

# Addressing Social Issues in Each Stage of the Value Chain

The Nitto Group takes into account the gamut of social impact that may be incurred throughout the entire value chain from procurement of raw materials to disposal of products. We fulfill our corporate social responsibility by complying with the applicable laws and regulations in every country and region that we operate in.

## Risks and Opportunities to the Nitto Group's Business Operations

Impact on society		Value Chain Stages				
		Procurement of Raw Materials	R&D	Production	Logistics/Sales	Use/Disposal of Products
Impact on society		<ul style="list-style-type: none"> <li>● Increase in negative impact on the environment due to mining of natural resources</li> <li>● CO2 emissions stemming from procurement of petroleum-derived materials</li> <li>● Rising cost for and difficulty in procurement of mineral resources</li> <li>● Depletion of mineral resources</li> <li>● Human rights infringement as a result of procurement of conflict minerals</li> <li>● Labor practices at suppliers</li> <li>● Ensuring access to resources by procurement of bio-materials</li> </ul>	<ul style="list-style-type: none"> <li>● Development of technologies for efficient use of energy and raw materials</li> <li>● Development of environmentally friendly products</li> </ul>	<ul style="list-style-type: none"> <li>● Emission of greenhouse gases as a result of energy use</li> <li>● Depletion of water resources as a result of consumption of large quantities of water</li> <li>● Production of air pollutants, hazardous waste, and wastewater</li> <li>● Soil/river pollution by organic solvents, etc.</li> <li>● Damage to neighborhood by fire and explosions</li> </ul>	<ul style="list-style-type: none"> <li>● CO2 emissions associated with physical distribution of products</li> <li>● Reduction in CO2 emissions by modal shift</li> <li>● Reduction in waste by recycling packages</li> </ul>	<ul style="list-style-type: none"> <li>● Increasing need for reducing raw materials at the product use stage</li> <li>● Increasing need for conserving energy and reducing CO2 emissions and use of water at the product use stage</li> <li>● Impact that chemicals in products have on the ecosystem and human health</li> <li>● Health disorders due to use of pharmaceuticals, medical devices, etc.</li> <li>● Supply of health- and environmentally friendly products</li> </ul>
	Human Resources	<ul style="list-style-type: none"> <li>● Recruitment/development of HRs</li> <li>● Diversity &amp; inclusion</li> </ul>	<ul style="list-style-type: none"> <li>● Intensifying competition for recruitment of HRs with advanced expertise and drain of HRs                             <ul style="list-style-type: none"> <li>- Necessity of strengthening branding for recruitment</li> <li>- Necessity of strengthening talent management</li> <li>- Need for developing HRs both systematically and effectively</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Decrease in the working/productive population in Japan                             <ul style="list-style-type: none"> <li>- Expansion of job opportunities by promoting diversity (elderly employment, empowerment of women, provision of opportunities to foreign national employees, employment of individuals with disabilities, etc.)</li> <li>- Enhancement of motivation to work and increase in productivity by promoting work style reform, etc.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>● Tightening of regulations related to labor laws in general                             <ul style="list-style-type: none"> <li>- Timely compliance training and enhancement of its system</li> <li>- Creation of sound workplace environments and improvement of occupational health</li> </ul> </li> </ul>	
	Product Safety/Quality	<ul style="list-style-type: none"> <li>● Enhancement of safety and quality of products</li> <li>● Improvement of workplace environment</li> <li>● Respect for human rights in supply chains</li> </ul>	<ul style="list-style-type: none"> <li>● Contamination by regulated substances in raw materials due to deficient chemical management</li> <li>● Discontinued supply of raw materials</li> </ul>	<ul style="list-style-type: none"> <li>● Development of environmentally friendly products</li> <li>● Change of materials (chemical substances) due to tightening of applicable regulations</li> </ul>	<ul style="list-style-type: none"> <li>● Shut-downs due to occupational accidents</li> <li>● Reduced productivity due to impact on health</li> <li>● Shut-downs and fines due to statutory violation</li> <li>● Increase in business costs to satisfy tighter safety regulations (capital investment, etc.)</li> <li>● Cancellation of contracts and compensation claims due to fraudulent quality claims</li> </ul>	<ul style="list-style-type: none"> <li>● Rise in transportation cost for ensuring product safety/quality</li> <li>● Lowering of orders/suspension of sales due to occupational accidents</li> </ul>
Environment	<ul style="list-style-type: none"> <li>● Reduction in CO2 emissions</li> <li>● Efficient use of energy, raw materials, water, and other resources</li> <li>● Emissions-reduction of pollutants and hazardous substances</li> </ul>	<ul style="list-style-type: none"> <li>● Rapid increase in demand for energy and raw materials and tightening of relevant regulations</li> </ul>	<ul style="list-style-type: none"> <li>● Development of technologies for efficient use of energy and raw materials</li> </ul>	<ul style="list-style-type: none"> <li>● Increase in business cost due to carbon credits and carbon taxes</li> <li>● Greater impact on operations and increase in business cost due to tightening of laws/regulations</li> <li>● Increase in business cost (capital investment, etc.) to ensure compliance with environmental regulations</li> <li>● Shortage of usable water resources</li> <li>● Efficient use of energy, raw materials, and water</li> <li>● Shut-downs and fines for statutory violation</li> </ul>		<ul style="list-style-type: none"> <li>● Greater impact on operations and increase in business cost due to tightening of laws/regulations</li> </ul>

# Human Resources

## Reasons for Materiality

The Nitto Group considers human resources to be our most valuable assets. As competition for recruitment of able human resources intensifies across the globe, how we go about recruiting and retaining people will determine the competitive advantage of the entire Group. In order for us to sustain our growth and continue creating new innovations, we see it as necessary to not only recruit people but also to create a work environment in which employees are constantly encouraged to take on challenges, thus enabling our diverse human resources to demonstrate their abilities to the fullest.

## Nitto Group's Approaches

At the Nitto Group, every employee is expected to be a "Nitto Person," who comprehends and lives up to the Nitto Way, that is, one who can think globally in their work in an attempt to create new value as they join hands with people of diverse backgrounds without being divided by differences in culture and values. For this to happen, "diversity & inclusion" is an overriding imperative, and we will apply the Group's strengths - the energy and teamwork that results from combining the talents and knowledge of diverse employees - to our business undertakings.

Through our talent management approach, we will also cultivate individuals who remain passionate about growth and eagerly continue to take on challenges, while at the same time developing a corporate culture and programs that exhort people to tackle challenges. We believe that we can achieve sustainable growth of our people and organization as a result of these efforts.

Going forward, we will further advance our global personnel system to find and share solutions to talent management and other personnel issues.

## Recruitment and Development of Human Resources

The ever-changing business environment these days is pushing the Nitto Group into the global market with the result that its overseas sales ratio reached over 70% in fiscal 2018. Going forward, we will make greater efforts to recruit and develop global-minded people who can address the diverse needs in the multipolarizing market from the perspectives of each country and region.

### Recruitment of Global-Minded Human Resources

#### Leveraging internship and other opportunities to triple the number of new recruits from the global job market

In fiscal 2018, we increased the number of new recruits who are poised to take a leadership role globally to more than 100. To prevent a mismatch from occurring after they have joined the company, we offer an internship program that gives prospective employees an opportunity to experience Nitto Group's values, and about 120 students teamed up with Nitto's employees to work on ideas for new businesses. We are also aggressively recruiting people outside of Japan by, for example, inviting a select group of some 50 students who reside in Europe, Japanese and otherwise, to the Nitto ATP Finals in London for an informational session and primary screening, thus engaging in a variety of programs designed to reinforce the younger generation in our workforce and increase the diversity of our organization.



Winners of the new business idea competition among interns

### Talent Management

#### Personal interviews/training to assist individuals in developing their competency

With a focus on "individuals," Nitto's talent management offers a variety of programs for assessing individual competency.

Members from our human resources team meet individually with "employees who have served the company for less than five years," "women in an assistant manager and other managerial positions," and "new managers" to hear about their desires and motivations. The purpose of these meetings is to retain each employee, assist them in their career path, and place them in the right positions. The human resources members are also cognizant of latent issues in various personnel systems and can find solutions to them.

As for the human resource development, we determine what knowledge and skill sets people need to acquire before they advance into a managerial position and incorporate them into a training curriculum so that each employee may choose courses on their own initiative. At the same time, we offer a wide range of training opportunities tailored for each job function, such as

sales, production engineering, and manufacturing, thereby raising the overall competency level of each job function. In addition to such opportunities, we will expedite our efforts to foster a workplace environment and culture in which the entire workplace serves as a vehicle for cultivating human resources.

Launched in 2011 to foster future senior executives, the Nitto Global Business Academy (NGBA) is driving the Nitto Group forward in the area of new business creation and solutions to managerial issues, transforming itself into a program that better caters to practical needs as a powerhouse that cultivates the human resources who will shape Nitto's future identity.

We also provide our employees with opportunities to participate in external training programs, in the hopes that they will grow as they mingle with people from many different walks of life.

### Training System for Talent Management

		New employees	General-level employees	Management-level employees
Open competency development training		Language, etc.		
		Logical thinking, career development, finance, productivity enhancement, etc.		Cultivation of direct reports, management, etc.
Corporate Philosophy training		Corporate Philosophy workshop		
Job-function-specific training	Division A	Basic training (safety, Corporate Philosophy, CSR, environment, quality, 5Ss)	Technical training	
	Division B		Technical training	
Objective-specific training		Safety and health training, etc.		
			CSR workshop, etc.	
		Overseas transferee training, etc.		

		New employees	General-level employees	Management-level employees	Executives	
Grade-level training		New employee training	New employee follow-up training	Mid-career employee training	Management-level employee training	Executive candidate training
Selected group training	External	Leadership training			Executive-level training	
	Internal		NGBA-F	NGBA-A		

### Global Personnel System

#### Developing/introducing a new merit rating system and job function grading

In fiscal 2018, we began introducing a new personnel system within the Group and we are planning to complete its introduction to all regions by the end of fiscal 2019. The Group's shared new merit rating system and job function grading should help to make human resources and organizations transparent and underpin talent management.

We are also introducing a unified human resources management system for the Group. In the past, the procedure for day-to-day operations varied among different regions, but we now aim to manage human resources on a global basis as we standardize our operations. To facilitate the introduction, members from the human resource management team of each region met for a series of discussions, and have successfully unified the system to a certain extent.

## Human Resources

### Diversity & Inclusion

The Nitto Group employs people the world over, who bring diversity to the Group in terms of nationality, cultural background, gender, age, and employment type. Our goal is to cultivate Nitto Persons who contribute to the organization as they develop themselves and to create new values by applying diverse perspectives to business management.

In fiscal 2018, we established a department that promotes diversity and inclusion to drive our efforts in this regard in the global arena. We are also aware of the importance of implementing work style reform to achieve a good work-life balance.

#### Empowerment of Women

##### Focusing on motivating female employees More women in management in Japan and Europe

Empowerment of women is among the top priority issues at the Nitto Group. As such, we engage in activities designed to foster and support a pertinent culture for this worthy cause. In fiscal 2018, we motivated female candidates to pursue managerial positions by inviting inspirational women from outside the Group for casual workshops and conducting personal interviews with them.

At Nitto (non-consolidated), the ratio of women in management at the end of fiscal 2015 was 2.5%, but increased to

5% by early fiscal 2019. We are looking to achieve 6% by the end of fiscal 2020. Our plan is to focus on activities in Europe, where the percentage is relatively low, as well as Japan.

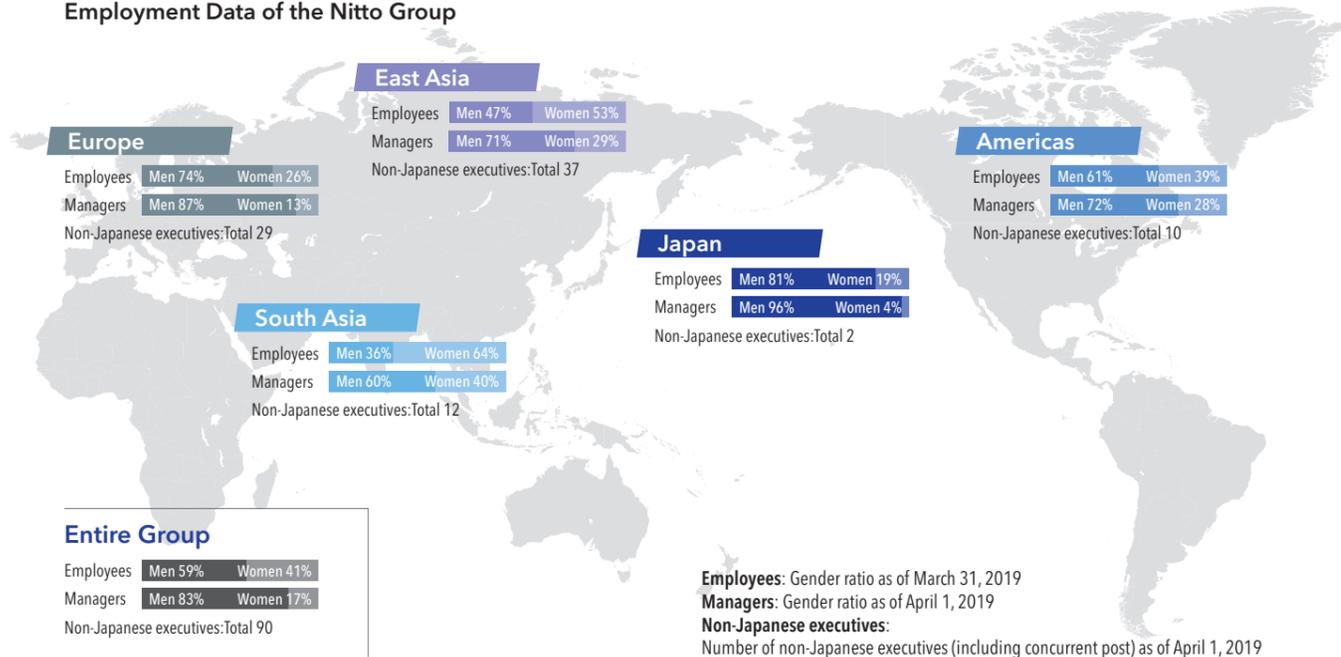
We also offer seamless support for female employees at each of their life stages, including childbirth, so that they can continue their career. Since 2002, a total of about 500 employees have taken a childcare leave and more than 90% of them returned to work. This success is derived from constantly keeping abreast with the nature of support that is needed, and continual improvements are made accordingly, all while employees that have returned to work act as role models.

#### Promotion of Employment of Individuals with Disabilities

##### Surpassing the statutory requirement of 2.2% at Nitto Denko Himawari Group companies

The Nitto Group in Japan maintained its percentage of employees with disabilities, most of whom are on the payroll of Nitto Denko Himawari Group companies established around major locations in the country, at approximately 3.0% at the end of fiscal 2018, staying true to the concept of “contributing to society by realizing a company in which independence-oriented individuals with disabilities work together with elderly individuals who understand them and take on the challenge of reaching their own limitless potentials through their work.” We will remain active in employment of individuals with disabilities.

#### Employment Data of the Nitto Group



## Product Safety/Quality

### Reasons for Materiality

Offering a sense of wellbeing and satisfaction to customers through superior products and services will not only enhance our competitive advantage but help us to earn trust and strong support from stakeholders. However, failure to properly handle chemical substances, which are closely related to a sense of wellbeing, can negatively affect the human body and environment, thus posing a serious risk that could directly result in the loss of credibility and lowering of corporate value of the Group.

We at the Nitto Group consider that it is part of our corporate social responsibility to ensure that human rights are respected and employees' safety and good health are maintained throughout the value chain, while at the same time providing products and services developed with innovative ideas by anticipating changes in society and the market, always asking ourselves what the “best quality” means for customers.

### Nitto Group's Approaches

The Nitto Group is making all-out efforts to ensure product safety and quality by assigning people to this task at the corporate quality division, business divisions, and Group companies. To assure quality, environment, and safety, which are essential requirements for good manufacturing, we conduct special audits to locate risks, make constant improvements, and prevent such risks from being actualized, at some 70 sites responsible for manufacturing and design work among the Nitto Group's sites in Japan, Asia, Oceania, the United States, and Europe.

Many of our plants and offices are certified for ISO 9001, IATF 16949, ISO 14001, OHSAS 18001, and other external international standards for management systems. We also have the Environment & Safety Committee manage environment and safety issues for the Group.

### Enhancement of Safety and Quality of Products

At the Nitto Group, up to some 4,000 varieties of chemical substances are used. By rigorously managing such chemical substances, identifying and analyzing risks associated with products, and reducing such risks, we deliver products and services that more than satisfy our customers.

#### Building of an Impeccable Quality Governance System

##### Designing and implementing on a trial basis a quality governance diagnostic system for enhanced product quality throughout the Group's entire supply chain

Following a series of inappropriate practices by Japanese companies that involved product quality in 2017, the Nitto Group ordered all of its production sites to investigate the status of their quality management to confirm that there were no cases of legal violation. In 2018, we began the process of introducing a quality governance diagnostic system to verify whether processes, systems, and other mechanisms were functioning effectively, in order to start designing a check menu and implementing the system on a trial basis.

In fiscal 2019, we will introduce a quality governance diagnostic system at production sites one by one.

#### Appropriate Management of Chemical Substances

##### Reviewing the chemical substances management ranks and centralized information management using IT systems

Appropriate management of chemical substances is one of the most important duties of the Nitto Group. Failure to do so not only results in tangible losses, such as penalties for legal violation and recall procedure costs, but also in the loss of public trust conferred on them, which can threaten the continuity of business. Bearing this in mind, the Nitto Group voluntarily manages chemical substances by standards stricter than the applicable laws/regulations in anticipation of the future course of regulations.

In fiscal 2018, we revised the chemical substances management ranks to establish the following five ranks: “Prohibited substances,” “Partially prohibited substances,” “Candidates for prohibition,” “Managed substances,” and “Others.” While ensuring legal compliance by applying this ranking system to the management of chemical substances composing raw materials or contained in products, we designed the system in a way that does not unnecessarily limit the scope of our business. We also utilized IT systems to unify data on the composition of raw materials and products and on applicable laws/regulations for centralized management.

## Product Safety/Quality

### Improvement of Workplace Environment

Members of the Nitto Group share the value of “placing safety before everything else” and engage in their daily business undertakings with this in mind. We believe that it is possible to achieve our goal of zero accidents and injuries if all members of the Group unite together to create workplace environments where everyone can work in good health without anxiety.

#### Prevention of Critical/Serious Occupational Accidents\*

In fiscal 2018, we had no critical accidents, but had 12 serious accidents that might have led to critical accidents, so we are yet to reduce the number of such serious accidents to zero. Taking this situation seriously, we remain alert to such accidents day-in and day-out.

We were able to reduce accidents involving vehicles, which occurred one after another in fiscal 2017, by making it obligatory to separate pedestrian traffic from vehicular traffic within our premises, reviewing forklift specifications and operations, and carrying out a voluntary campaign to raise the awareness of traffic safety in the various countries that we operate in. In order to curb cut and drawing-in accidents which still continue to occur, we revised the Risk Assessment Guidelines and established the Nitto Life Saving Rules in fiscal 2018.

\* Critical accidents: Accidents resulting in death or permanent disability  
 Serious accidents: Accidents that could develop into critical accidents

#### Revision of the Risk Assessment Guidelines

Fiscal 2018 also saw us seeking out the hidden sources of hazards that can lead to critical/serious accidents, not just at production and manufacturing sites but other places within our premises. Based on that, we restructured the risk assessment guidelines and revised it into a shared version for the Group so that we can ensure that any such risk is assessed appropriately, reduced, and kept under control. In fiscal 2019, we will assess associated risks throughout the Group in accordance with the revised guidelines.

#### Establishment of the Nitto Life Saving Rules

The Nitto Group has thus far established rules as appropriate to prevent accidents and injuries. In order to ensure that our employees know what they should be aware of, we have compiled the Nitto Life Saving Rules, which feature icons that are both plain to see and easy to remember. While providing hazard perception training using virtual reality head-mounted displays,

we will foster a safety culture where all the employees of the Group follow the Nitto Life Saving Rules, so that we can eliminate accidents and injuries.

Nitto Life Saving Rules poster



### Respect for Human Rights in Supply Chain

Endorsing the Universal Declaration of Human Rights, the Nitto Group has established its own Basic Policy on Human Rights. We recognize that risks associated with human rights should be dealt with by all the parties in the supply chain, rather than just within the Group.

#### CSR-Based Procurement with a Focus on Human Rights

##### Revisions of the CSR-Based Procurement Guidelines and CSR Procurement Survey

We at the Nitto Group pursue CSR-based procurement so that we can become a company that is trusted and chosen by customers, business partners, and other stakeholders. Guided by the Basic Procurement Policy and the Action Guidelines, we make every effort to conduct procurement activities without deviating from corporate ethics or social norms. Under the belief that CSR-based procurement is something that cannot be achieved by the Nitto Group alone, and instead requires the wholehearted cooperation of every party involved in the supply chain, we ask our suppliers to engage in fair and equitable trade, comply with corporate ethics and applicable laws, and show consideration for the environment in line with our CSR-Based Procurement Guidelines.

In fiscal 2017, we conducted the CSR Procurement Survey, which evaluated our suppliers' commitment to CSR, and introduced the CSR Procurement Supplier's Evaluation Checklist, which assessed the adequacy of new supplier candidates. In fiscal 2018, we expanded the scope of suppliers to whom the CSR Procurement Survey is sent and reviewed the CSR-Based Procurement Guidelines. The survey results did not find any supplier that could cause a “significantly negative impact” on the environment or society. In fiscal 2019, we plan to finish the revised CSR-Based Procurement Guidelines and conduct a CSR Procurement Survey, which will be revised according to the amended Guidelines.

## Environment

### Reasons for Materiality

Given the magnitude of impact that environmental efforts have on business management, the Nitto Group recognizes the need to address the three priorities of “reduction in CO2 emissions,” “efficient use of energy, raw materials, water, and other resources,” and “emissions-reduction of pollutants and hazardous substances” through its business activities. In particular, it has become imperative that we adapt to and mitigate climate change, as there are concerns of increasing compliance costs of relevant regulations and being forced to suspend our production due to an increase in the number of natural disasters by climate change.

While mainly tackling these challenges, we believe it also important to tap into our own experiences to bring to society solutions that contribute to environmental conservation.

### Nitto Group's Approaches

As a part of the drive to integrate our management objectives with our environmental activities, environmental goals are set in accordance with the Environmental Policy. The environmental goals are drawn up by the corporate environmental division and approved by the Board of Directors or Corporate Strategy Committee Meeting after discussions by the Environment & Safety Committee which includes board members. In order to achieve the goals, environment & safety departments/sections at each operating entity take the lead in implementing environmental conservation activities in accordance with ISO 14001 with the corporate environmental division promoting and supporting such activities.

Furthermore, we are acting more proactively in this regard by introducing state-of-the-art equipment and developing environmental technology, investment in which was previously difficult.

### Reduction in CO2 Emissions

The Nitto Group's key platform for tackling climate change is reduction of CO2 emissions, which are mainly attributable to energy consumption and solvent combustion at production processes. We are stepping up our environmental activities accordingly.

	FY2025 target
CO2 emissions	730,000 tons/year

#### Reduction in CO2 Emissions

In fiscal 2018, we promoted the use of renewable energy, in addition to the introduction of equipment and energy-conserving measures. As a result, CO2 emissions decreased by 17,058 tons from the previous year to 812,810 tons.

#### Installation of Energy-Conserving Equipment

Nitto's Toyohashi Plant installed the equipment for recycling used organic solvents, which had previously been combusted. They expect this to help them to reduce our CO2 emissions by 1,100 tons/year. Nitto Denko Fine Circuit Technology (Shenzhen) Co., Ltd., on the other hand, replaced its chilling unit with a high-efficiency inverter model and reviewed a control program to maximize energy efficiency of the entire heat source system. As a result, they were able to reduce 150 tons of CO2 emissions in fiscal 2018, which is expected to increase to 1,060 tons/year in fiscal 2019, when the equipment becomes fully operational.

#### Use of Renewable Energy

Given nearly half of the Group's CO2 emissions are attributable to electricity consumption, we are using renewable energy sources as much as possible. For example, 100% of Nitto Belgium NV's electricity consumption is from “green electricity” and Nitto Bento Bantçılık San. ve Tic. A.Ş. purchases about half of their electricity from such renewable sources. In fiscal 2018, Nitto's Toyohashi Plant began purchasing hydroelectric electricity, which emits little CO2. This should reduce CO2 emissions by 7,460 tons/year. Meanwhile, Nitto's Onomichi Plant and Tohoku Plant, Nitto Shinko Corporation, and Nitto Denko India Private Limited use solar power. Notably, the Tohoku Plant put a solar power generation facility with 100% self-consumption, one of the largest facilities with storage batteries in Japan, into full-scale operation in 2018, thereby cutting their CO2 emissions by 506 tons/year.

# Environment

## Working to Achieve the Target for FY2025

In order to accelerate the drive to reduce CO2 emissions, we established Group-wide standardized energy-conserving specifications for production equipment. And we will install new equipment that meet such specifications. At the same time, we will check existing equipment to see if their energy conservation performance meets these specifications so that we can take effective action based on the knowledge of how much more CO2 emissions should be reduced. With regard to sources of electricity that we use, we will consider shifting to renewable energy which emits little, or no CO2.

Through these comprehensive efforts, we aim to reduce CO2 emissions by 730,000 tons/year by 2025.

## Reduction in Use of HCFCs

### Reduction in Equipment Using HCFCs

Pursuant to the Montreal Protocol, the Nitto Group has successfully scrapped approximately 16% of equipment using HCFCs over the past three years. Our goal is to abolish all such equipment in Japan, Taiwan, the U.S., and Europe by the end of fiscal 2020 and in other regions by the end of fiscal 2030. At the same time, according to the Kigali Amendment, we preferentially purchase equipment using refrigerants with low global warming potential.

## Efficient Use of Resources

For efficient use of resources, the Nitto Group is taking the 3R (Reduce, Reuse, and Recycle) approach. In so doing, we make it a rule to use our own products and technologies to establish their effectiveness, so that we can pitch such products and technologies to other companies.

	FY2025 target
Waste reduction	21% reduction in per unit production (vs. FY2015 levels)

## Reduction / Cyclical Utilization of Waste

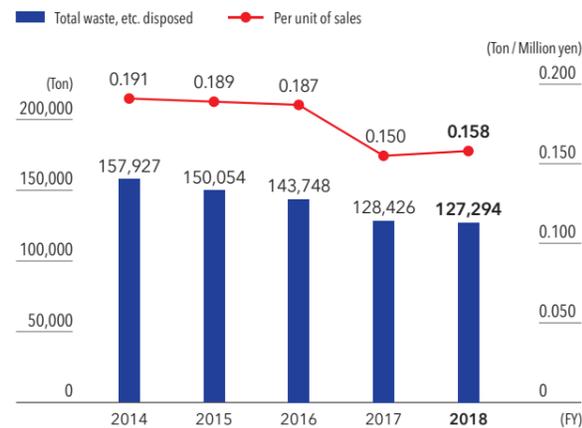
### Meeting the Target Earlier by Reducing Liquid Waste

In 2016, Nitto Denko Fine Circuit Technology (Shenzhen) Co., Ltd. introduced new equipment for separating liquid waste, which accounts for a large portion of waste, to reduce 15,210 tons of waste per year.

To reduce residues generated when distilling toluene from used solvents, Nitto's Toyohashi Plant introduced in FY2018 a process where toluene is separated more finely from residues for recycling, thus successfully reducing the residues by approximately 3% per year.

As a result of these initiatives, we were able to reduce waste to 128,426 tons in fiscal 2017, meeting the 2025 target earlier than originally planned, with a further reduction by 1,132 tons to 127,294 tons in fiscal 2018. To maintain this momentum, we are in the process of setting a new long-term target.

### Total Waste, Etc. Disposed



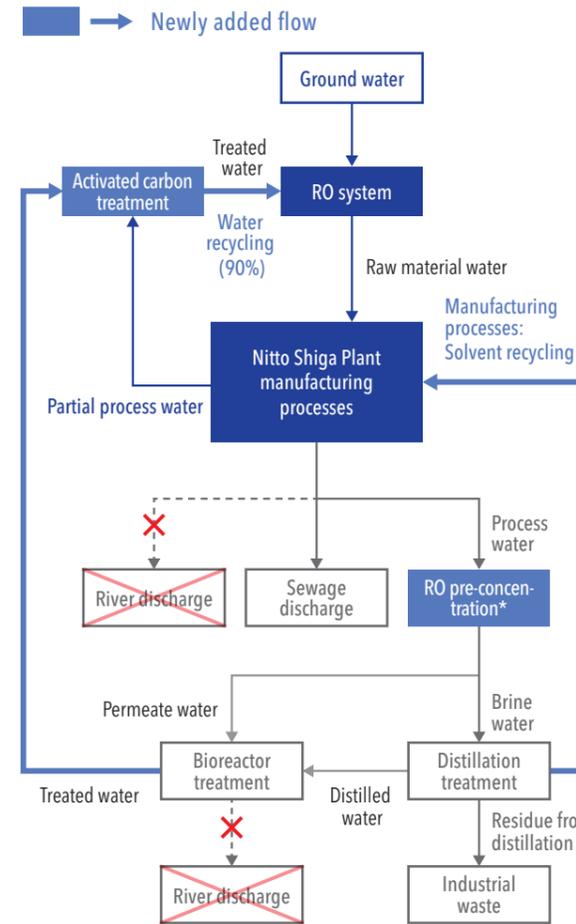
## Recycling of Water Resources

### Leveraging our proprietary technologies to increase the process wastewater and liquid waste recycling rate at the Shiga Plant to 90%

Given water is absolutely necessary for any production process, the Nitto Group promotes water recycling for its sustainable use.

Nitto's Shiga Plant reduces the amount of water used by recycling it through the application of our proprietary technology of ultrahigh-pressure reverse osmosis (RO) membranes for extracting impurities from wastewater, with the aim of increasing the wastewater recycling ratio to 90% by fiscal 2022. We will apply knowledge and experiences gained at the Shiga Plant to similar processes at other plants.

## Water Supply and Drainage System Flow Chart (Plan)



\* Anti-fouling and high-pressure resistance properties are required for RO elements

## Emissions-reduction of Pollutants and Hazardous Substances

The Nitto Group is trying to minimize the environmental impact (on the surrounding / work environments) by curbing the use of hazardous substances as much as possible and, in the event that they have to be used, managing them appropriately.

Among such substances, the Nitto Group is focused on reducing emissions of toluene, which it consumes in large quantities.

	FY2020 target
Atmospheric toluene emissions (non-consolidated)	200 tons/year

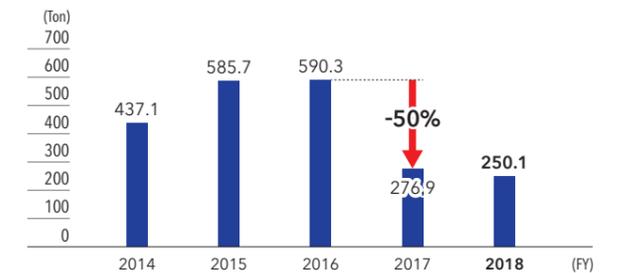
## Prevention of Air/Water Pollution

### Significantly reducing atmospheric toluene emissions by replacing materials/equipment

Between fiscal 2016 and 2017, the Nitto Group achieved a significant reduction of atmospheric toluene emissions (approximately 300 tons) through a combination of measures, including changeover to solvents with less environmental impact, replacement of coaters, and prevention of leakage from buildings.

Also in fiscal 2018, atmospheric toluene emissions were further reduced by introducing a series of measures, including reinforcing treatment of exhaust from toluene adhesive coaters at the Tohoku Plant, with the result that its emissions were reduced by 26.8 tons/year.

### Atmospheric toluene emissions (non-consolidated)



## Solvent-Free, Double-Sided Adhesive Tape Receives the Environmental Award

Nitto's solvent-free, double-sided adhesive tape received the "Excellence Award," a category of the 46th Environmental Award (co-sponsored by the National Institute for Environmental Studies, Japan and Nikkan Kogyo Shimbun, Ltd. and supported by the Ministry of the Environment of Japan). Using no toluene and other organic solvents in the manufacturing process, this human- and eco-friendly tape has found diverse applications including automobiles, home electronics, and housing materials.



Completely solvent-free double-sided adhesive tape