# Prevention of Global Warming and Air Pollution

Global warming is caused by multiple factors, including CO2. At Nitto Denko Corporation, approximately 70% of its CO2 emissions are from the use of energy and roughly 25% from the treatment of organic solvents. To reduce these CO2 emissions, we are focusing on a more efficient use of energy, fuel conversion, and the development of products that can be manufactured without using organic solvents.

#### Reduction in CO<sub>2</sub> Emissions and Energy Saving

(Nitto Denko Corporation on a Non-Consolidated Basis)

#### Introducing an Energy Management System That Fosters Energy Saving Activities

At Nitto Denko Corporation, approximately 70% of its CO2 emissions are from the use of energy and roughly 25% from the incineration of organic solvent vapors. To reduce these emissions, we are introducing energy-saving equipment, replacing fuels with those that emit less CO<sub>2</sub>, and changing the organic solvent treatment method. In fiscal 2005, unit CO<sub>2</sub> emissions decreased 16% from the fiscal 2004 level, to 1,109 CO<sub>2</sub>- metric tons per 1 million yen. Total emissions, however, show an upwards trend due to the expansion of business. We must urgently implement measures that counteract

In fiscal 2005, unit energy consumption came to 368 liters per 1 million yen, and we were able to achieve the target for fiscal 2010 earlier than planned. The replacement of an oxidizer with a regenerative one, recycling of residues from the rectifying process, and revision of the energy balance at the Toyohashi Plant greatly contributed to the improvement in unit energy consumption.

In response to the increase in energy consumption following the business expansion, we introduced an energy management system in January 2006 to each of the Tohoku, Kanto, Kameyama, and Shiga Plants, which made it easier to understand and analyze energy use at those plants. In the future, we will use the data obtained through the system to conduct more effective energy saving activities. Furthermore, in July 2006, a solar power generation system will be completed and launched at the Onomichi Plant. (see pages 17 and 18.)

## **Emissions of Organic Solvent Vapors into the Air**

(Nitto Denko Corporation on a Non-Consolidated Basis)

#### Reducing Emissions 73% from the Fiscal 2000 Level and Achieving the Target for Fiscal 2005

In fiscal 2005, Nitto Denko Corporation emitted 1,131 metric tons of organic solvent vapors into the air, down 73% from the fiscal 2000 level.

The use of organic solvents, however, came to 49,746 metric tons in fiscal 2005, increasing year on year in accordance with increased production. To reduce the use of organic solvents, we will endeavor to develop products that can be manufactured without the use of these solvents and implement measures to recover organic solvent vapors that escape from gaps in solvent drying equipment.

#### **Promoting Solvent-Free Manufacturing**

#### **Developing Products That Can Be Manufactured** without the Use of Organic Solvents through **Various Alternative Methods**

To reduce the use of organic solvents, we are developing solvent-free manufacturing methods. These methods include the emulsion method using water, hot-melt method using heat, and UV-cured method using light shined on materials.

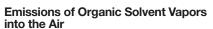
#### Examples of products manufactured without the use of solvents

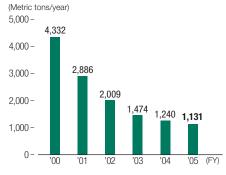
SPV-M Series, A Series, part of the C Series (surface protection material), paper masking tape, etc.

Incinerating organic solvent vapors generated in the manufacturing process with the use of emission vapor treatment equipment emits CO<sub>2</sub>. Such emissions are now excluded from the target of international reporting requirements on CO<sub>2</sub>. The Nitto Denko Group, however, considers these emissions as one of the factors that increase CO<sub>2</sub> content in the air and manages them as CO<sub>2</sub> emissions from its business operations.

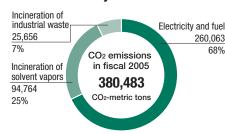
#### Nitto Denko Corporation (on a non-consolidated basis)

#### CO<sub>2</sub> Emissions and Unit CO<sub>2</sub> Emissions Emissions (1,000 CO<sub>2</sub>-metric tons/year) (CO<sub>2</sub>-metric tons/¥1 million) 800 380.5 .367)(1.319) 600 -(1.648)(1.615) 1.109 335.0 306.2 331.9 340.0 371.7 400 -10 227.4 200 -'00

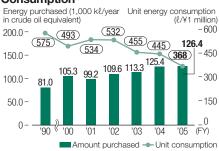




## CO<sub>2</sub> Emissions by Source



#### **Energy Purchased and Unit Energy** Consumption



Emissions of Major PRTR Substances into the Air (Metric tons/year)						
Chemical Substance	2000	2001	2002	2003	2004	2005
Toluene	3,236	2,067	1,379	678	610	653
Dichloromethane	178	72	72	83	89	6
Xylene	27	26	16	20	16	11
Di-n-butyl phthalate	3	2	0	0	0	0
Ethylene glycol monomethyl ether	2	0	2	2	2	0
Ethylene glycol	0	0	0	1	1	0
Dichloropentafuluoropropane	19	14	7	3	2	1
Bis (2-ethylhexyl) phthalate	5	4	4	0	0	0
Poly (oxyethylene) nonylphenyl ether	3	9	3	1	0	0
Acrylic acid	1	1	1	0	0	0
Ethylbenzene	0	0	8	8	9	4
N, N-dimethylformamide	0	0	0	0	28	2