

# Global Warming\*1

**\*1 Global warming**  
Phenomenon where the average global temperature is increasing due to a higher concentration of greenhouse gases that trap heat in the atmosphere and heat the surface of the Earth.

**\*2 Act on the Rational Use of Energy**  
Established in 1979, triggered by the oil crisis. Measures are stipulated for four categories of factories, etc.: transportation, buildings, and machinery and equipment. Amendment in 2008 changed the base of the control system for energy management for factories, etc. from factories/business sites to business operators (companies). Those consuming 1,500 kL (crude oil equivalent) or more of energy are designated as Specified Business Operators, and are required to appoint an Energy Management Control Officer, make basic unit improvements to an annual average of 1% per year.

**\*3 Law Concerning the Promotion of the Measures to Cope with Global Warming**  
Under the System for Greenhouse Gases Computation, Reporting and Publication, businesses emitting 3,000 tons (CO<sub>2</sub> equivalent) or more of greenhouse gases are required to report their emission volumes.

**\*4 Greenhouse gases**  
Gases that cause global warming. The Kyoto Protocol designates carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

## Basic Philosophy

Corporate energy strategies are becoming increasingly important due to intensification of climate changes (global warming) as well as power supply concerns due to the Great East Japan Earthquake. Against this backdrop, energy conservation can be conducted on various scales, from an entire factory to process, facilities, and even at the level of the individual employee. The Energy Conservation Promotion Section and other sections will therefore implement long-term countermeasures, and with additional energy conservation activities on a daily basis, we hope to achieve our Eco Vision 2015 by concerted efforts by all Group members.

### Voice

Abnormal climates occurring all around the world and the influence of power shortages on our daily lives are just a couple of examples of what makes us realize the importance of conserving energy. The Energy Conservation Promotion Section was established last July to promote all-company activities for CO<sub>2</sub> reduction. We hope to promote CO<sub>2</sub> reduction activities for the entire Group, domestic and international, with a global perspective so that we may pass on to future generations a "comfortable living environment on Earth."



Masato Nagasaki  
Deputy General Manager  
Energy Conservation Promotion Section

## Results of the Fiscal 2010 Targets and Eco Vision 2010

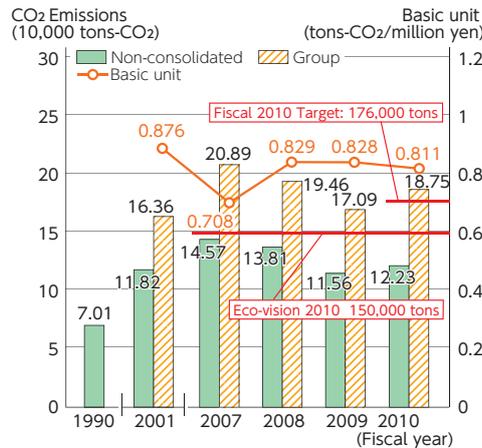
The CO<sub>2</sub> emission volume for fiscal 2010 was 188,000 tons (10% increase from previous fiscal year); neither the fiscal 2010 target and Eco Vision 2010 were achieved. This was due to increased production with the business expansion after the formulation of Eco Vision, and

recovery from the economic recession in fiscal 2008.

### Fiscal 2010 Targets and Results

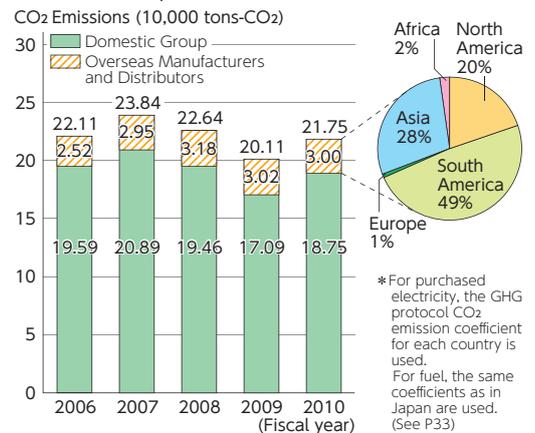
	Target (emission volume)	Results
Group	176,000 tons or less	188,000 tons

### Transition of Emission Volume of Energy-Origin CO<sub>2</sub> (Offices and Factories)



### Trend in CO<sub>2</sub> Emissions

(Domestic Group + Overseas Manufacturers & Distributors)



## Fiscal 2015 Target and Fiscal 2011 Target

Eco Vision 2015 sets both total volume targets and basic unit targets to control CO<sub>2</sub> emissions while foreseeing an increase in production, and uses fiscal 2007 as the standard year, a year with a business format close to that of today.

For fiscal 2011, target managers will be appointed for each division, and a thorough inspections of air leaks and energy conservation patrols will be conducted in order to achieve the targets. Efforts to prevent global warming will also be continued at overseas corporations.

## Act on the Rational Use of Energy\*2 and the Law Concerning the Promotion of the Measures to Cope with Global Warming\*3

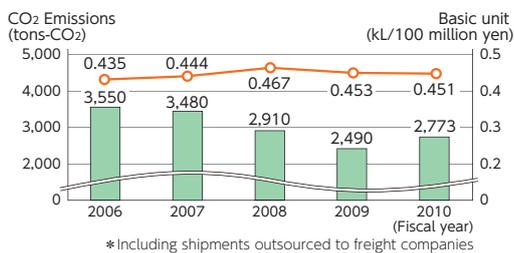
Energy consumption by NGK Spark Plug Co., Ltd. and three affiliated companies exceed 1,500 kL (crude oil equivalent), and have therefore been designated as Specified Business Operators under the Act on the Rational Use of Energy. Each designated company has appointed an Energy Management Control Officer and an Energy Management Planning Promoter to oversee energy conservation.

The emission volume of greenhouse gases\*4 excluding energy-origin CO<sub>2</sub> by NGK Spark Plug Co., Ltd. totaled 894 tons (CO<sub>2</sub> equivalent), which is a 51% decrease from the previous fiscal year. Since it did not reach 3,000 tons, reporting was not required under the Law Concerning the Promotion of the Measures to Cope with Global Warming, but we will continue to calculate and control our emissions.

## Energy conservation during transportation

As Specified Consigners under the Act on the Rational Use of Energy we are making efforts to reduce CO<sub>2</sub> emissions during transportation. We reviewed our transport of waste in fiscal 2010, but the cargo shipment volume totaled 44,305,000 ton-km (15% increase from the previous fiscal) and so the target was not achieved. The CO<sub>2</sub> emission volume was 2,773 tons (15% increase from the previous fiscal). In Eco Vision 2015, we hope to make an 8% improvement in basic unit compared to fiscal 2007.

### Transition of CO<sub>2</sub> Emissions As Consigner



## Use of natural energy

We promote the use of solar power, a natural energy.\*<sup>2</sup> Head Office Factory has three solar power generator units and one solar water heater. The Komaki Factory has a large-scale solar power generator unit that can generate a maximum of 107 kW of electricity. Power generated in fiscal 2010 totaled 173,000 kWh, which equaled a reduction of 57 tons of CO<sub>2</sub>.



Solar panels (Komaki Factory)

## Energy conservation in the office

Starting from turning off lights and computers during breaks, we conserve energy in various ways, including implementing our coolbiz and warmbiz campaigns (to save energy used for air conditioning and heating), setting the thermostat at 28 degrees Celsius in the summer and 20 degrees Celsius in the winter. Also, bitter gourds, pumpkins and gourds have been grown on the southern side of the administrative wing of the Miyanojo Factory since fiscal 2008 to create green curtains\*<sup>1</sup>, reducing power consumption for air conditioning in the summertime.



Green curtain (currently growing)

\*1

### Green curtain

Natural curtains created by creepers growing along the windows. They help to lower the room temperature by shielding it from direct sunlight and they have a cooling effect due to plant transpiration.

## Participation in the lights-down campaign

We support and participate every year in the CO<sub>2</sub> Reduction Lights Down Campaign conducted by the Ministry of the Environment.

For fiscal 2010, we turned off lights in 16 locations on June 21 (summer solstice) and July 7 (Tanabata Festival) from 8 pm to 10 pm; advertising towers and displays at our factories and business sites were turned off, and we also asked sales shops to turn off ad displays of our company at their storefronts.



Normal

Turned off

\*2

### Natural energy

Energy obtained from sunlight, solar heat, wind, water, biomass, tide, geothermal heat, snow/ice energy, etc.

## PICK UP

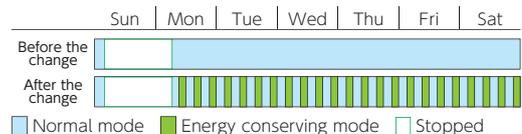
### Energy conservation by rethinking operation of the cafeteria ventilation fan - Komaki Factory

The No. 1 cafeteria at the Komaki Factory used to have its aeration and exhaust fans turned on at all times except on Sundays. We thought we may be able to conserve energy by controlling their operating modes during the hours when no one was there.

Inverters were installed to control the operating mode so that when the cafeteria lights are turned off, the speed of the aeration fans slows down and some exhaust fans automatically stop.

This energy-conserving mode coordinated with lighting reduced the weekly normal mode hours from 142 to

60, resulting in an annual CO<sub>2</sub> emission reduction of 10.3 tons.



Cafeteria with lights out