

# SITE REPORT 2007

NGK INSULATORS Group Environmental Data (by Plant)

## Environmental Activities by NGK (Period: April 1, 2006 to March 31, 2007)

### Nagoya Plant

[Address] 2-56, Suda-cho, Mizuho, Nagoya 467-8530, Japan

[Major Production Items] HONEYCERAM® and NAS® batteries



#### Core Policy on the Environment

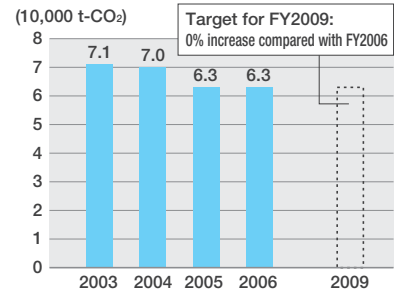
Nagoya, Chita and Komaki Plants obtained the ISO14001 certification simultaneously in March 1998.

1. We shall observe laws and regulations on pollution prevention agreements with control authorities and other environmental requirements.
2. We shall set objectives and targets on environment to promote environmental management activities. We shall periodically revise our environmental management system to upgrade it continuously.
3. We shall make efforts in prevention of global warming (promotion of energy conservation, 3R activities (reduce, reuse and recycle for reduction of wastes), management of chemical substances (reduction of chemical substances used) and control of air and water pollutions, in order to reduce environmental impact generated by our production and R&D activities, aiming at forming the recycling-based society.
4. We shall promote developing environmentally-conscious processes and products with lower environmental impact which benefit the social environment, as well as procuring green products.
5. We shall train and educate our employees to raise their awareness for the environment.
6. We shall actively involve ourselves in community relations activities relating to environmental conservation in order to amicably coexist with the communities surrounding us.

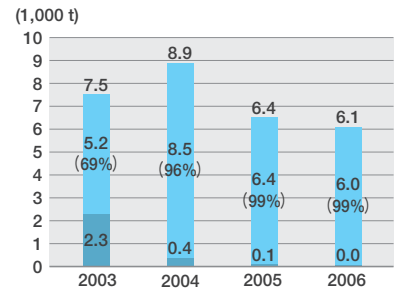
#### Activities in FY2006

1. Prevention of Global Warming: Increase of greenhouse effect gasses due to an increase of production was reduced through energy saving activities such as effective utilization of waste heat and upgrading productivity. Overall emission of greenhouse effect gasses was curbed to the level in FY2005.
2. Reduction of By-Product Generation: Total amount of by-products generated was reduced by 5% compared with FY 2005 through rationalization of production processes and reuse of by-products. We maintain zero emission in FY2006 as well.
3. Nagoya Plant accepted plant tour of in total of 164 junior high, senior high and university students. They deepened understandings on how we address environmental conservation.

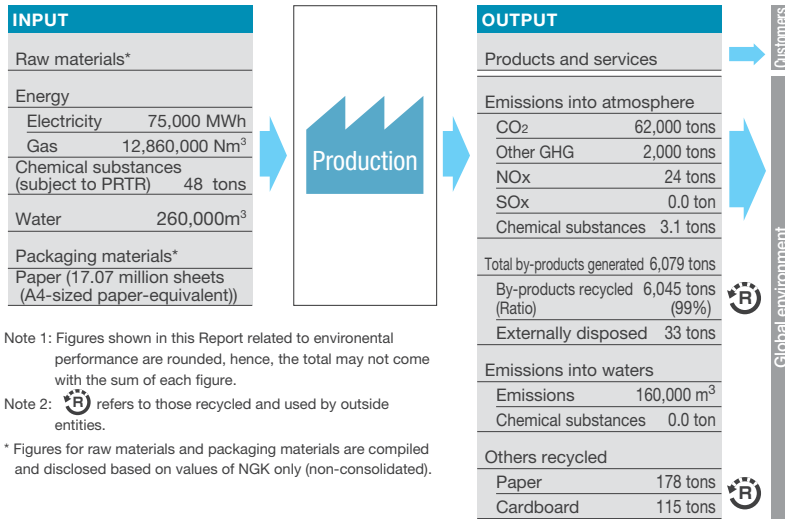
#### Shift of Greenhouse Gas (GHG) Emissions and Reduction Targets



#### Generation of By-Products



#### INPUT · OUTPUT



Note 1: Figures shown in this Report related to environmental performance are rounded, hence, the total may not come with the sum of each figure.

Note 2: ♻️ refers to those recycled and used by outside entities.

\* Figures for raw materials and packaging materials are compiled and disclosed based on values of NGK only (non-consolidated).

Amount recycled (light blue), Amount externally disposed (dark blue). Figures in parenthesis indicates the ratio of recycled use.

#### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	144*1	ND~66
Soot and dusts (g/Nm <sup>3</sup> )	0.08*2	ND~0.016
SOx (Nm <sup>3</sup> /Hr)	—	—
Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.0~9.0*3	6.9~7.8
SS (mg/l)	600*3	4~67
BOD (mg/l)	600*3	1.8~24
Oil (mg/l)	5*3	ND~0.6
Copper (mg/l)	3*3	ND~0.01
Zinc (mg/l)	5*3	0.02~0.04
Soluble iron (mg/l)	10*3	ND
Soluble manganese (mg/l)	10*3	ND

Note \*1: Regulations and Guidelines of Aichi Prefecture.

\*2: Air Pollution Control Law

\*3: Sewerage Law

#### Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Formaldehyde	12.96	0.91	0.00	0.00	0.00	0.00	0.00
Toluene	11.86	0.18	0.00	0.00	0.00	0.00	0.01
Acetaldehyde	7.22	0.20	0.00	0.00	0.00	0.00	0.00
Xylene	5.73	0.11	0.00	0.00	0.00	0.00	0.62
Hydrogen fluoride and its water-soluble salts	4.41	1.46	0.00	0.00	0.00	0.01	0.43
Ethylene glycol	1.69	0.00	0.00	0.00	0.00	0.07	1.60
Nickel compounds (Designated Chemical Substances)	1.30	0.00	0.00	0.00	0.00	0.06	0.98
<b>Total</b>	<b>48.20</b> (52 substances)	<b>3.08</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.15</b>	<b>4.43</b>

#### Legend (common to the entire plants)

pH: Concentration of hydrogen ions  
 SS: Suspended solids in water  
 BOD: Biochemical oxygen demand  
 COD: Chemical oxygen demand  
 ND (not detectable): Values below the determination limit

# Environmental Data

## Chita Plant

[Address] 1, Maegata-cho, Handa, Aichi 475-0825 Japan

[Major Production Items] Insulators, equipment for electrical transmission and distribution, ceramic products for chemical industries, beryllium-copper strips, ceramic components for semiconductor manufacturing equipment, etc.



### Core Policy on the Environment

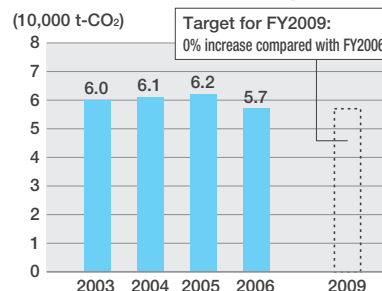
Nagoya, Chita and Komaki Plants obtained the ISO14001 certification simultaneously in March 1998.

1. We shall strive to prevent pollutions to air water, etc., and observe laws and regulations related to them as well as agreements with control authorities and other environmental requirements.
2. We shall set and periodically revise objectives and targets on environment to promote environmental management activities. We shall periodically revise our environmental management system to upgrade it continuously.
3. We shall make efforts in reduction of CO2 generation, promotion of 3R activities as well as management of chemical substances in order to reduce environmental impact generated by our production and R&D activities, aiming at forming the recycling-based society.
4. We shall develop designs, improve our production engineerings and promote R&D activities in order to reduce environmental impact.
5. We shall train and educate our employees to raise their awareness for environment.
6. We shall actively involve ourselves in community relations activities to amicably coexist with the communities surrounding us.

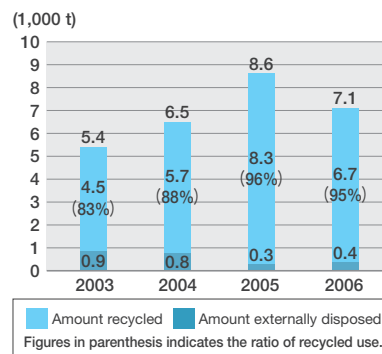
### Activities in FY2006

1. Prevention of Global Warming: Increase of greenhouse effect gasses due to an increase of production was reduced through energy saving activities and replacement of SF6 gas with alternative gasses. Overall emission of greenhouse effect gasses was reduced by 7% compared with FY2005.
2. Reduction of By-Products: Total generation of by-products was reduced by 17% compared with FY 2005 through revising production engineerings. In addition, we maintain zero emission by developing external entities for recycling process responding to production increase.
3. A voluntary inspection was conducted to soil from a part of its employee recreation facility sites in Chita Plant. As we detected hazardous substances (fluorine, boron and lead), from the sampled soil and underground water the result was reported to Aichi Prefectural and Handa Municipal Governments. Emergency and permanent measures were taken and an explanation meeting was held to the community.

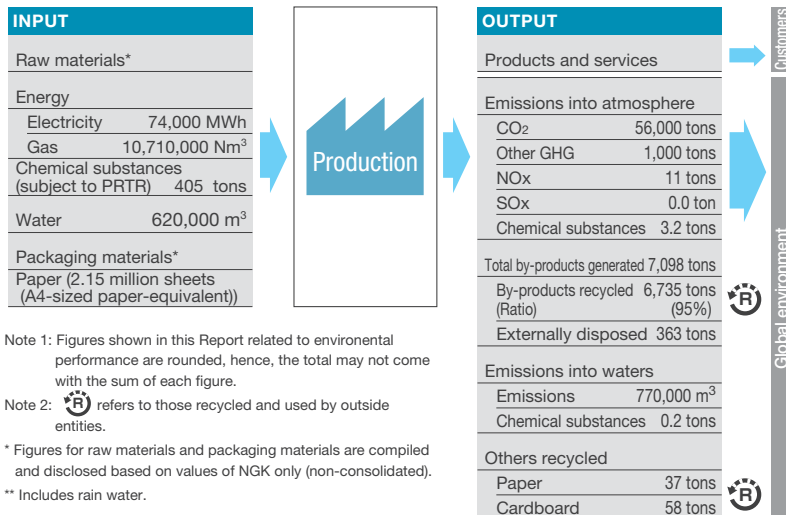
### Shift of Greenhouse Gas (GHG) Emissions and Reduction Targets



### Generation of By-Products



### INPUT-OUTPUT



Note 1: Figures shown in this Report related to environmental performance are rounded, hence, the total may not come with the sum of each figure.

Note 2: ♻️ refers to those recycled and used by outside entities.

\* Figures for raw materials and packaging materials are compiled and disclosed based on values of NGK only (non-consolidated).

\*\* Includes rain water.

### Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Beryllium and its compounds (Designated Chemical Substances)	274.39	0.00	0.00	0.00	0.44	0.00	0.14
Nickel	59.70	0.00	0.00	0.00	1.17	0.00	0.14
Cobalt and its compounds	49.87	0.00	0.00	0.00	1.79	0.00	0.02
Manganese and its compounds	6.53	0.00	0.22	0.00	0.00	0.00	0.00
Chromium and trivalent chromium compounds	4.75	0.00	0.00	0.00	0.00	0.00	0.00
Copper water-soluble salt	4.45	0.00	0.01	0.00	0.00	0.00	4.44
Hydrogen fluoride and its water-soluble salt	2.19	2.18	0.00	0.00	0.00	0.00	0.00
Toluene	1.06	0.13	0.00	0.00	0.00	0.00	0.93
Dioxins (Designated Chemical Substance)	—	0.00445 mg/year	0.00	0.00	0.00	0.00	0.00196 mg/year
<b>Total</b>	<b>405.01</b> (36 substances)	<b>3.24</b>	<b>0.24</b>	<b>0.00</b>	<b>3.39</b>	<b>0.00</b>	<b>6.50</b>

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	150 <sup>*1</sup>	ND~51
Soot and dusts (g/Nm <sup>3</sup> )	0.2 <sup>*1</sup>	ND~0.006
SOx (Nm <sup>3</sup> /Hr)	—	—

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6 <sup>*1</sup>	6.5~7.2
SS (mg/l)	30 <sup>*1</sup>	2~8
COD (mg/l)	20 <sup>*1</sup>	3.0~0.8
Oil (mg/l)	2 <sup>*1</sup>	ND~0.8
Copper (mg/l)	1 <sup>*1</sup>	0.01~0.04
Zinc (mg/l)	1 <sup>*1</sup>	0.04~0.18
Soluble iron (mg/l)	0.5 <sup>*1</sup>	ND
Soluble manganese (mg/l)	5 <sup>*2</sup>	0.3~0.8
Total nitrogen (mg/l)	20 <sup>*3</sup>	1.8~10.0
Total phosphorus (mg/l)	1 <sup>*3</sup>	0.03~0.16

Note \*1: Pollution control agreement with Handa City

\*2: Regulations of Aichi Prefecture

\*3: Voluntary control criteria

## Komaki Plant



[Address] 1, 1155, Tagami, Futaebori, Komaki, Aichi 485-8566, Japan

[Major Production Items] Suspension insulators for electrical transmission, equipment for electrical transformation and distribution, NAS® batteries, SiC-DPFs (diesel particulate filters), etc.

### Core Policy on the Environment

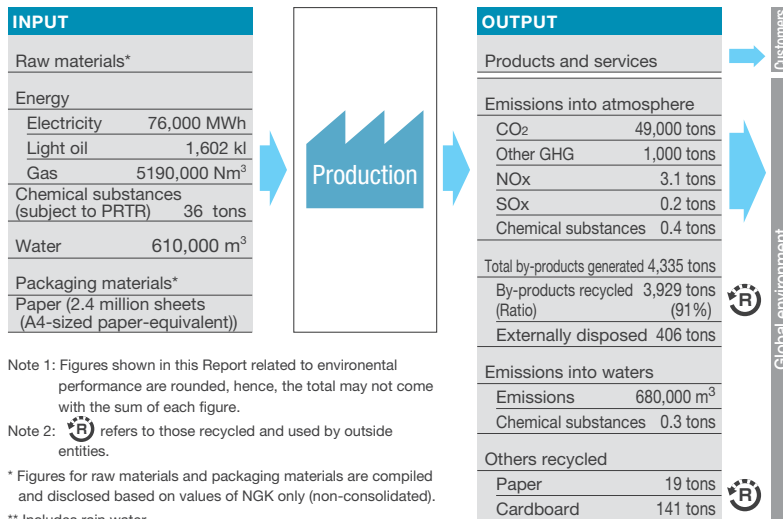
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3. We shall make efforts in prevention of global warming (promotion of energy conservation), 3R activities (reduce, reuse and recycle) and management of chemical substances, in order to reduce environmental impact generated by our production and R&D activities, aiming at forming the recycling-based society.
4. We shall promote developing environmentally-conscious processes and products with lower environmental impact which benefit the social environment.
5. We shall train and educate our employees to raise their awareness for the environment.
6. We shall actively involve ourselves in community relations activities relating to environmental conservation in order to amicably coexist with the communities surrounding us.

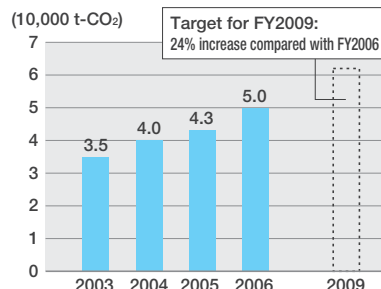
### Activities in FY2006

1. Prevention of Global Warming: Increase of greenhouse effect gasses due to a substantial increase of production was reduced through fuel conversion, energy saving activities and improvement of SF6 gas handling facilities. Overall emission increase of greenhouse effect gasses was curbed to 16% compared with emitted in FY2005.
2. Reduction of By-Products: Generation of by-products was increased due to increased production. However, generation amount was successfully reduced through improving production engineering and boosted yields.
3. A summer festival is held in July at this plant, and it accepted the participants of over 2,500 in 2006. The plant maintains good communication with the residents of the community by holding such events including a plant tour for ward mayors in December.

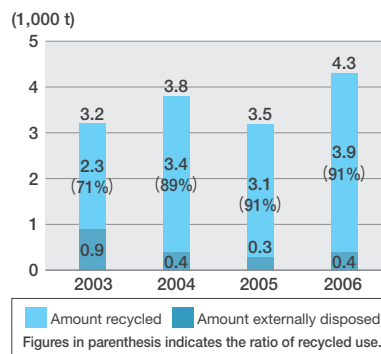
### INPUT-OUTPUT



### Shift of Greenhouse Gas (GHG) Emissions and Reduction Targets



### Generation of By-Products



### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	170 <sup>*1</sup>	4.6~93
Soot and dusts (g/Nm <sup>3</sup> )	0.2 <sup>**2</sup>	ND~0.02
SOx (Nm <sup>3</sup> /Hr)	9.17 <sup>**2</sup>	ND~0.03
Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.0 <sup>**2</sup>	6.3~7.5
SS (mg/l)	80 <sup>**2</sup>	ND~16
BOD (mg/l)	17 <sup>**2</sup>	ND~15
Oil content (mg/l)	5 <sup>*3</sup>	ND~1.4
Copper (mg/l)	3 <sup>*3</sup>	ND~0.02
Zinc (mg/l)	3 <sup>*2</sup>	0.04~2.0
Soluble iron (mg/l)	10 <sup>*3</sup>	0.14~0.17
Soluble manganese (mg/l)	10 <sup>*3</sup>	0.02~0.09
Total nitrogen (mg/l)	20 <sup>**4</sup>	2.1~6.3
Total phosphorus (mg/l)	1 <sup>**4</sup>	0.04~0.48

Note \*1: Regulations and ordinances of Aichi Prefecture  
 \*\*2: Environmental conservation agreement with the Komaki Municipal Government  
 \*3: Water Pollution Control Law  
 \*\*4: Voluntary control criteria

### Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Bisphenol-A epoxy resin (Polycondensation of 4, 4' - isopropylidenediphenol and 1-chloro-2, 3-epoxypropane)	21.69	0.00	0.00	0.00	0.00	0.00	0.22
Antimony and its compounds	3.61	0.00	0.00	0.00	0.00	0.00	0.37
Manganese and its compounds	3.38	0.00	0.03	0.00	0.00	0.00	0.04
Chromium and trivalent chromium compounds	2.49	0.00	0.00	0.00	0.00	0.00	0.08
Cobalt and its compounds	1.37	0.00	0.00	0.00	0.00	0.00	0.13
Nickel compounds (Designated Chemical Substances)	0.60	0.00	0.00	0.00	0.00	0.00	0.06
<b>Total</b>	<b>35.84</b> (23 substances)	<b>0.43</b>	<b>0.06</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>2.01</b>

# Environmental Data

## Environmental Activities by Domestic Group Companies

(Period: April 1, 2006 to March 31, 2007)



### Energy Support Corporation

[Address] 1, Kamikobari, Inuyama, Aichi 484-8505 Japan

[Major Production Items] Production of electric machines, equipment for measuring, metering and analyzing, and energy supply devices and apparatus

#### Brief Explanation of the Company

Today, prevention of global warming and construction of a recycling-based society are of social demands. Recognizing that protection of the global environment is one of its social missions, this company positions it as the most important theme in corporate management.

In 1999, the company introduced environmental management system, and in the following year, it acquired the ISO14001 certification and is working on sustainment and improvement of the environment.

#### Activities in FY2006

The company's environmental conservation activities consist of energy saving through streamlining of operations, environmentally-conscious design, reduction of greenhouse gas emissions and by-product generation, and promotion of recycling. Aiming at developing the company contributing to the energy industries by considering the environment in all processes of its corporate activities, the company is involving itself in protecting the global environment.

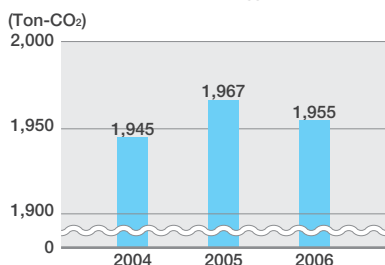
##### 1. Efforts to Abolish Harmful Substances

- Aiming at abolition of harmful substances from our products, the company is constantly searching for and producing alternative items in order to realize environmentally-conscious design.

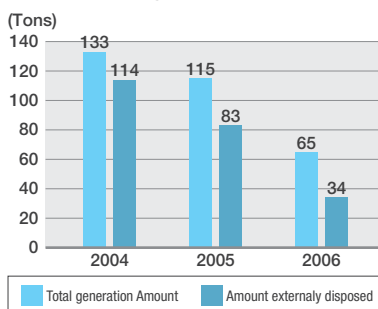
##### 2. Promotion of Activity Themes Directly Linked to Operation

- In addition to promotion of Eco-Office (reduction of paper and electricity used, as well as trash), each department in the company sets environment-related themes directly related to its own businesses and develops activities contributing to conservation of the environment through reducing environmental impact by raising job efficiencies.

#### Shift of Generation of Energy-Oriented CO<sub>2</sub>



#### Generation of By-Products



#### Accidents and Law Suits Related to the Environment

Nothing

#### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	150* <sup>1</sup>	46~48
Soot and dusts (g/Nm <sup>3</sup> )	0.1* <sup>2</sup>	ND

Note: Applicable Laws \*1: Voluntary control criteria \*2: Air Pollution Control Law

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	6.7~7.6
SS (mg/l)	200	ND~2
BOD (mg/l)	160	ND
COD (mg/l)	160	ND~2
Oil (mg/l)	5	ND
Copper (mg/l)	3	ND
Zinc (mg/l)	5	0.04
Total nitrogen (mg/l)	120	2.5~3
Total phosphorus (mg/l)	16	ND

Note: Applicable Laws Applicable Law: Water Pollution Control Law

#### Amount of PRTR-listed Substances handled, released and transferred

(Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Lead	18.66	0.00	0.00	0.00	0.00	0.00	0.00
Bisphenol-A epoxy resin	2.93	0.00	0.00	0.00	0.00	0.00	0.41
Antimony	0.98	0.00	0.00	0.00	0.00	0.00	0.00

### Akechi Insulators Co., Ltd.

[Address] 1001-200, Akechi-cho, Ena, Gifu 509-7712 Japan

[Major Production Items] Production of ceramics for insulators and acid-proof devices



#### Brief Explanation of the Company

Under the basic corporate philosophy of 'Conserve the global environment and create nature-friendly company,' environmental conservation is positioned as one of the important pillars of corporate management for the company. The company also sets it one of its corporate missions to protect the irreplaceable global environment and the nature, as one of the members of global citizens. In the era when corporate social responsibility gains attention of the public, the company is determined to contribute to solving various global environmental issues through disclosing our corporate information to the society and social environmental contribution activities with the united efforts with various citizens' organizations. At the same time, the company will voluntarily shift itself from 'adjusting to the environment' to a higher target of 'environmental conservation.'

#### Activities in FY2006

##### 1. Reduction of CO<sub>2</sub> Emission

- After improvement of efficiency in kiln setting, revised use of mercury lamps and mounting of heat exchangers, the company achieved reduction of CO<sub>2</sub> emissions by 7.2% per unit production weight year-on-year.

##### 2. Reduction of By-Product Generation

- Reduction of using ceramic sand, glaze, waste cement, etc., successfully contributed to reduction of by-products generated by 20.8% per unit production weight.

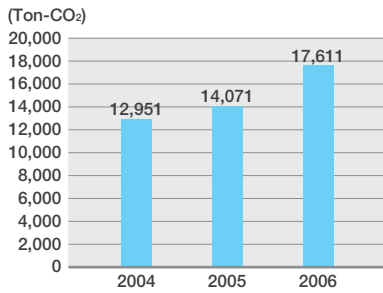
##### 3. Handling and Reduction of Chemical Substances

- The company is continuing a test to replace solvents with eco-friendly ones.

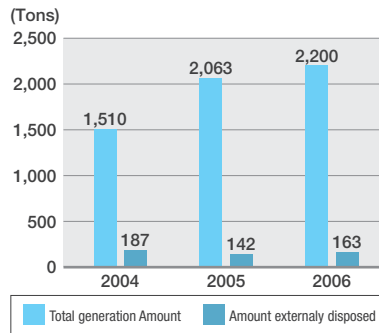
##### 4. Other Activities

- A pond filled with final effluent water was newly created.. Carps were released to the pond, and a system was introduced to monitor the quality of water regularly.

Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



Amount of PRTR-listed Substances handled, released and transferred

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Lead and its compounds	3.31	0.00	0.00	0.00	0.00	0.00	0.02
Manganese and its compounds	2.61	0.00	0.00	0.00	0.00	0.00	0.03
Chromium and trivalent chromium compounds	1.27	0.00	0.00	0.00	0.00	0.00	0.02

Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	400	3.25~3.51
Soot and dusts (g/Nm <sup>3</sup> )	0.25	0.02~0.0242
SOx (Nm <sup>3</sup> /Hr)	1.87	0.07~0.08

Note: Applicable Law: Air Pollution Control Law

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7.2~7.7
SS (mg/l)	200	5~30
BOD (mg/l)	50*	1~29
COD (mg/l)	20*	3.6~18
Oil (mg/l)	5	1.4
Copper (mg/l)	10	ND
Zinc (mg/l)	10	ND
Total nitrogen (mg/l)	120	0.17~2.4
Total phosphorus (mg/l)	16	0.01~0.43

Note: Applicable Laws

\* Ordinances of Gifu Prefecture Water Pollution Control Law

Ikebukuro Horo Kogyo Co., Ltd.

[Address] 735, Shimotomi, Tokorozawa, Saitama 359-0001 Japan

[Major Production Items] Production of glass lining apparatus



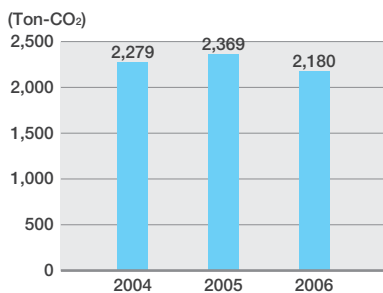
Brief Explanation of the Company

Following acquisition of a certification of a quality management system, ISO9001, in August 1997, the company was certified according to ISO14001, an environmental management system, in April 2004. The company is determined itself to contribute to realization of a better social environment and to the local community through maintaining improved activities for the environmental management.

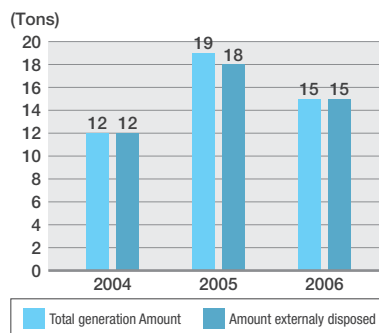
Activities in FY2006

- Promotion of Green Factory
  - The company was successful in efficient use of resources and achieving its environmental targets through promoting energy saving activities such as operation of appropriate production plans and drastic separation of wastes.
- Promotion of Green Products
  - The company is promoting purchase of environmentally-conscious products according to its green purchasing policy.
  - The company is currently developing environmentally-conscious design over all products.

Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



Amount of PRTR-listed Substances handled, released and transferred

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Xylene	1.52	1.52	0.00	0.00	0.00	0.00	0.00

Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	180	ND
Soot and dusts (g/Nm <sup>3</sup> )	0.25	0.0003
SOx (Nm <sup>3</sup> /Hr)	0.03	ND

Note: Applicable Law: Saitama Prefecture Ordinance on Preservation of the Living Environment

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6*1	6.1~7.3
SS (mg/l)	200*2	8~59
BOD (mg/l)	160*1	1.2~30.5
COD (mg/l)	160*2	3.4~16
Oil (mg/l)	5*2	ND
Copper (mg/l)	3*2	ND
Zinc (mg/l)	5*2	0.2~0.7
Soluble iron (mg/l)	10*2	ND
Soluble manganese (mg/l)	10*2	ND
Total nitrogen (mg/l)	120*2	1.8~6
Total phosphorus (mg/l)	16*2	ND~0.5

Note: Applicable Laws

\*1: Saitama Prefecture Ordinance on Preservation of the Living Environment

\*2: Water Pollution Control Law

# Environmental Data

## NGK Filtech, Ltd.

[Address] 2791, Hagizono, Chigasaki, Kanagawa 253-0071 Japan

[Major Production Items] Design and production of membrane filtration system



### Brief Explanation of the Company

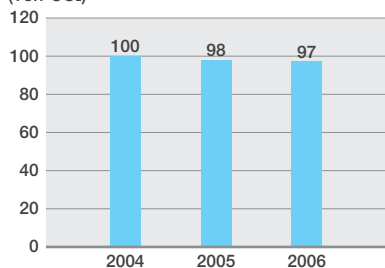
Following the acquisition of a certification of a quality management system, ISO9001, in April 2001, this company was certified according to ISO14001, an environmental management system, in December 2004. This company is determined to contribute to establishing a recycling-based society and providing products that help creating a better social environment through maintaining and improving the environmental management system.

### Actions in FY2006

1. Promotion of Recycling
  - This company pursued simplification of packaging and thorough separation of industrial wastes. Recycling of packaging materials and industrial wastes was promoted as well. As a result, the company achieved recycling rate of 10%.
2. Reduction of CO<sub>2</sub>
  - Temperature of air conditioning was controlled rigidly, and the heating system on the 1st Floor of the plant that uses kerosene as fuel was switched to air conditioners. These aimed at reducing CO<sub>2</sub> emissions.
3. Lead-free Standard Apparatus
  - Standard devices for shipment to Europe (product name: Megcon has totally been lead-free in order to comply with the RoHS Directive.

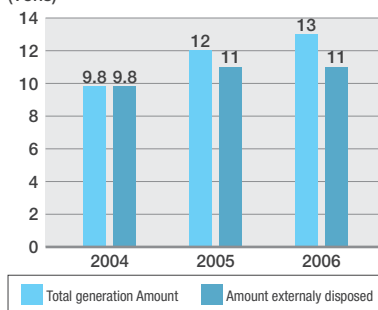
### Shift of Generation of Energy-Oriented CO<sub>2</sub>

(Ton-CO<sub>2</sub>)



### Generation of By-Products

(Tons)



### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air: No corresponding facilities

Water: No corresponding facilities

### Amount of PRTR-listed Substances handled, released and transferred

No chemical substances subject to PRTR Law are used.

## NGK Adrec Co., Ltd.

[Address] 3040, Misano, Mitake-cho, Kani-gun, Gifu 505-0112 Japan

[Major Production Items] Production of refractory and ceramic membrane filters



### Brief Explanation of the Company

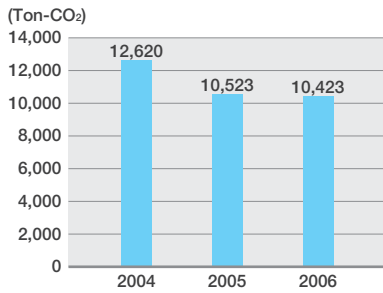
Basic Philosophy: Under the basic corporate philosophy of 'Provision of products that contribute to a better social environment and creation of new values,' this company contributes to the global environment through corporate activities including development of environmentally-conscious products, in order to create comfortable environment for the next generation.

Action Policy: NGK Adrec is determined to utilize resources prevent public pollutions and assess the impact of waste issues on the environment in manufacturing, developing and service provision activities as well as products in order to continuously improve necessary measures and prevent problems.

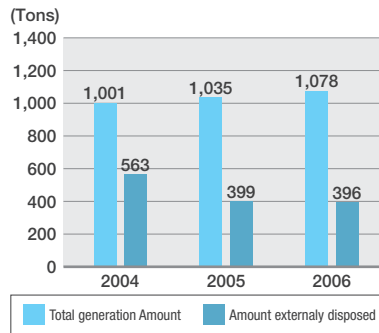
### Activities in FY2006

1. Reduction of Total Volumes of Material Resources and By-Products (Actions against the Worst 3 Issues)
  - a. Prevention of waste ceramic materials spilling, b. filter press of sludge, c. Extended duration of kiln furniture and d. Separation and recycling of by-products
2. Energy Saving, Reduction of Using Fossil Fuels, Electricity and Water (Promotion Under Total CO<sub>2</sub> Volume Reduction and CO<sub>2</sub> Reduction Project)
3. Compliance
  - a. Monitoring and measurement of water quality, air quality, vibration and noise
4. Contribution to the Local Society
  - a. Cooperation to Mitake-Cho and other municipalities for creating affluent cities
  - b. Active participation in voluntary activities

Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



Amount of PRTR-listed Substances handled, released and transferred

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Vanadium pentoxide	1.63	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	1.98	2.00	0.00	0.00	0.00	0.00	0.00

Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	350	10~50
Soot and dusts (g/Nm <sup>3</sup> )	0.15	0.001~0.01
SOx (Nm <sup>3</sup> /Hr)	10	0.03~0.1

Note: Applicable Law  
Pollution Control Agreement with Mitake-cho

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	6.5~8.3
SS (mg/l)	60	ND
BOD (mg/l)	30	1.1~4
COD (mg/l)	30	1.2~7.3
Oil (mg/l)	5	ND
Copper (mg/l)	3*	ND
Soluble manganese (mg/l)	10*	ND
Total nitrogen (mg/l)	120*	0.8~4.3
Total phosphorus (mg/l)	16*	ND

Note: Applicable Laws  
Pollution Control Agreement with Mitake-cho  
\* Voluntary control

NGK Kilntech Corporation

[Address] 43, Nagata, Narumi-cho, Midori-ku, Nagoya 458-0801 Japan

[Major Production Items] Production and sale of kilns, production of far-infrared equipment



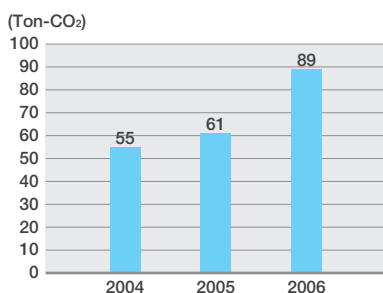
Brief Explanation of the Company

This company acquired ECO-Stage II environmental management system in August 2005. Under the basic corporate philosophy of 'Provision of products that contribute to a better social environment and creation of new values,' this company is working on development and manufacturing of products in order to contribute to the realization of a better social environment, through maintaining and improving the environmental management system.

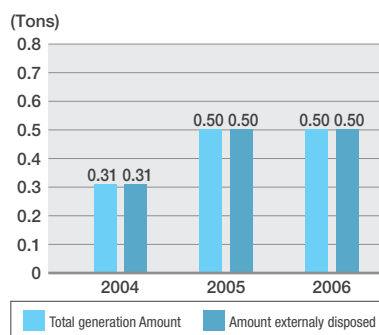
Activities in FY2006

- Promotion of Energy Saving
  - While production kept increasing, this company introduced more efficient facilities to reduce energy consumption.
- Promotion of Recycling Use of By-Products and Curtailment of Their Generation
  - Wastes were thoroughly separated for treatment, and efforts were made to promote recycling and curtail their generation.
- Reduction of harmful Chemical Substances
  - This company succeeded in totally abolition of chemical substances subject to PRTR.

Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air: No corresponding facilities  
Water: No corresponding facilities

Amount of PRTR-listed Substances handled, released and transferred

No chemical substances subject to PRTR Law are used.

# Environmental Data

## Heisei Ceramics Co., Ltd.

[Address] 3108, Kashiki, Iga, Mie 518-1403 Japan

[Major Production Items] Production of refractory products



### Brief Explanation of the Company

This company acquired ECO-Stage II environmental management system equivalent to ISO14001 certification in May 2005. The company will continue contributions to the global environment through upgrading their environmental management system, in order to hand over comfortable environment to the next generation.

### Activities in FY2006

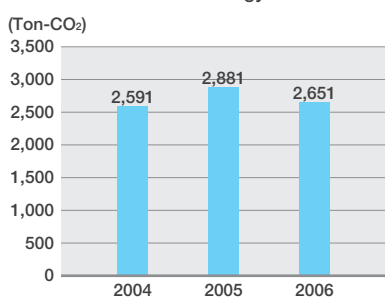
#### 1. Activities to Prevent Global Warming

- The company made efforts to curtail CO<sub>2</sub> emissions by energy saving activities including attachment of a heat exchanger to firing kiln, heat-retention and reduction of drying time of drying kiln, and changing compressor output pressure.

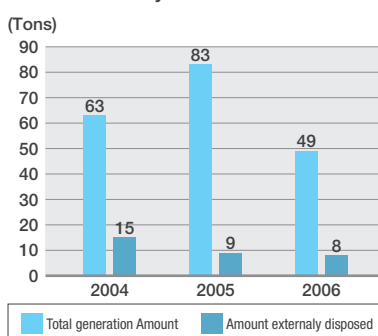
#### 2. Activities to Reduce Generation of By-Products

- Volume of treating by-products disposed outside the company was reduced by thorough separation and recycling. The company will expand recycling of by-products in addition to reduction of generation by improving productivity.

Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



### Amount of PRTR-listed Substances handled, released and transferred

No chemical substances subject to PRTR Law are used.

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NO <sub>x</sub> (ppm)	400	11~57
Soot and dusts (g/Nm <sup>3</sup> )	0.20	0.01~0.007
SO <sub>x</sub> (Nm <sup>3</sup> /Hr)	1.8	0.003~0.009

Note: Applicable Law:  
Mie Prefecture Ordinance on Preservation of the Living Environment

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7.7
SS (mg/l)	90	ND
BOD (mg/l)	25	ND
COD (mg/l)	25	ND

Note: Applicable Law:  
Pollution Control Agreement with Iga City

## Komaki Plants of NGK Printer Ceramics Co., Ltd. and NGK Optoceramics Co., Ltd.

[Address] 434-3, Gotanda, Shimozue, Komaki, Aichi 485-8557 Japan

[Major Production Items] Production of electronic components



### Brief Explanation of the Company

These two companies belong to Electronic Components Div., the Electronics Business Group of NGK Insulators. They acquired the ISO14001 certification in March 2002. They keep upgrading their environmental management system and make company-wide efforts in prevention of environmental pollutions, compliance with relevant laws, promotion of reducing environmental impact and raising awareness for the environment, as their environmental policy.

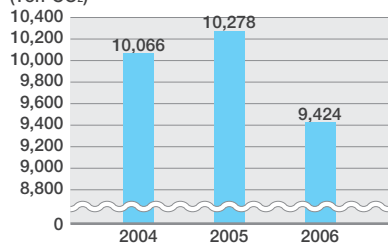
### Activities in FY2006

#### Priority Activity Items

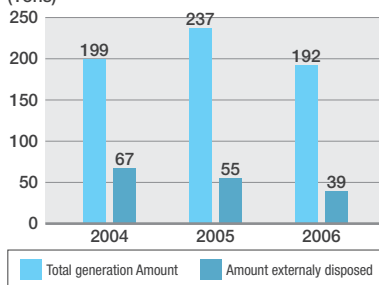
For all of the following items, they successfully achieved the targets.

- Compliance with Laws: Compliance with applicable laws is firmly implemented by conducting preliminary confirmation using a check list and law compliance assessments aiming at zero environmental violation.
- Reduction of By-products: A newly solvent recovery system was set up to reduce effluents discharged from the companies.
- Reduction of CO<sub>2</sub> Emission: Air conditioners in clean rooms consume large volume of electricity. In order to reduce electricity consumption, humidity and temperature settings were revised and operation and control of the air conditioners were improved. The results were reported at a convention held outside the company.
- Reduction of Chemical Substances: Recycled solvents were used to reduce the volume of chemical substances used.

Shift of Generation of Energy-Oriented CO<sub>2</sub> (Ton-CO<sub>2</sub>)



Generation of By-Products (Tons)



Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Toluene	33.49	1.15	0.00	0.00	0.00	0.00	10.74
Bisphthalate (2-ethylhexyl)	1.95	0.10	0.00	0.00	0.00	0.00	0.07

Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
Soot and dusts (g/Nm <sup>3</sup> )	0.2	ND~0.002

Note: Applicable Law: Environmental preservation agreement with Komaki City

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~8.0	6.8~7.6
SS (mg/l)	20	ND
BOD (mg/l)	20	ND~10
COD (mg/l)	20	2.4~6.4
Oil (mg/l)	2	ND
Zinc (mg/l)	3	ND~0.02
Soluble iron (mg/l)	5	ND
Soluble manganese (mg/l)	5	ND

Note: Applicable Law: Environmental preservation agreement with Komaki City

Yamanashi Plant of NGK Printer Ceramics Co., Ltd.

[Address] 775-3, Igura, Tsuru City, Yamanashi 402-0011 Japan

[Major Production Items] Production of electronic components



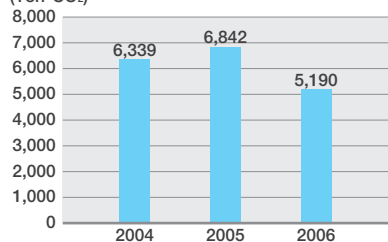
Brief Explanation of the Company

This company belongs to Electronic Components Div., the Electronics Business Group of NGK Insulators. After acquiring the ISO14001 certification in March 2002, this company has been maintaining the certification for 5 years. Through the efforts of continuous improvement of its environmental management system, this company is actively involved itself in realizing a better social environment and contributing to the local community.

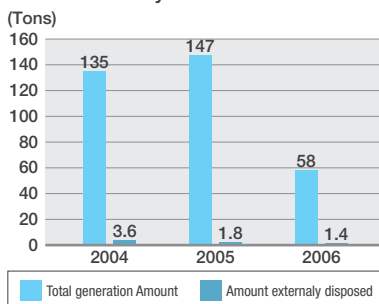
Activities in FY2006

- Compliance with Law
  - The company keeps zero violation of environmental laws and regulations through environmental patrols, periodical environment measurement, and preliminary check using a law compliance check sheet as part of its law compliance activities in FY2006.
- Reduction of By-Products (Total Amount Generated and Amount Reduced through Improvement Activities)
  - By-products reduction is promoted through maintaining and improving zero emissions (recycling rate of 99% or above), environmental suggestion activities, and improved quality yields.
- Reduction of CO<sub>2</sub> Emission (Total Amount Generated and Amount Reduced through Improvement Activities)
  - In FY2006, CO<sub>2</sub> emissions were reduced to 92.5% compared to FY2002, the benchmark year, through capital investment, energy saving patrols, promotion of environmental suggestions, increased yields and encouraging reduction of CO<sub>2</sub> to employees at morning meetings.
- Environmentally-Conscious Activities
  - In continuation of activities addressed in the past, the ratio of green purchasing was maintained in FY2006, and social contributions through providing supports to local voluntary activities are continued daily.

Shift of Generation of Energy-Oriented CO<sub>2</sub> (Ton-CO<sub>2</sub>)



Generation of By-Products (Tons)



Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Xylene	2.40	0.00	0.00	0.00	0.00	0.00	0.00

Accidents and Law Suits Related to the Environment

Nothing

Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
Soot and dusts (g/Nm <sup>3</sup> )	0.25	ND

Note: Applicable Law: Pollution Control Ordinance of Yamanashi Prefecture

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7~7.9
SS (mg/l)	50	0.5~4.4
BOD (mg/l)	30	0.7~3.7
COD (mg/l)	30	1.9~7.2
Lead (mg/l)	0.1*	ND
Total nitrogen (mg/l)	120	0.93~9.8
Total phosphorus (mg/l)	16	0.06~1.3

Note: Applicable Law: Pollution Control Ordinance of Yamanashi Prefecture  
\* Voluntary control

# Environmental Data

## NGK Okhotsk, Ltd.

[Address] 534-2, Yobito, Abashiri, Hokkaido 099-2421 Japan

[Major Production Items] Production of electronic components



### Brief Explanation of the Company

This company is located in the neighborhood of Abashiri Quasi-National Park surrounded by abundant and magnificent nature. The company, belonging to Electronic Components Div., the Electronics Business Group of NGK Insulators, acquired the ISO14001 certification in March 2002. This company keeps improving its environmental management and maintaining the precious environment every day aiming at amicable coexistence with and contributions to the local society while keeping in good harmony with the environment.

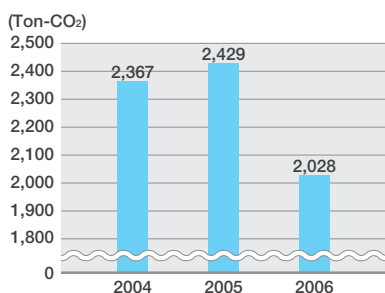
### Activities in FY2006

1. Compliance with Law
  - This company keeps zero environmental violation through law compliance assessment such as monitoring and measurement in line with the revised environmental laws and regulations and by competence assessment through environmental and safety education/training.
2. Reduction of By-Products
  - Generation of by-products were reduced through improving yields and recycle ratio.
3. Reduction of CO<sub>2</sub> Emissions
  - Emission of CO<sub>2</sub> was considerably reduced through strengthening heat source control, revising operation control of air conditioning, rationalization of processes and other means with the wisdom and ideas of the entire employees.
4. Environmentally-conscious Activities
  - The ratio of green purchasing is maintained at 99%. As to the local contribution activities, this company is involved in environmental voluntary activities in a positive way. The activities were highly appreciated by the Abashiri Municipal Government and this company was accredited and registered as an 'Eco-Office in FY2006.'

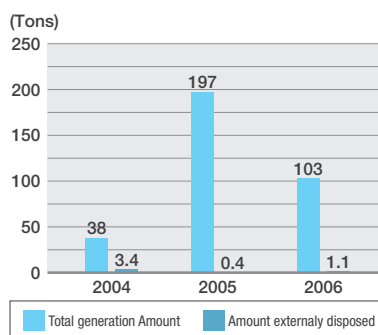
Accredited and registered as a 'FY2006 Eco-Office in Abashiri City'



Shift of Generation of Energy-Oriented CO<sub>2</sub>



Generation of By-Products



Amount of PRTR-listed Substances handled, released and transferred (Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Xylene	2.14	0.00	0.00	0.00	0.00	0.00	0.00

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5~9	7.2~8.3
SS (mg/l)	600	ND~6
BOD (mg/l)	600	3.4~76
Oil (mg/l)	5	<5
Lead (mg/l)	0.1	<0.005
Zinc (mg/l)	2	0.05~0.08
Soluble iron (mg/l)	10	0.4~1.2
Soluble manganese (mg/l)	10	ND~0.02
Iodine consumption (mg/l)	220	ND
Ammoniac nitrogen, nitrite-nitrogen and nitrate-nitrogen (mg/l)	380	1.3~1.7

Note: Applicable Law:

Agreement on environmental conservation in Abashiri City



**Soshin Electric Co., Ltd.**

[Address] Mita43MT Bldg. 13F, 3-13-16, Mita, Minato-ku, Tokyo 108-8322 Japan

[Major Production Items] Production and sale of electronic components

**Brief Explanation of the Company**

Soshin Electric Group has 7 sites in Japan (Head Office, 3 plants and 3 group companies) and 1 site in Malaysia, and produces and sells electronic components including capacitors and various filters mainly used in the electronics field such as communication devices. Soshin is making efforts on realization of a better social environment and contribution to the local communities through reduction of CO<sub>2</sub> and other wastes while working on maintain and upgrade their environmental management systems.

**Activities in FY2006**

- Compliance with Law
  - Aiming at zero violation of environment-related laws and regulations, Soshin Group measures the environment regularly, inspects the environment and assesses their conditions of observing laws.
- Reduction of By-Products
  - Soshin Group aims at realizing zero emissions through developing a route of consigning industrial wastes processing to other entities. Total waste is being reduced by thorough separation and reuse.
- Reduction of CO<sub>2</sub> Emissions
  - The effort includes switchover to energy-saving facilities, increase in yields, monthly energy meeting and introduction of new energy.
- Reduction of Chemical Substances
  - All products and materials produced and used in Soshin Group are now RoHS compliant, except for the unchanged due to the reason on the side of customers. A supplier audit and a plant audit are conducted, and a database on chemical substances is constructed using software for green procurement.

**Accidents and Law Suits Related to the Environment**

Nothing

**Data relating to Pollution Prevention (Miyazaki Plant)**

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7.5
SS (mg/l)	200	11
BOD (mg/l)	160	27
Oil (mg/l)	5	0.5

Note: Applicable Law: Water Pollution Control Law

**Data relating to Pollution Prevention (M-Elec)**

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7
SS (mg/l)	200	4.1
BOD (mg/l)	160	7.2

Note: Applicable Law: Water Pollution Control Law

**Data relating to Pollution Prevention (Koshin Electronics)**

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7.8~7.9
SS (mg/l)	200	5~11
BOD (mg/l)	160	11~15
Oil (mg/l)	5	0.5~2

Note: Applicable Law: Water Pollution Control Law

**Data relating to Pollution Prevention (Risshin Electronics)**

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	7
SS (mg/l)	200	4.1
BOD (mg/l)	160	7.2

Note: Applicable Law: Water Pollution Control Law

**Amount of PRTR-listed Substances handled, released and transferred**

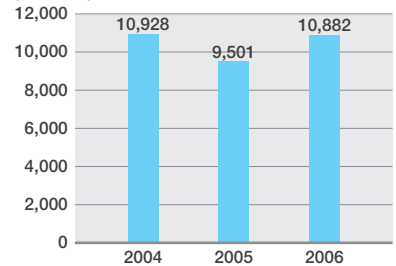
Soshin Electric (Consolidated)

(Tons)

Substances	Amount Handled	Amount released				Amount transferred	
		Atmosphere	Waters	Soil	Landfill	Sewerage	Other external emissions
Bisphenol-A epoxy resin	6.29	0.00	0.00	0.00	0.00	0.00	0.53
Silver and its soluble silver compounds	2.50	0.00	0.00	0.00	0.00	0.00	0.00
Tetrahydromethyl acid phthalic anhydride	1.38	0.00	0.00	0.00	0.00	0.00	0.00
Lead and its compounds	1.37	0.00	0.00	0.00	0.00	0.00	0.00
Xylene	4.14	0.12	0.00	0.00	0.00	0.00	2.98

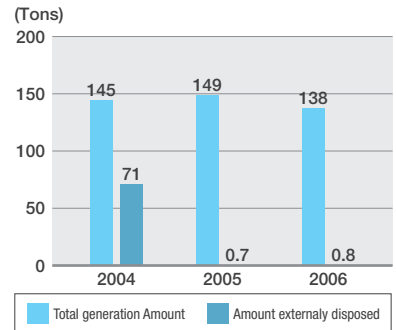
**Shift of Generation of Energy-Oriented CO<sub>2</sub> Soshin Electric (Consolidated)**

(Ton-CO<sub>2</sub>)



**Generation of By-Products Soshin Electric (Consolidated)**

(Tons)



**Data relating to Pollution Prevention (Asama Plant)**

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	180	26~58
Soot and dusts (g/Nm <sup>3</sup> )	0.3	0.015~0.021
SOx (Nm <sup>3</sup> /Hr)	1.3	0.015~0.031

Note: Applicable Law: Air Pollution Control Law

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6	8.4
SS (mg/l)	200	10
BOD (mg/l)	160	1
Total nitrogen (mg/l)	100	26.2

Note: Applicable Law: Water Pollution Control Law

**Data relating to Pollution Prevention (Chikuma Plant)**

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	180	67~87
Soot and dusts (g/Nm <sup>3</sup> )	0.3	0.025~0.039
SOx (Nm <sup>3</sup> /Hr)	1.3	0.066~0.16

Note: Applicable Law: Air Pollution Control Law

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.0~9.0	8.3~8.5
SS (mg/l)	600	33~140
BOD (mg/l)	600	110~120
Oil (mg/l)	5	1

Note: Applicable Law: Sewerage Law

## NGK Mettex Corporation

[Address] 1-9-3, Shintone, Ohtone-Machi, Kita Saitama-Gun, Saitama 349-1158 Japan

[Major Production Items] Processing of expanded beryllium copper materials



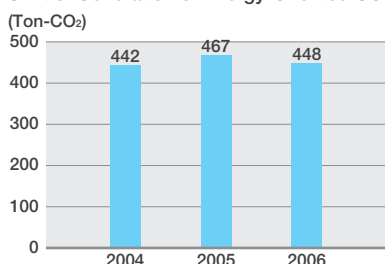
### Brief Explanation of the Company

Established in Akabane, Kita-Ku, Tokyo in 1937, this company concluded business cooperation agreement with NGK in 1975 before the corporate name was changed to the current name in 1988. After acquiring ISO9001, the quality management system certification in February 1994 and ECO-Stage II, the environmental management system in February 2005, this company continues improving major impacts on the environment and promotes activities contributing to conservation of the local community and the environment.

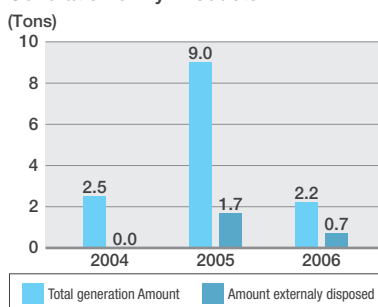
### Activities in FY2006

- Energy Saving
  - This included setting the temperature of air conditioner at an appropriate level and eliminating the waste of energy for lighting in automatic warehouse when no one was working there.
- Reduction of Industrial Wastes
  - All wastes were separated by type for turning them into general wastes and for recycling purposes.
- Resource Saving by Decreasing the Volume of Materials Used
  - This included collection of pallets.

### Shift of Generation of Energy-Oriented CO<sub>2</sub>



### Generation of By-Products



### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.8~8.6 <sup>*1</sup>	6.2~7.0
BOD (mg/l)	20 <sup>*2</sup>	4.0~6.9

Note: Applicable Laws

\*1: Law for Combined Household Wastewater Treatment Facility

\*2: Regulations on Discharging of Effluents in the Underdeveloped Water Way and Land Improvement Zone of the Hanyuu Region

### Amount of PRTR-listed Substances handled, released and transferred

No chemical substances subject to PRTR Law are used.

## NGK Fine Molds, Ltd.

[Address] 4-5-6, Minato-machi, Handa, Aichi 475-0823 Japan

[Major Production Items] Production of plastic dies and tire molds



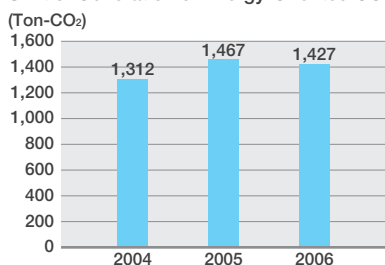
### Brief Explanation of the Company

After acquiring ISO14001 environmental management system certification in April 2005, this company upgraded it to the 2004 version in May 2006. Through maintaining the management system, the company is making efforts to contribute to the society by adhering laws and continuously promoting proactive environmental improvement at its workplace (manufacturing) and in the neighboring societies.

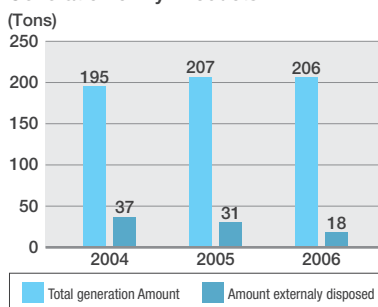
### Activities in FY2006

- Compliance with Law
  - This company observed agreements on water quality, noise, vibration and other public pollution prevention requirements.
- Reduction of By-Products
  - This included implementation of 3R (applying as valuable resources, reuse and recycling). Among them, recycling and the application of by-products were pushed forward and the volume of disposal by landfill was successfully reduced.
- Reduction of Electricity Consumption
  - The company reviewed facilities aiming at efficient use of electricity.
  - An electricity consumption reduction plan was implemented through replacing old air conditioners to new ones.

### Shift of Generation of Energy-Oriented CO<sub>2</sub>



### Generation of By-Products



### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air: No corresponding facilities

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6~8	6~8
SS (mg/l)	15	ND~4
COD (mg/l)	15	1.9~14
Oil (mg/l)	2	ND

Note: Applicable Law:

Agreement on environmental pollution control with Handa City

### Amount of PRTR-listed Substances handled, released and transferred

No chemical substances subject to PRTR Law are used.

## Actions of NGK Group Companies Overseas

(Period: January 1, 2006 to December 31, 2006)

### LOCKE INSULATORS, INC.

[Address] 2525 Insulator Drive Baltimore, MD 21230, U.S.A.

[Major Production Items] Production of ceramics for insulators



#### Brief Explanation of the Company

Established as a joint venture company of NGK and General Electric in U.S.A. in 1974 for manufacturing and sale of various insulators toward the markets in North America, this company became a 100% subsidiary and one of the group companies of NGK Insulators, Ltd., in 1989. This company employs ISO14001 environmental management system and was successfully certified of ISO14001-2004 by QMI (an ISO certification organization) on September 1, 2006. The company manufactures insulators in an environmentally-conscious manner.

#### Activities in FY2006

Priority Activities in FY2006: 'Practicing and Assessment of Environmental Performances'

- Acquired ISO14001 certification
- Strengthened monitoring of electricity, natural gas and water
- Reduced use of natural gas by 6% per unit production weight
- Reduced amount of by-product glass by 11%
- Promoted sales of recycled wood, metal fixtures and kiln materials (Sold 186 ton)

#### Accidents and Law Suits Related to the Environment

Nothing

#### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	N/A*1	—
Soot and dusts (g/Nm <sup>3</sup> )	N/A	—
SOx (Nm <sup>3</sup> /Hr)	N/A	—

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.5~8.5*2	7.2~8.2
SS (mg/l) Max. for a day	60*2	1~46.9
Turbidity (NTU)	150*2	2.3~42.6
Cl (mg/l)	0.1*2	<0.1

Note: \*1: N/A: not applicable

\*2: Applicable Law

MDE (Maryland Department of Environmental)

#### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
19,489	3,293	3,197

### NGK-LOCKE POLYMER INSULATORS, INC.

[Address] 1609 Diamond Springs Road Virginia Beach VA23455, U.S.A.

[Major Production Items] Production of polymer insulators for electrical transmission



#### Brief Explanation of the Company

Incorporated in the State of Virginia, U.S.A. in order to respond to the growing demand of the product in the country, this company is a polymer insulator plant belonging to NGK Insulators Group and ships insulators for use from 69kV to 765kV to all over the world. On October 25, 2004, this company became an ISO14001 certified company. As one of the NGK Group companies, it is addressing proactively maintaining the environment.

#### Activities in FY2006

- Generation of wastes disposed by landfill was curtailed by 18% of those generated in 2005, by introduction of thorough separation and recycling.
- An alcohol circulation recycling unit helped reducing the volume of isopropyl alcohol for washing consumed in the plant by 50% of that in FY2005.

#### Accidents and Law Suits Related to the Environment

Nothing

#### Data relating to Pollution Prevention

Air: No corresponding facilities

Water: No corresponding facilities

#### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
4,787	580	371

# Environmental Data

## P.T.WIKA-NGK INSULATORS

[Address] Jl. Raya Narogong KM26, Cileungsi Bogor, Indonesia

[Major Production Items] Production of insulators for power distribution



### Brief Explanation of the Company

For any business operated in the international market, conservation of the environment is imperative for gaining customer satisfaction.

This company employs ISO14001 management system, and acquired ISO14001 certification from KEMA, an ISO certification organization in the Netherlands on August 28, 2002.

### Activities in FY2006

Priority Activities in FY2006: 'Reduction of CO<sub>2</sub> Emission'

- Due to reduction of gas consumption after replacement of heat insulating materials of steam pipes, CO<sub>2</sub> emission was reduced by 10% of the level in FY2005.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
5,925	273	270

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/m <sup>3</sup> )	1,000	4.1~17.9
Particulates (mg/m <sup>3</sup> )	350	4.4~9.1
SOx (mg/m <sup>3</sup> )	800	91~136

Note: Applicable Laws: No.13/MENLH/3/1995

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~9.0	6.8~7.4
BOD (mg/l)	50	3~15
COD (mg/l)	100	10~36.7
Oil (mg/l)	10	ND~0.35

Note: Applicable Laws: Java Governor Decree No.6 Year 1999

## NGK INSULATORS TANGSHAN CO., LTD.

[Address] 188 Huoju Road Tangshan New & High Technology Development, Hobei 063020, China

[Major Production Items] Production and sale of ceramics for insulators



### Brief Explanation of the Company

After the commencement of production in 1998, this company ships products to overseas as well as domestic market. As the company introducing ISO14001 environmental management system earlier than other overseas affiliates, this company was certified with ISO14001 by SGS, an ISO certification organization in the U.K. on March 19, 2002. Now this company has completed upgrading the certification to the latest ISO14001:2004, and is making efforts daily to further uplift its environmental management system.

### Activities in FY2006

Priority Activities in FY2006: 'Practicing and Assessment of Environmental Performance'

- Gas consumption was successfully reduced by 13% of the level in FY2005 through effective utilization of residual heat and increasing the volume of items put into a kiln.
- Electricity consumption was successfully reduced by 15% of the level in FY2005 due to installation of capacitors and using energy-saving type bulbs.
- The volume of by-products recycled was increased by 2% of the level in FY2005.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
22,354	3,557	3,484

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/Nm <sup>3</sup> )	240*1	76
Soot and dusts (g/Nm <sup>3</sup> )	200*2	23.2
SOx (mg/Nm <sup>3</sup> )	1,430*2	38.3

Note: Applicable Laws

\*1: Criteria for total discharge of atmospheric pollutant GB16297-1996

\*2: Criteria for emission of atmospheric pollutant from industrial furnaces GB9078-1996

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~9.0	7.06~7.55
SS (mg/l)	400	58~142
BOD (mg/l)	300	2.18~42
COD (mg/l)	500	21.4~161

Note: Applicable Laws

Criteria for total discharge of sewage GB8978-1996

**NGK STANGER PTY. LTD.**



[Address] 14 Childs Road., Epping, Victoria 3076, Australia  
 [Major Production Items] Production and sale of electric power distribution equipment

**Brief Explanation of the Company**

This company obtained ISO9001 in 1990 followed by ISO14001 in 2005. Among recent increasing awareness of the general public toward the environmental issues in Australia, activities related to environmental management system has been one of the corporate responsibility. This company is also working on reduction of CO<sub>2</sub> emissions.

**Activities in FY2006**

- By-products were reduced through promoting recycling of cardboard and paper materials for packaging.
- Emission of CO<sub>2</sub> was reduced through power saving activities.
- Efforts were made to reduce using organic solvents (Prescribed Waste).

**Accidents and Law Suits Related to the Environment**  
 Nothing

**Data relating to Pollution Prevention**  
 Air: No corresponding facilities  
 Water: No corresponding facilities

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
402	44	33

**NGK CERAMICS USA, INC.**



[Address] 119 Mazeppa Rd. Mooresville, NC, USA  
 [Major Production Items] Production of ceramics for automobiles

**Brief Explanation of the Company**

Since 1989, this company has been engaged in production of ceramics catalytic converter for purification of exhaust gas from automobiles and operated its plant highly considering the environment since the commencement of production. It also employs ISO14001 environmental management system and acquired ISO14001 certification in July 2001 from Underwriters Laboratories, a certification organization in the U.S. The registration was updated in April 2004.

**Activities in FY2006**

- Priority Activities in FY2006
- Energy consumption was curtailed by improving the efficiency of firing kilns.
  - Recycling of raw materials inside the company, resource savings and reduction of wastes were promoted.
  - Water treatment equipment in manufacturing processes was made highly functional and as a result, the volume of effluent discharged was decreased.
  - Inside the plant as well as its surrounding areas were kept clean at all times to maintain the health of employees and the environment in the local area aimed at amicable coexistence.

**Accidents and Law Suits Related to the Environment**  
 Nothing

**Data relating to Pollution Prevention**

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (t/year)	90.9	19.87
Particulates (t/year)	90.9	1.51
SOx (t/year)	90.9	0.13
Fluorine (t/year)	9.09	1.48

Note: Applicable Laws:  
 NC Department of Environment & Natural Resources

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~10.5	6.8~7.5
SS (mg/l)	250	15~92
BOD (mg/l)	450	ND~67
Nitrogen (NH <sub>3</sub> 中)	<25	ND

Note: Applicable Laws:  
 NC General Statute - 143-215.1  
 Local Permit - LP #0002

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
44,686	7,195	7,173

## NGK CERAMICS EUROPE S.A.

[Address] Rue des Azalees 1, B-7331 Baudour BELGIUM

[Major Production Items] Production of ceramics for automobiles



### Brief Explanation of the Company

Established as a production and distribution base of HONEYCEARM®, a catalytic converter for purification of exhaust gas from automobiles, to the European market in 1985, this company keeps expanding after 5 times of large plant investment activities.

The company was certified with ISO14001 in October 2001 by AIB-VINCOTTE International Ltd., a certification organization. In addition to contributing to the environment through manufacturing products, the company keeps making efforts to reduce environmental impact generated by business operation as a corporate citizen in Europe, where severe environmental control is imposed.

### Activities in FY2006

Priority Activities in FY2006: 'Improving Productivity and Reducing Wastes through Analyzing Raw Material Losses'

- Direct first run rate, one of the KPI indicators, was employed to visualize and analyze losses.
- Through the activities of reducing losses, improvement of the material yields (the ratio of raw materials input effectively used to manufacture products) was promoted.

Other activities related to environmental conservation.

- Approved to decrease measurement items from 2006 by referring to the past performance of emitting atmospheric pollutants.
- Achieved 97% of wastes recycled outside the company, which was 0.9% up from those recycled in 2005.
- Promoted trash separation generated in the company through employee education and displaying posters.

KPI: Key Performance Indicators

Direct first run rate: The rate of raw materials input directly incorporated into products

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
18,481	2,951	26

## NGK CERAMICS POLSKA SP. ZO. O.

[Address] ul. Jana Gutenberga 6 44-109 Gliwice, Poland

[Major Production Items] Production of ceramics for automobiles



### Brief Explanation of the Company

This company is a major production base of diesel particulate filter (DPF) made of SiC, and ships the products to the markets in Europe. The SiC-DPFs are highly thermal shock resistant and collect harmful particulate matters to purify exhaust gas emitted from diesel vehicles under the severe circumstances of being exposed to high temperature exhaust gas emitted from an engine.

Established in 2003 and started production in 2004, NGK Ceramics Polska has become the largest production site of all factories of NGK Insulators after increasing its production lines in order to respond to a large demand for DPFs in the European market.

### Activities in FY2006

Priority Activities in FY2006: 'Practicing and Assessment of Environmental Performance'

- Energy saving was promoted through improving efficiency of production facilities and equipment such as efficient application of exhaust heat.
- Resource saving was promoted through increasing the ratio of using recycled materials.
- A utility monitoring system was introduced to reinforce energy management in the entire plant for energy saving.
- Stable supply of DPFs contributed to reduction of black smoke particulate matters contained in the exhaust gas from diesel vehicles.
- A plant tour was held to the local citizens to introduce them how the plant of this company is environmentally conscious.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
94,762	3,520	799

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/m <sup>3</sup> )	200	<46
Particulates (mg/m <sup>3</sup> )	50	<2

Note: Applicable Laws:  
dd.11.09.2006

Effluent			
Substances (unit)	Regulation values	Ref.*	Actual measurement
pH	6.0~9.5	—	8.5
SS (mg/l)	350	—	22
COD (mg/l)	ref. +750	12	384
Oil (mg/l)	250	—	1.4
Zinc (mg/l)	ref. +0.0002	1.4	0.009
Nitrogen (mg/l)	25	—	1.5
Phosphorus (mg/l)	ref. +15	0.13	4.35

Note: Applicable Laws:  
dd.09.08.2000

\* Increment of substances in water after they are used (reference values) are controlled depending on the type of substances.

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/m <sup>3</sup> )	23.514	15.028
Particulates (mg/m <sup>3</sup> )	6.736	4.293

Note: Applicable Laws:  
Emission decision Gliwice City President  
From 12/4/2006 valid to 2016

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.5~9.5	7.0~7.7
SS (mg/l)	330	85~170
COD (mg/l)	900	250
Zinc (mg/l)	2	0.05~1.14
Chromium (mg/l)	0.5	0.15

Note: Applicable Laws:  
Regulation value from  
Waste Water company in Gliwice city

**P.T. NGK CERAMICS INDONESIA**

[Address] EJIP INDUSTRIAL PARK PLOT 1JCIKARANG SELATAN,BEKASI,INDONESIA  
 [Major Production Items] Production of ceramics for automobiles



**Brief Explanation of the Company**

After its establishment in 1997, this company acquired ISO9002, QS9000 and ISO14001 environmental management systems in 1998, 1999 and February 2004 respectively. (Obtained ISO/TS 16949 certification in March 2007). This company is determined to contribute to the local community and realize a better social environment through operating, maintaining and improving management systems combining its quality and environment.

**Actions in FY2006**

- Priority Activities in FY2006: 'Forming a Foundation for Practicing Environmental Performance'
- Energy saving was promoted and by-products were decreased through increasing productivity and yield.
  - In order to promote recycling of wastes as raw materials, the company sought for new entities for recycling as well as asked existing companies to accept more wastes.
  - Recycling of wastes was promoted in processes to reduce generation of by-products.
  - Energy saving activities were promoted with the participation of the entire employees (incl. appropriate temperature adjustment of air conditioners, turning off of lighting equipment when not in use and controlled use of lighting equipment in warehouses)

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
33,296	2,728	2,471

**Accidents and Law Suits Related to the Environment**  
Nothing

**Data relating to Pollution Prevention**

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/m <sup>3</sup> )	1,000	2.0~3.0
Particulates (mg/Nm <sup>3</sup> )	350	3.0~4.0
SOx (mg/m <sup>3</sup> )	800	2.0~8.0

Note: Applicable Laws:  
Governor Decree of west java  
No.663.31/SK/694-BKPMD/82

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~9.0	6.0~7.6
Oil (mg/l)	10	ND~0.30

Note: Applicable Laws:  
EJIP Industrial park voluntary regulation

**SIAM NGK TECHNOCERA CO., LTD.**

[Address] 11 Moo 1.SIL Industrial Land. Bua-Luay. Nong Khae. Saraburi. Thailand  
 [Major Production Items] Production of refractory products



**Brief Explanation of the Company**

Since establishment of a plant in the SIL industrial complex in Thailand in 1997, this company has been working for expanding its markets in various corners of Asia. Environmental conservation gains more attentions in Thailand year by year, and production can hardly be expanded without taking actions to protect the environment. Due to this, the company is working for acquiring ISO14001 certification at the end of 2008.

**Activities in FY2006**

- Major Activities: Promotion of Resource Saving through Enhancing Efficiency of Resource Utilization
- Decreasing the loss of raw materials was sought through boosting yield.
  - Increasing of recycling ratio was sought through recycling of scraps.
  - Electricity saving was sought through turning off lighting equipment in the entire plant during break hours.
  - Energy saving was sought through reducing gas consumption by increasing the volume of items put into a kiln.

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
2,894	39	37

**Accidents and Law Suits Related to the Environment**  
Nothing

**Data relating to Pollution Prevention**

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (ppm)	200	3.57
Particulates (mg/Nm <sup>3</sup> )	320	1.12
SOx (mg/m <sup>3</sup> )	690	0.18

Note: Applicable Laws:  
Industrial law (year 2006)

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.0~9.0	7.1~7.5
SS (mg/l)	250	45~135
BOD (mg/l)	500	13~37
COD (mg/l)	700	62~119
Oil (mg/l)	10	ND~2

Note: Applicable Laws:  
SIL Regulation Limit

# Environmental Data

## NGK CERAMICS SUZHOU CO., LTD.

[Address] 58 Lushan Road, Suzhou New District, 215219, China

[Major Production Items] Production and sale of ceramics for automobiles



### Brief Explanation of the Company

Established in December 2001, this company has been engaged in mass-production of honeycomb ceramics for purification of exhaust gas from automobiles and ceramic filters for purification of exhaust gas from diesel vehicles (DPF) since October 2003 and June 2005 respectively. After being certified as ISO14001 compliant by BSI, an ISO certification organization in the U.K., the company is active in improving its environmental management system for reducing environmental impact generated from production activities, while proactively continues providing products contributing to environmental conservation.

### Activities in FY2006

Priority Activities in FY2006: 'Practicing and Assessment of Environmental Performance'

- We shall observe laws and regulations on pollution prevention and agreements with control authorities and other environmental requirements.
- We shall set objectives and targets on environment to promote environmental conservation activities. We shall periodically revise our environmental management system to upgrade it continuously.
- We shall make efforts for reduction and recycling of by-products and wastes and for prevention of air and water pollutions in order to form a recycling-based society.
- We shall continue providing components for purification of exhaust gas from automobiles that benefit the social environment.
- We shall train and educate our employees to raise their awareness for conservation of the environment.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
27,233	4,525	4,505

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NO <sub>x</sub> (mg/Nm <sup>3</sup> )	240*1	7~17
Total NO <sub>x</sub> (kg/hr)	0.77*1	0.12~0.7
Particulates (mg/Nm <sup>3</sup> )	120*1	4~27
SO <sub>x</sub> (mg/Nm <sup>3</sup> )	850*2	3~7
Fluorine (mg/Nm <sup>3</sup> )	6*2	0.5~0.56

Note: Applicable Laws:

- Criteria for total discharge of atmospheric pollutant
- Criteria for emission of atmospheric pollutant from industrial furnaces

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6~9	6.79
SS (mg/l)	400	45
BOD (mg/l)	300	3.2
COD (mg/l)	500	19.8
Oil (mg/l)	100	0.1
Nitrogen (mg/l)	35	0.33

Note: Applicable Laws:

- Criteria for total discharge of sewage (GB8978-1996) 3<sup>rd</sup> Standard

## NGK TECHNOCERA SUZHOU CO., LTD.

[Address] 58 Lushan Road, Suzhou New District, 215219, China

[Major Production Items] Production and sale of firing kilns for electronic ceramics and kiln furniture



### Brief Explanation of the Company

Established in December 2001, this company has been engaged in mass-production of firing kiln for electronic ceramics and kiln furniture since July 2003. After being certified as ISO14001 compliant by CQC, an ISO certification organization in P.R.C., the company is active in reducing environmental impact through effective utilization of resources and energy saving in its environmental management system based on the principles of sustainable improvement and appropriate preventive measures.

### Actions in FY2006

Priority Activities in FY2006: 'Practicing and Assessment of Environmental Performance'

- We shall promote utilization and recycling of resources in order to reduce emission of industrial wastes.
- We shall promote energy saving to curtail emission of CO<sub>2</sub> gas.
- We shall observe environment-related laws and other requirements.
- We shall train and educate our employees to raise their awareness for constructing environmental control system.
- We shall revise periodically our environmental policies and environmental targets for making a sustainable improvement of our activities.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
2,113	100	47

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NO <sub>x</sub> (mg/Nm <sup>3</sup> )	240	3~12
Total NO <sub>x</sub> (kg/hr)	0.77	0.005~0.24

Note: Applicable Laws:

- Standards for Discharging Air Pollutants from Industrial Furnaces and Kilns

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6~9	6.79
SS (mg/l)	400	45
BOD (mg/l)	300	3.2
COD (mg/l)	500	19.8
Oil (mg/l)	100	0.1
Nitrogen (mg/l)	35	0.33

Note: Applicable Laws:

- Criteria for total discharge of sewage (GB8978-1996) 3<sup>rd</sup> Standard

## NGK CERAMICS SOUTH AFRICA (PTY) LTD.

[Address] Corner of Munich & Mobile Roads, Airport Industria, Cape Town, South Africa

[Major Production Items] Production and sale of ceramics for automobiles



### Brief Explanation of the Company

Since the commencement of production in 2001, this company has been manufacturing and selling HONEYCERAM® in South Africa. After being certified as ISO14001 compliant by SABS, an ISO certification organization in South Africa, in August 2001, the company upgraded it to ISO14001: 2004 in November 2005. This company is actively involved in realization of a better social environment and contribution to the local society, through maintaining and improving its environmental management system.

### Activities in FY2006

- Recycling of resources was promoted through reusing firing defect items and waste plastics (recycling rate target : 59%).
- Resource saving was promoted through separation and collection of cardboard for packaging, thus achieving recycling ratio of 100%.
- Emission composition into atmosphere and water was monitored periodically for environmental performance assessment.
- Energy saving was promoted through understanding water and electricity consumption and improving burning efficiency.
- Environmental education was provided to all employees and suppliers.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
20,141	242	99

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air		
Substances (unit)	Regulation values	Actual measurement
NOx (mg/Nm <sup>3</sup> )	500 <sup>*1</sup>	ND~29
Particulates (mg/Nm <sup>3</sup> )	100 <sup>*2</sup>	3.28

Note: Applicable Laws:

\*1: South African emissions guideline

\*2: DEAT Agreement limit

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.5~12.0	7.0~7.6
COD (mg/l)	<5,000	22~257
Phosphorus (mg/l)	<25	ND

Note: Applicable Laws:

Cape Metropolitan Council "Waste water and Industrial Effluent Bylaw"

N/A; not applicable

## FM INDUSTRIES, INC.

[Address] 221 East Warren Avenue, Fremont, CA 94539, U.S.A.

[Major Production Items] Production of metal components and module systems for semiconductor manufacturing equipment



### Brief Explanation of the Company

Since its establishment in San Jose in California, U.S.A. in 1989, this company has been engaged in manufacturing aluminum precision processing parts used for semiconductor manufacturing equipment and modules incorporating ceramic electrostatic chucks made by NGK Insulators. This company became a member of the NGK Group in February 2002 under HPC Div. of NGK Insulators. Currently the company is working for obtaining ISO14001 certification of environmental management system.

### Activities in FY2006

- Started activities for acquisition of ISO14001 certification in FY2007 as a target.
- Consumption of electric energy occupies a large part of environmental impact generated by the company. In order to reduce it, old systems are being replaced by new and energy-saving facilities.

### Environmental Performance in FY2006

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
1,274	53	41

### Accidents and Law Suits Related to the Environment

Nothing

### Data relating to Pollution Prevention

Air: No corresponding facilities

Water: No corresponding facilities

**NGK METALS CORPORATION**



[Address] 917 U.S. High Way 11, South Sweetwater, TN 37874,U.S.A.

[Major Production Items] Production and sale of copper beryllium alloys

**Brief Explanation of the Company**

Since its establishment in 1986, this company has been working on decreasing environmental impact involved with business activities, while continuing supply of quality products to customers. copper beryllium alloys products of NGK Insulators have excellent characteristics and make miniaturization and upgrading durability of electronic parts possible. Therefore, the prolonged life of products incorporating copper beryllium alloys is contributing to conserving natural resources and reduction of wastes. This company is the first US expanded copper product manufacturer certified with ISO9002 and now it is certified with ISO9001:2000. In 2003, this company acquired a certification of ISO14001 and has been promoting environmental management activities.

**Activities in FY2006**

- Promotion of Recycling
  - Waste papers were thoroughly separated and the ratio of recycling waste papers was significantly improved compared to that in FY2005. In addition to this, recycling of rechargeable batteries, cellular phones and computer equipment was started.
- Promotion of Reducing By-Products
  - Acceptable copper concentration in agents used for surface treatment of products were changed and the frequency of changing them was decreased. As a result, the volume of waste agents was decreased by 50% of those used in FY2005.
  - As effluent reduction activities, flow rate of washing agent was revised and rewashing of products was reduced. This reduced plant effluent by 11% per production unit amount compared with 2005.
- Promotion of Energy Saving
  - Energy Consumption Volume Investigation Committee was established to implement reduction activities. Electricity consumption was especially improved through revising operation control of air compressors and air conditioners in the plant. As a result, electricity consumption was curtailed by 6% per unit production amount compared with FY2005.

**Accidents and Law Suits Related to the Environment**  
Nothing

**Data relating to Pollution Prevention**

Air		
Substances (unit)	Regulation values	Actual measurement
Beryllium (g/day)	<10	<3.16

Note: Applicable Laws  
40CFR61

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	6.0~9.0	6.5~8.5
SS (mg/l)	628	ND~4.0
BOD (mg/l)	628	ND~3.5
Oil (mg/l)	100	ND~1.8
Copper (mg/l)	1.248	0.039~0.12

Note: Applicable Laws  
Sweetwater TN Sewer Use Ordinance

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
9,725	241	217

**NGK BERYLCO FRANCE**



[Address] Quai Emile Paraf BP17, 44220 Coueron, France.

[Major Production Items] Production and sale of copper beryllium alloys

**Brief Explanation of the Company**

This company is a processing plant of beryllium copper alloy products and also operates as a production and sales base for the European market. It is working toward acquisition of certification of ISO14001 environmental management system.

**Activities in FY2006**

- Promotion of Energy Saving
  - Energy saving was promoted through shared use of OA equipment and turning off of lighting equipment when not in use.
- Promotion of Reducing By-Products
  - In order to reduce by-products, thorough separation of wastes was started.
- Response to Harmful Chemical Substances
  - REACH, a new, advanced and comprehensive rule for controlling chemical substances, will be introduced in EU in June 2007. This company established a special team in FY2006 and started activities in order to respond to it.

Note: REACH; Regulation concerning the Registration, Evaluation, Authorization and Restriction of Chemicals

**Accidents and Law Suits Related to the Environment**  
Nothing

**Data relating to Prevention of Pollution**

Air		
Substances (unit)	Regulation values	Actual measurement
Beryllium (mg/Nm <sup>3</sup> )	0.002*1	0.00003~0.0005
Total acidity (mg/Nm <sup>3</sup> )	0.5*2	0.008

Note: Applicable Laws  
\*1: Regulation from French Work department  
\*2: Authorization from Prefecture

Effluent		
Substances (unit)	Regulation values	Actual measurement
pH	5.5~8.5	6.23~8.15
SS (mg/l)	30	2~12
BOD (mg/l)	150	92~94
Copper (mg/l)	2	0.012~0.52

Note: Applicable Laws  
industrial authorization

**Environmental Performance in FY2006**

CO <sub>2</sub> Emission (Energy-oriented) ton-CO <sub>2</sub> /year	Generation of By-Products	
	Total Generation Volume (tons/year)	External Disposal (tons/year)
333	104	95



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