-5	Reductions in energy requirements of products and services	○ ESG Performance Data (Environment: Prevention of global warming)

GRI 303:Water and Effluents

Indicator		References
303-1	Interactions with water as a shared resource	○ Environmental Considerations; Water
303-2	Management of water discharge-related impacts	○ Environmental Considerations; Water

Indicator		References
303-3	Water withdrawal	<ul style="list-style-type: none"> ○ ESG Performance Data (Environment: Resource recycling)
303-4	Water discharge	<ul style="list-style-type: none"> ○ ESG Performance Data (Environment: Resource recycling) ○ Environmental Considerations; Water
303-5	Water consumption	<ul style="list-style-type: none"> ○ ESG Performance Data (Environment: Resource recycling) ○ Environmental Considerations; Water


GRI 304:Biodiversity

Indicator		References
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	-
304-2	Significant impacts of activities, products, and services on biodiversity	-

Indicator		References
304-3	Habitats protected or restored	○ Efforts for Preservation of Biodiversity
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	-

GRI 305:Emissions

Indicator		References
305-1	Direct (Scope 1) GHG emissions	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD) ○ ESG Performance Data (Environment: Prevention of global warming)
305-2	Energy indirect (Scope 2) GHG emissions	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD) ○ ESG Performance Data (Environment: Prevention of global warming)
305-3	Other indirect (Scope 3) GHG emissions	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD) ○ ESG Performance Data (Environment: Prevention of global warming)

Indicator		References
305-4	GHG emissions intensity	<ul style="list-style-type: none"> ○ ESG Performance Data (Environment: Prevention of global warming)
305-5	Reduction of GHG emissions	<ul style="list-style-type: none"> ○ Measures against Climate Change (Disclosure in Line with TCFD) ○ Challenges to Realize Carbon Neutrality ○ ESG Performance Data (Environment: Prevention of global warming) ○ SHOWA DENKO Report 2022: Topics (P.64) 
305-6	Emissions of ozone-depleting substances (ODS)	-
305-7	Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions	<ul style="list-style-type: none"> ○ Environmental Considerations; Atmosphere ○ ESG Performance Data (Environment: Pollution prevention)

GRI 306:Waste (2020)

Indicator		References
306-1	Waste generation and significant waste-related impacts	-

Indicator		References
306-2	Management of significant waste-related impacts	○ Waste Management
306-3	Waste generated	○ ESG Performance Data (Environment: Resource recycling)
306-4	Waste diverted from disposal	○ Waste Management ○ ESG Performance Data (Environment: Resource recycling)
306-5	Waste directed to disposal	○ Waste Management ○ ESG Performance Data (Environment: Resource recycling)

GRI 307:Environmental Compliance

Indicator		References
307-1	Non-compliance with environmental laws and regulations	○ ESG Performance Data (Environment: Other)

GRI 308:Supplier Environmental Assessment

Indicator		References
308-1	New suppliers that were screened using	○ Promotion of Sustainable procurement ○ Evaluation of Suppliers

Indicator		References
308-2	environmental criteria Negative environmental impacts in the supply chain and actions taken	<ul style="list-style-type: none"> ○ Promotion of Sustainable procurement ○ Evaluation of Suppliers

GRI 400:Social


GRI 401:Employment

Indicator		References
401-1	New employee hires and employee turnover	<ul style="list-style-type: none"> ○ ESG Performance Data (Society: Recruitment, Labor Practices)
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	<ul style="list-style-type: none"> ○ About the system
401-3	Parental leave	<ul style="list-style-type: none"> ○ ESG Performance Data (Society: Promoting sound work-life balance, Labor union)

GRI 402:Labor/Management Relations

Indicator		References
402-1	Minimum notice periods regarding operational changes	-

GRI 403:Occupational Health and Safety (2018)

Indicator		References
403-1	Occupational health and safety management system	<ul style="list-style-type: none"> ○ Management system ○ Occupational health and safety management systems ○ SHOWA DENKO Report 2022: Occupational Health and Safety (P.66) 
403-2	Hazard identification, risk assessment, and incident investigation	<ul style="list-style-type: none"> ○ Management system ○ Prevention of Occupational Accidents ○ Equipment safety
403-3	Occupational health services	-
403-4	Worker participation, consultation, and communication on occupational health and safety	<ul style="list-style-type: none"> ○ Management system
403-5	Worker training on occupational health and safety	<ul style="list-style-type: none"> ○ Management system ○ Prevention of Occupational Accidents ○ Equipment safety
403-6	Promotion of worker health	<ul style="list-style-type: none"> ○ Employees' Health
403-7	Prevention and mitigation of occupational health and	<ul style="list-style-type: none"> ○ Prevention of Occupational Accidents


Indicator		References
	safety impacts directly linked by business relationships	○ Equipment safety
403-8	Workers covered by an occupational health and safety management system	○ Occupational health and safety management systems
403-9	Work-related injuries	<ul style="list-style-type: none"> ○ Prevention of Occupational Accidents ○ Equipment safety ○ ESG Performance Data (Society: Safety, health)
403-10	Work-related ill health	-

GRI 404: Training and Education

Indicator		References
404-1	Average hours of training per year per employee	<ul style="list-style-type: none"> ○ Development of human resources ○ ESG Performance Data (Society: Recruitment, Labor Practices)
404-2	Programs for upgrading employee skills and transition assistance programs	<ul style="list-style-type: none"> ○ Development of human resources ○ Promotion of diversity and inclusion

Indicator		References
404-3	Percentage of employees receiving regular performance and career development reviews	○ Development of human resources

GRI 405: Diversity and Equal Opportunity

Indicator		References
405-1	Diversity of governance bodies and employees	<ul style="list-style-type: none"> ○ Promotion of diversity and inclusion ○ ESG Performance Data (Society: Number of employees) ○ ESG Performance Data (Governance) ○ SHOWA DENKO Report 2022: Directors (P.82-83) 
405-2	Ratio of basic salary and remuneration of women to men	○ ESG Performance Data (Society: Recruitment, Labor Practices)

GRI 406:Non-discrimination

Indicator		References
406-1	Incidents of discrimination and corrective actions taken	-

GRI 407:Freedom of Association and Collective Bargaining

Indicator		References
407-1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	<ul style="list-style-type: none"> ○ Promotion of Sustainable procurement ○ Evaluation of Suppliers

GRI 408:Child Labor

Indicator		References
408-1	Operations and suppliers at significant risk for incidents of child labor	<ul style="list-style-type: none"> ○ Promotion of Sustainable procurement ○ Evaluation of Suppliers

GRI 409:Forced or Compulsory Labor

Indicator		References
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	<ul style="list-style-type: none"> ○ Promotion of Sustainable procurement ○ Evaluation of Suppliers

GRI 410:Security Practices

Indicator		References
410-1	Security personnel trained in human rights policies or procedures	-

GRI 411:Rights of Indigenous Peoples

Indicator		References
411-1	Incidents of violations involving rights of indigenous peoples	

GRI 412:Human Rights Assessment

Indicator		References
412-1	Operations that have been subject to human rights reviews or impact assessments	○ Respect for Human Rights
412-2	Employee training on human rights policies or procedures	○ Respect for Human Rights
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	

GRI 413:Local Communities

Indicator		References
413-1	Operations with local community engagement, impact assessments, and development programs	○ Participation in Community Activities

Indicator		References
413-2	Operations with significant actual and potential negative impacts on local communities	-

GRI 414: Supplier Social Assessment

Indicator		References
414-1	New suppliers that were screened using social criteria	<input type="radio"/> Promotion of Sustainable procurement <input type="radio"/> Evaluation of Suppliers
414-2	Negative social impacts in the supply chain and actions taken	<input type="radio"/> Promotion of Sustainable procurement <input type="radio"/> Evaluation of Suppliers

GRI 415:Public Policy

Indicator		References
415-1	Political contributions	<input type="radio"/> ESG Performance Data (Society: Other)

GRI 416:Customer Health and Safety

Indicator		References
416-1	Assessment of the health and safety impacts of	<input type="radio"/> Management System

Indicator		References
	product and service categories	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	-

GRI 417:Marketing and Labeling

Indicator		References
417-1	Requirements for product and service information and labeling	○ Management System
417-2	Incidents of non-compliance concerning product and service information and labeling	-
417-3	Incidents of non-compliance concerning marketing communications	-

GRI 418:Customer Privacy

Indicator		References
418-1	Substantiated complaints concerning breaches of	-

Indicator		References
	customer privacy and losses of customer data	

GRI 419:Socioeconomic Compliance

Indicator		References
419-1	Non-compliance with laws and regulations in the social and economic area	-