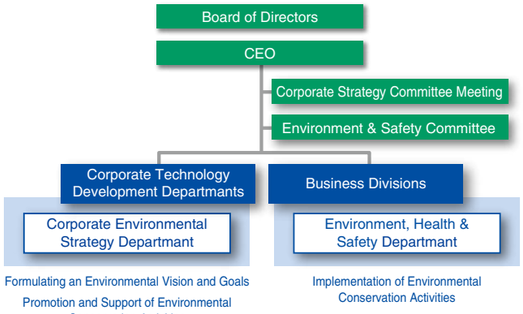
Environmental Conservation

The Nitto Group adopts the following approaches with the aim of realizing a sustainable society.

While paying regard to the letter and spirit of environmental laws in all countries where we operate, we act with integrity and a commitment to environmental preservation both locally and globally.

Environmental Management System



Our environmental vision and goals, which are set by the Corporate Environmental Strategy Department, are reviewed by the Board of Directors or Corporate Strategy Committee Meeting after discussion by members of the Environment and Safety Committee, in which the President and executives participate. In order to achieve the vision and goals drawn up, the Environment, Health and Safety Department of each business division plays a central role in implementing environmental conservation activities, while the Corporate Environmental Strategy Department promotes and supports the activities.

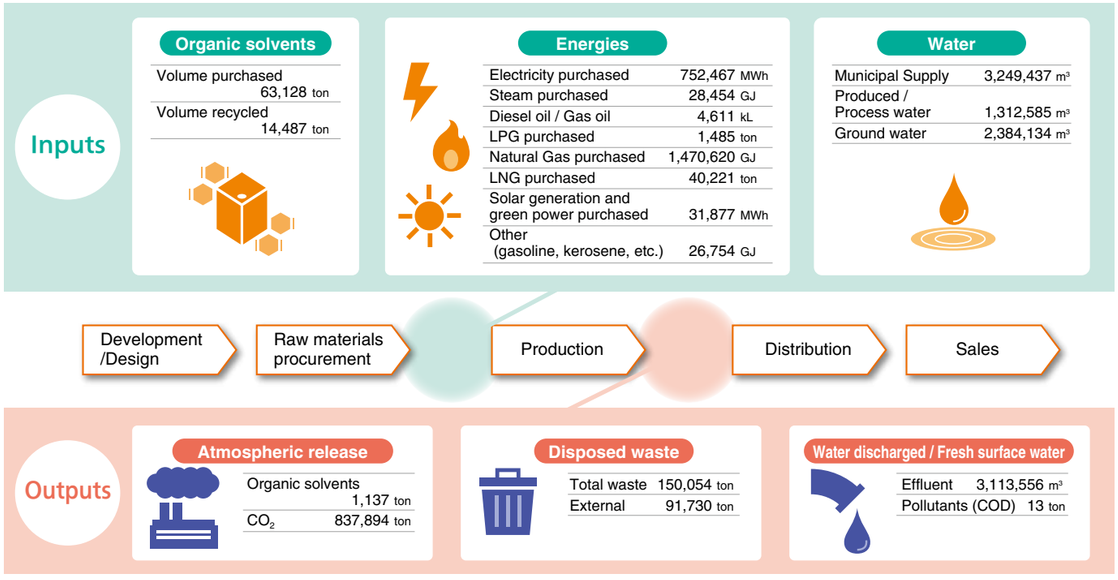
Environmental Impact of Our Business Activities (Material Flow)

As the Nitto Group uses large amounts of chemical substances in our business activities, we have concerns about our environmental impact. For example, organic solvent vaporizes in the production of adhesive tapes, so we render it harmless. However, some solvent gases escape into the atmosphere, though the amount is infinitesimal.

In addition to chemical substances, we use a lot of energy, materials and water. In order to use those resources as efficiently as possible, we improve production processes and replace old facilities.

It is of concern to us that the CO_2, waste and effluent that is ultimately generated by our production processes may have a negative impact on the environment. Therefore, we conduct voluntary management more strictly than standards requested by laws and ordinances of each country where we operate.

■ Material Flow



Approaches to Environmental Conservation

By including “climate change”, “depletion of resources”, “water crisis” and “biodiversity decrease” in our materiality, the Nitto Group has set goals of CO_2 and toluene emissions in our mid-term plan. Furthermore, we will continue to engage in reduction of air emissions of PRTR*1 substances, as well as proper management of waste.

Adoption of Energy Visualization System

We promote energy-saving activities in energy-intensive processes and equipment.

In fiscal 2012, we began to grasp the amount of energy consumed per machine (energy-saving analysis), and in fiscal 2013, we drew up a standard for energy-saving analysis. So far, we have implemented energy-saving analysis at major energy-intensive bases.

In fiscal 2015, in order to make energy-saving analysis more efficient, we began introducing an Energy Visualization System to bases in Japan, mainly where energy-saving analysis had already been conducted. With the system, it has become possible to monitor the amount of energy consumed at any time and easier to ascertain which equipment requires measures to reduce energy consumption and to determine the efficacy of such measures. In addition, it is also possible to appropriately manage and analyze data, taking energy-saving measures based on such data at two bases in Japan. According to these approaches, we not only share information at Energy-Saving Training and Exchange Meetings, but also address the promotion of further activities by cultivating human resources.

Installation of Solvent Recovery Equipment

Until now, incineration was the most common means of treating organic solvent gases. However, from the viewpoint of using fossil fuels and dealing with climate change, we introduced solvent recovery equipment to our Kanto Plant in December 2015. The equipment has a system in which organic solvents contained in exhaust gas are absorbed and recovered by using activated carbon, resulting in the reuse of a significant amount of organic solvent produced in the production process.

Solvent recovery equipment installed at the Kanto Plant

These energy-saving activities are considered to be effective approaches in preventing the depletion of resources.

Use of MFCA

In order to reduce waste in the production process, we promote the use of Material Flow Cost Accounting (MFCA)*2. MFCA is known as a tool in environmental management accounting, visualizing the loss of raw materials and energy, reducing the waste of resources. The Nitto Group calls this method MATEFURO, and uses it in environmental conservation activities.

In fiscal 2014, we organized a MATEFURO Committee centered on Japan, further promoting adoption of the system. Until now, we have analyzed and reduced loss at key production bases of each division using MATEFURO. In fiscal 2015, we sought to strengthen these activities in East Asia (Korea and Taiwan). With the aim of making MATEFURO, an activity across the whole Group, we regularly hold MATEFURO (MFCA) Assembly, in which many participants from not only Japan, but also abroad, participate.

The Third MATEFURO Assembly, March 2016

*1 PRTR: Pollutant Release and Transfer Register (System in Japan)

*2 MFCA (Material Flow Cost Accounting): One method of environmental accounting. By focusing on the loss of raw materials and energy in the production process, we can visualize waste from both the physical and monetary sides. MFCA was ISO standardized in 2011 (ISO14051).

Environmental Data

■ Total Input Energies

GJ

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	4,151,932	4,198,503	4,310,971	4,385,508	4,218,336
The Americas	98,875	75,445	73,625	245,444	377,032
Europe	232,359	230,354	227,016	342,474	353,345
Asia and Oceania	1,469,556	1,335,697	1,188,198	1,781,411	1,732,841
Total	5,952,722	5,839,999	5,799,810	6,754,837	6,681,554

■ CO_2 Emissions (Scopes 1 + 2)

ton

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	492,188	515,312	531,461	540,689	521,562
The Americas	10,911	8,539	7,836	27,059	37,430
Europe	29,707	29,223	30,646	44,090	44,919
Asia and Oceania	213,460	204,985	202,176	241,294	233,983
Total	746,266	758,059	772,119	853,132	837,894

■ Water Withdrawal*

m^3

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	4,177,867	4,643,514	4,322,852	4,328,713	4,171,581
The Americas	–	–	–	580,896	719,810
Europe	–	–	–	85,351	88,057
Asia and Oceania	–	–	–	2,202,531	1,966,708
Total	–	–	–	7,197,491	6,946,156

■ COD Discharge / Fresh Surface Water*

ton

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	–	–	–	15.1	11.4
The Americas	–	–	–	0	0
Europe	–	–	–	0	0
Asia and Oceania	–	–	–	2.2	2.0
Total	–	–	–	17.3	13.4

* As some of the data for some bases are not available, '–' has been used.

■ Disposed Waste

ton

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	62,596	66,016	66,923	74,658	73,365
The Americas	872	1,034	936	7,532	8,370
Europe	3,062	3,353	3,685	9,697	10,426
Asia and Oceania	50,870	49,381	59,197	66,040	57,893
Total	117,400	119,784	130,741	157,927	150,054

■ Percentage of Disposed Waste Recycled*

%

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	–	–	–	92	93
The Americas	–	–	–	23	17
Europe	–	–	–	57	56
Asia and Oceania	–	–	–	31	28
Total	–	–	–	61	61

■ Hazardous Waste*

ton

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Japan	–	–	–	6,114	6,248
The Americas	–	–	–	438	495
Europe	–	–	–	656	654
Asia and Oceania	–	–	–	37,311	30,055
Total	–	–	–	44,519	37,452

■ Atomospheric Release of PRTR Substances (non-consolidated)

ton

	Fiscal 2011	Fiscal 2012	Fiscal 2013	Fiscal 2014	Fiscal 2015
Toluene	461.8	477.0	463.8	437.1	585.7
Xylene	3.2	2.5	2.2	8.9	9.0
N-hexane	10.0	16.9	18.3	10.6	11.5
Butyl acrylate	3.9	0.003	2.6	2.6	3.1
2-hydroxyethyl Acrylate	0.2	0.2	0.2	0.2	0.1

Data relating to the environment: Some past figures have been revised. Formulae used in the calculations are posted on Nitto's website.