

CSR Report 2013

Corporate Social Responsibility Report



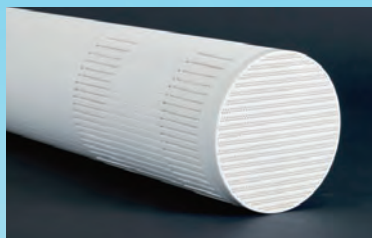
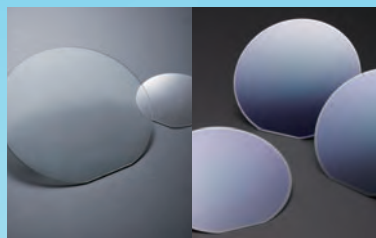
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Special
Features

The Challenge of Creating New Products to Drive Future Business

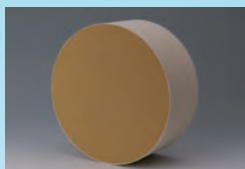
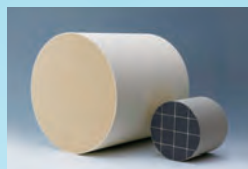
① Wafers for Electronic Devices ② Subnano-Ceramic Membranes



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Editorial Policy

Reference Guidelines

Ministry of the Environment's Environmental Reporting Guidelines (2012) and the Global Reporting Initiative's Sustainability Reporting Guidelines (Version 3.1).

Target Organization

As each example differs, data is presented individually for each article in the report.

Target Period

Domestic activities and data:

April 1, 2012-March 31, 2013

Overseas activities and data:

January 1, 2012-December 31, 2012

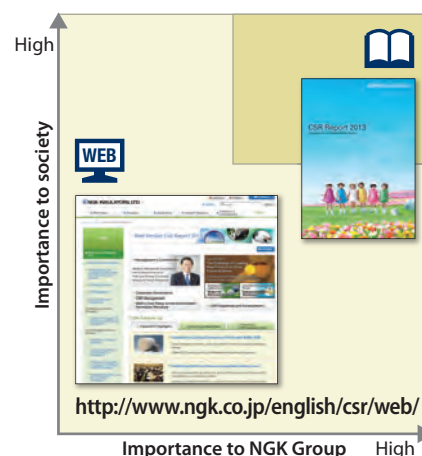
Sections Based on CSR Promotion Actions

NGK clearly states eight actions for promoting CSR (see P. 13) defined in the NGK Group Guidelines for Corporate Behavior and establishes targets for each action every fiscal year. Sections in the CSR Report 2013 correspond to these eight actions for promoting CSR, resulting in a report that captures the actual state of NGK's CSR activities.

This Report and Other Reporting Media

Although there are no objectives set for promotion activities in this CSR Report, important Group and company activities are reported in addition to activities set forth in the CSR promotion action objectives.

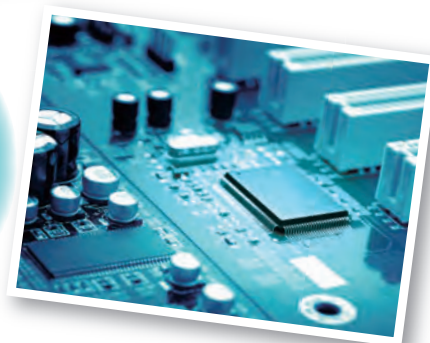
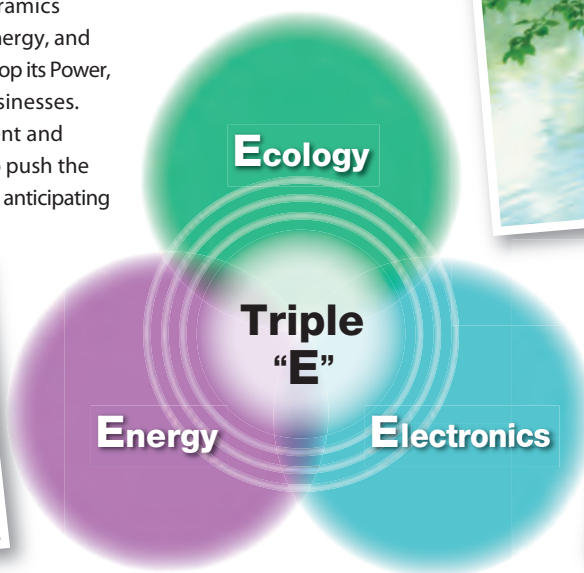
All the information in this report is also available on the CSR pages of NGK's corporate website, which includes a wider range of content than is covered in this printed report.



Refining Ceramics Products in the Triple E Domain

Business Fields and Segments

The NGK Group leverages its core ceramics technology in the fields of Ecology, Energy, and Electronics (the "Triple-E" Fields) to develop its Power, Ceramic Products and Electronics businesses. NGK aims to conserve the environment and contribute to society by continuing to push the boundaries of new ceramics technology anticipating future needs.



Corporate Outline

Company name:
NGK INSULATORS, LTD.

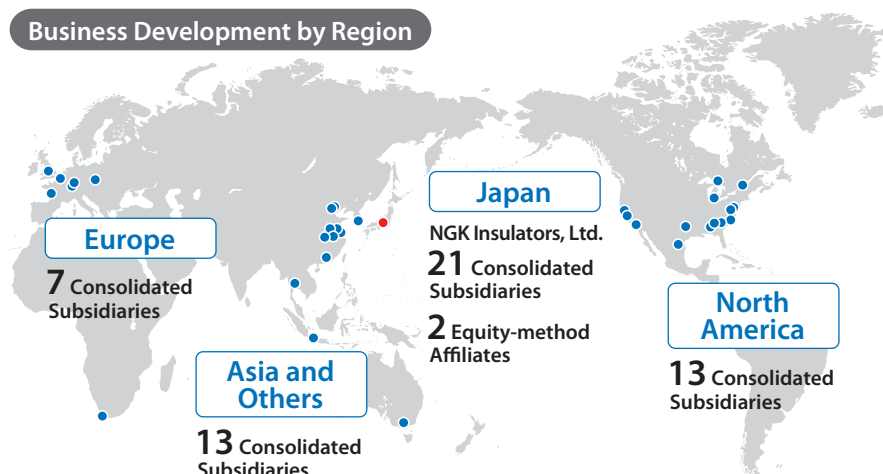
Address:
2-56, Suda-cho, Mizuho, Nagoya
467-8530, Japan
Telephone + (81) 52-872-7171

Establishment:
May 5, 1919

Paid-in Capital:
69.8 billion yen
(As of March 31, 2013)

Employees:
NGK: 3,426
Consolidated: 13,159
(As of March 31, 2013)

Business Development by Region



Business Groups and Main Products

Power Business

NAS® battery systems for electric energy storage insulators and electric power equipment

Supporting the stable supply of energy



Ceramic Products Business

HONEYCERAM® honeycomb ceramics for automotive catalytic converters to purify exhaust gases
Diesel Particulate Filters (DPFs)/NOx Sensors
Industrial processing products

Reducing environmental impact



Electronics Business

Ceramics for semiconductor manufacturing equipment
Ceramics for electric and electronic machinery beryllium copper alloy

Contributing to the advancement of electronic products



NGK Products Used in All These Ways

Products using proprietary ceramics technologies provide the world with stable electric power, reduce environmental impact and create advanced electronic products that contribute to the creation of a better society.

Power Business

● NAS® Battery Systems for Electric Energy Storage

NAS batteries enable megawatt-class electricity storage, facilitate power demand peak cut and provide stable and renewable energy.



NAS® battery systems for electric energy storage

● Insulators and Electric Power Equipment

Power transmission, substation and distribution insulators and related products support the stable supply of energy in over 100 countries around the world.



Insulators for power transmission



UHV gas bushing

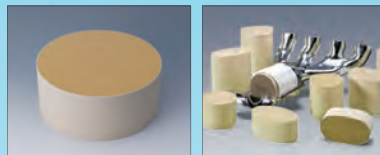
Supporting the stable supply of energy



Ceramic Products Business

● HONEYCERAM® Honeycomb Ceramics for Automotive Catalytic Converters to Purify Exhaust Gases

Automobile exhaust gas is purified by catalytic metals on the ceramics surface.



Large size HONEYCERAM®

HONEYCERAM® for gasoline-powered vehicles

● Diesel Particulate Filters (DPFs)/ NOx Sensors

Providing various products for the purification of diesel engine exhaust gas.



Cordierite (left) and silicon carbide (right) DPFs

High-precision in-vehicle NOx sensor

● Industrial Processing Products

Contributing to water purification in each process, manufacturing solar cell and lithium-ion batteries.



Industrial heating systems

Various ceramic filters

Reducing environmental impact



Electronics Business

● Ceramics for Semiconductor Manufacturing Equipment

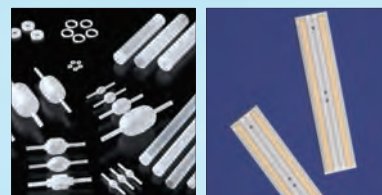
Fine ceramics enabling semiconductor miniaturization and improved productivity.



Ceramics for semiconductor manufacturing equipment

● Ceramics for Electric and Electronic Machinery

NGK provides HICERAM® translucent alumina ceramics used in high-intensity discharge lamp arc tubes, piezoelectric micro-actuators and other products.

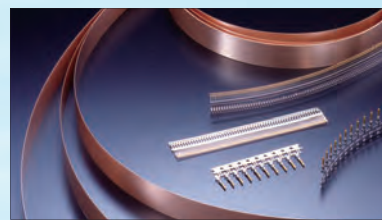


HICERAM®

Piezoelectric micro-actuators

● Beryllium Copper Alloy

Contributing to improved reliability and miniaturization technologies with conductive spring material for electrical appliances and automobiles.



Beryllium copper strip

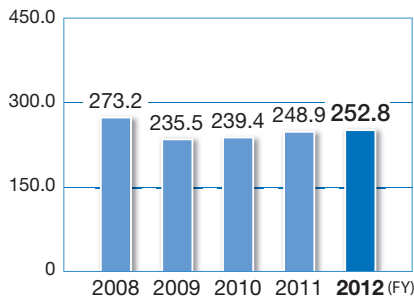
Contributing to the advancement of electronic products



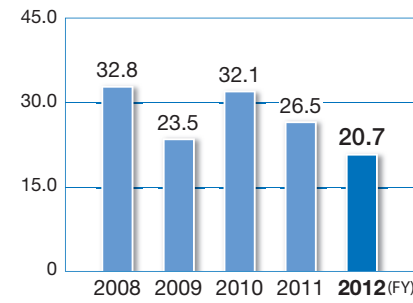
Business Overview (Consolidated)

Data includes target company consolidated results (21 domestic, 33 overseas companies as of March 31, 2013)

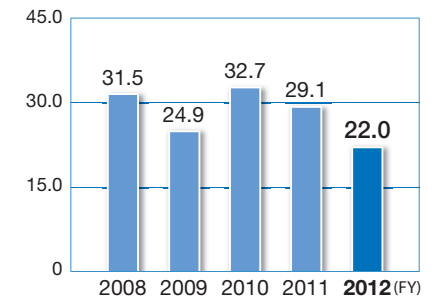
Net Sales (Billions of yen)



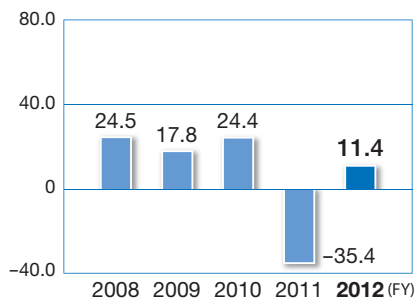
Operating Income (Billions of yen)



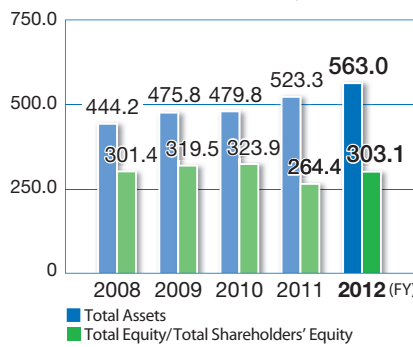
Ordinary Income (Billions of yen)



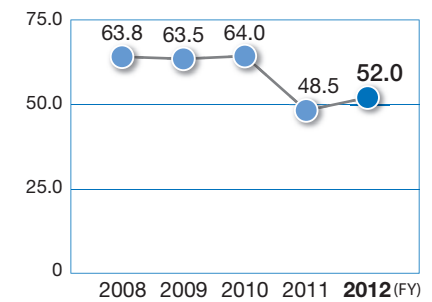
Net Income (Billions of yen)



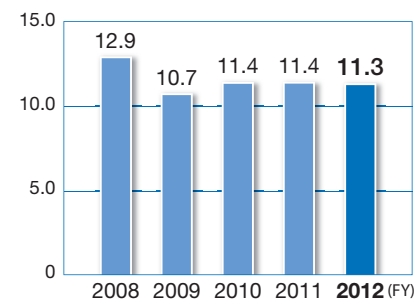
Total Assets, Total Equity/Total Shareholders' Equity (Billions of yen)



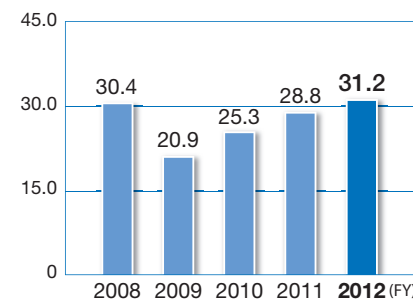
Equity Ratio (%)



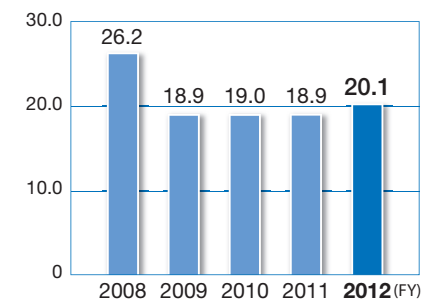
Research and Development Expenses (Billions of yen)



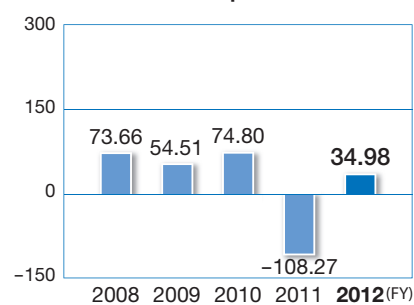
Capital Expenditures (Billions of yen)



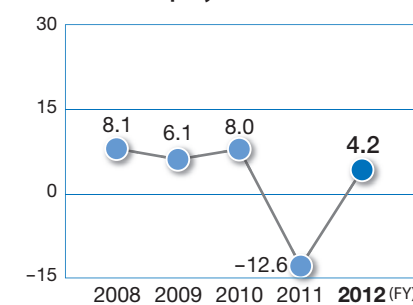
Depreciation and Amortization (Billions of yen)



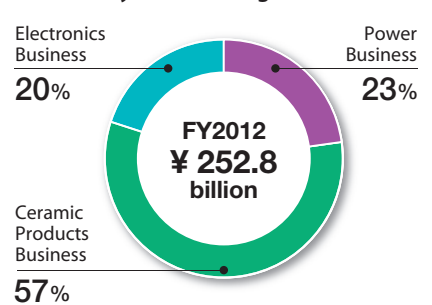
Net Income (Loss) per Share (Yen)



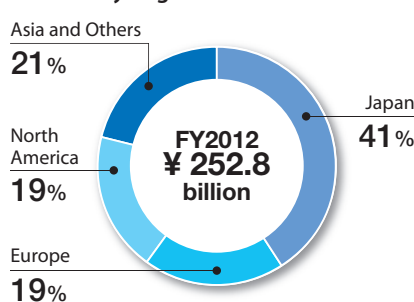
Return on Equity (%)



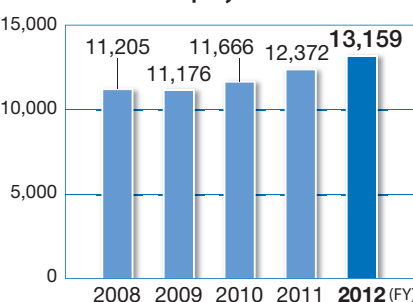
Sales by Business Segment



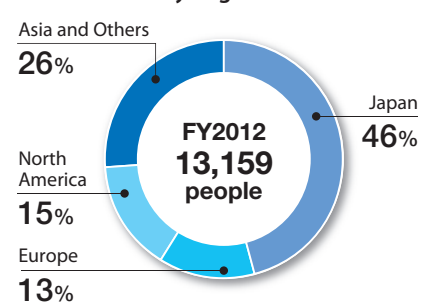
Sales by Region



Number of Employees



Workforce by Region



Meeting Stakeholder Expectations with a Shared Sense of Risk and Strong Conviction Among All Group Employees



Compared to the previous fiscal year, NGK Group net sales in fiscal 2012 were up slightly overall. Although Ceramics Business Group sales increased on higher demand for automotive-related parts, Electronics Business Group sales declined significantly amid the severe business environment.

Performance has been sluggish since the collapse of Lehman Brothers the competitiveness of existing products such as insulators and electronic components has declined and our reliance on automotive-related products is higher than ever. As we expect this severe business environment to continue, all group employees will have a shared sense of risk and attempt to thoroughly eliminate waste to transform to a leaner business structure aiming for improved performance, while targeting continued growth through the creation of new products and businesses that will become NGK's next core growth drivers.

About NAS Battery Future Prospects

Since the fire accident in September 2011, employees in all Group divisions have worked together to discover the cause of the accident and strengthen safety measures to ensure our customers are able to use NAS batteries safely. At present, we are making an all-out effort to repair NAS batteries installed at customer locations to further enhance safety and regain customer trust as quickly as possible.

Building on the momentum of a large project contract agreement announced in May 2013, we will promote the strengthening and expansion of sales activities mainly overseas, where there is a strong demand for large-capacity storage batteries, as well as in regions and outer islands with a high proportion of renewable energy.

Initiatives for the Creation of New Products and Businesses

NGK's basic policy is to make strong businesses even stronger, expanding business in areas making use of core technologies and areas peripheral to strong businesses. NGK invests in the market, aiming for efficient overseas



expansion, product improvements competing manufacturers can't match and the early development of new products enabling further growth. Accordingly, new internal targets for the ratio of new products within net sales were established and NGK is focusing more effort than ever before on creating new products that will become the future drivers of NGK's business. The structure of the New Business Planning Office, established in April 2012, was strengthened to further accelerate development theme search activities linked to new businesses.

In April 2012 we kicked off the "Wafer Project" for the development of wafer-related products such as bonded wafers for SAW filter applications used in smartphones and GaN wafers for ultra-high brightness LEDs. NGK has high expectations for these products, which have been assessed highly by customers and others outside the company, and are strongly competitive in the market. In February 2013, we created a company-wide project structure to promote speedy operations in the development divisions as well as sales and other related divisions. The entire group will continue to engage in the creation of new products making use of ceramics technology, the NGK Group's strength.

Toward a Leaner Business Structure

To prevail in competition with developing country manufacturers, it is essential that NGK thoroughly eliminate all kinds of waste and transform to a leaner business structure. Since 2012, NGK has promoted work reviews and meeting efficiency to trim down the head office and back office sections of business divisions. We will continue these initiatives, asking ourselves "isn't there anything we can get rid of or make more efficient?"

We will also attempt to thoroughly compress our assets by reducing inventories and minimizing capital expenditure.

Toward Overcoming the Severe Business Environment

The five basic policies of seeking innovation in our technologies, emphasizing speed, paying attention to on-site operations, encouraging human resource

development and company-wide participation in CSR announced when the president was appointed remain unchanged.

In addition to this basic policy, employees were also called upon to think about and share ideas necessary for creating a better society and a better organization by facing adversity head on with a positive attitude and strong conviction without fear of failure in an all-out effort aimed at improving performance.

With a rising proportion of sales overseas, NGK has more opportunities to do business overseas than ever before. In recent years, it has become increasingly necessary to observe laws and regulations related to the prevention of global corruption, competition laws and import/export regulations pertaining to overseas business. As a member of the global business community, we will further enhance our compliance structure and create an environment that ensures all NGK Group employees maintain high ethical standards.

Together with Stakeholders

In January 2013 we held a CSR Dialog event where opinions were exchanged with stakeholders on the subject of NGK Group environmental activities. Although time was limited, we received many valuable opinions and suggestions regarding future corporate activities.

Aiming to become a reliable and trusted corporate Group, NGK will listen with sincerity to all our stakeholders through dialogs and the timely and appropriate distribution of information.

The CSR Report 2013 introduces and highlights each CSR Objectives and Achievements item for CSR initiatives the NGK Group engages in. After reading this CSR Report, we invite you to offer your direct and honest opinion on NGK's initiatives.

July 2013


Taro Kato
President

Basic Approach to Corporate Governance and Status Initiatives

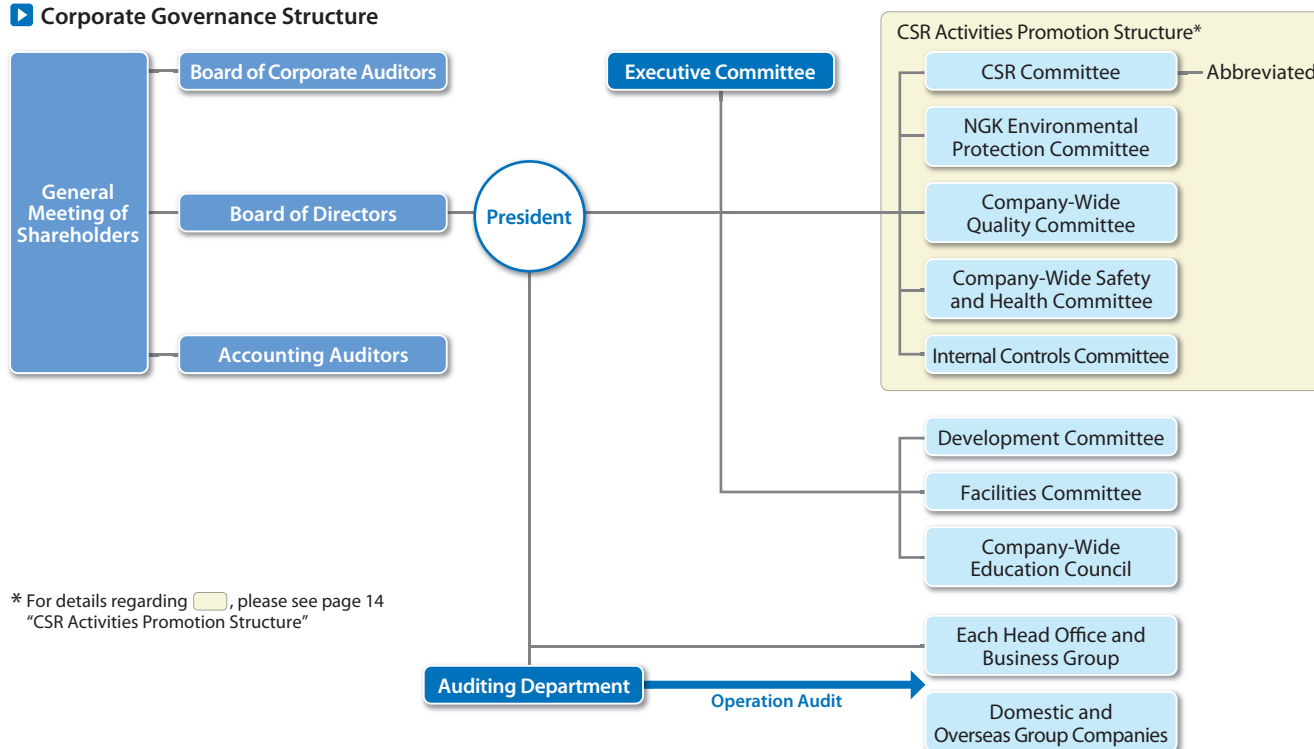
To ensure appropriate operations and transparent management, NGK has set its sights on establishing and maintaining an organization capable of swiftly responding to changes in the business environment, and a fair and open management system emphasizing the interests of shareholders. These components make up NGK's basic approach to corporate governance.

To put this approach into practice, NGK has chosen a governance structure anchored by a Board of Corporate Auditors. In addition to the General Meeting of Shareholders, the Board of Directors and the Board of Corporate Auditors, NGK corporate

governance includes the Executive Committee and several other committees established to assist the president in management decision-making. These bodies help to enhance governance efficacy by deliberating and reviewing important matters.

Considering the importance of swift and optimal decision making and execution for responding promptly to changes in the operating environment, NGK introduced a corporate officer system, thus separating the management decision-making and supervision functions from business execution functions, and clearly defining the responsibilities of both.

▶ Corporate Governance Structure



Board of Directors

The Board of Directors, comprising 11 members as of June 27, 2013, deliberates matters prescribed in the Companies Act, as well as other important management issues, providing oversight for the execution of duties by directors. The Board of Directors includes the appointment of two highly independent external directors, who are expected to play a proper role in strengthening corporate governance through suggestions and advice to the Board on all management issues.

Board of Corporate Auditors

The Board of Corporate Auditors consists of four members, each of whom attend Board of Directors meetings and conduct other activities to audit the execution of duties by directors. To further strengthen corporate governance, the Board of

Corporate Auditors includes the appointment of two highly independent external corporate auditors, each possessing significant business experience. One of our standing corporate auditors spent many years engaged in NGK financial operations, and one external corporate auditor has many years of operational experience in financial institutions; both possess a considerable degree of financial and accounting knowledge.

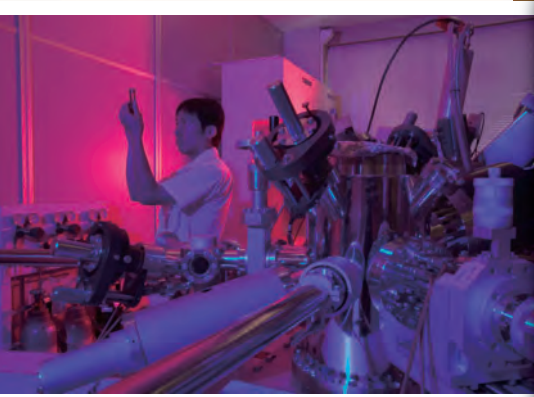
Executive Committee

The Executive Committee, which consists of the President, Board of Directors, Board of Corporate Auditors and senior vice presidents and division heads designated by the President, is a body that deliberates matters necessary for helping the president with decision-making.

Internal Control Systems

The Board of Directors and the executive bodies overseen by the president are responsible for establishing and operating NGK's internal control system. The Auditing Department, a specialized internal audit body, is responsible for monitoring the status of business execution at each operating division. Moreover, NGK has established the Internal Controls Committee to manage its reporting system for internal controls pursuant to Japan's Financial Instruments and Exchange Law. The NGK Group Guidelines for Corporate Behavior were formulated as a policy embodying the Group's corporate and management philosophies and as a guide for the actions we take.

These guidelines specify the Group's fundamental stance with respect to business activities and corporate behavior to ensure it remains a company that is beneficial to society, even in the pursuit of its economic goals. The CSR Committee, meanwhile, is responsible for a range of activities that include formulating NGK Group Guidelines for Corporate Behavior, ensuring compliance with laws, regulations and corporate ethics is fully entrenched throughout the Group, and developing responses to incidents and accidents it believes could significantly impact the Company. The committee's actions are designed to maintain and improve the level of the Group's internal control system.

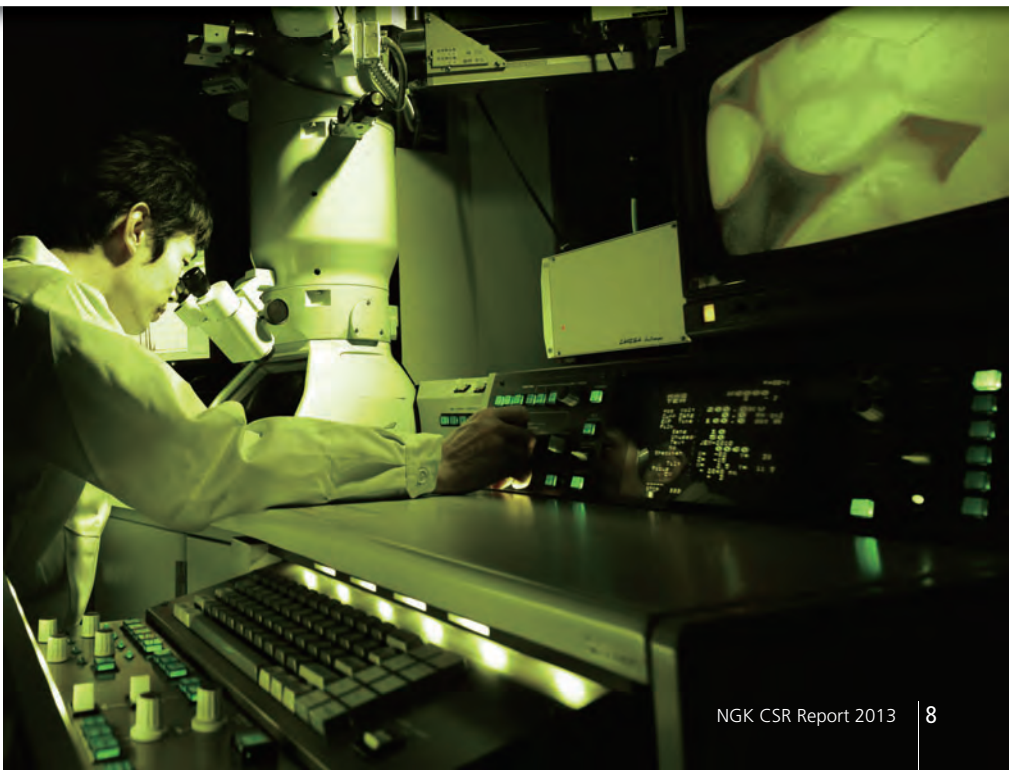


Special Feature

The Challenge of Creating New Products to Drive Future Business

The NGK Group must engage in the ongoing creation of new products that will drive future business to continue growth going forward. NGK's policy is to use advanced ceramics technologies to make strong businesses even stronger, creating new products in domains that make use of core technologies and domains peripheral to strong businesses.

The New Business Planning Office was established in April 2012 to strengthen development theme search activities linked to new businesses, while promising development themes, such as wafers for electronic devices and subnano-ceramic membranes, are being promoted cross-functionally with the aim of prompt commercialization.



Wafers for Electronic Devices

NGK Wafers Solving Problems in New Areas of Wireless Communications and Lighting

Wafers for electronic devices such as semiconductors and electronic component substrates are one new business area that will drive NGK Growth in the future.

NGK creates products that make use of proprietary technologies accumulated through ceramics, such as the world's first GaN wafer manufacturing process and bonded wafers that combine different kinds of materials.

Bonded Wafers for SAW Filter Applications

Bonded wafers enabling low-cost, high-performance SAW filters for wireless communications

GaN Wafers for Ultra-High Brightness LEDs

Wafers enabling the manufacture of high-intensity, high-efficiency LEDs

NGK Wafers and Ceramics Technologies

In 2012, NGK launched the "Wafer Project," which aims to create highly functional and high-quality wafers for electronic devices that make use of material technologies accumulated in the ceramics area. This project develops bonded wafers for surface acoustic wave (SAW) filter applications and GaN wafers used for ultra-high brightness LEDs.

In May 2013, the Japan Fine Ceramics Association presented NGK with the 2012 Award for Technical Advancement for the development of bonded wafers for SAW filter applications, a proprietary product resulting from the application of NGK's core technologies involving refining materials, bonding and cultivating crystals.

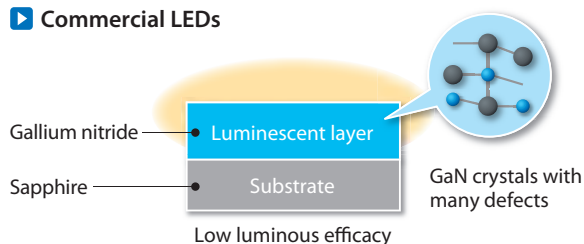
GaN Wafer for Ultra-High Brightness LEDs

LEDs That Are 20 Times Brighter

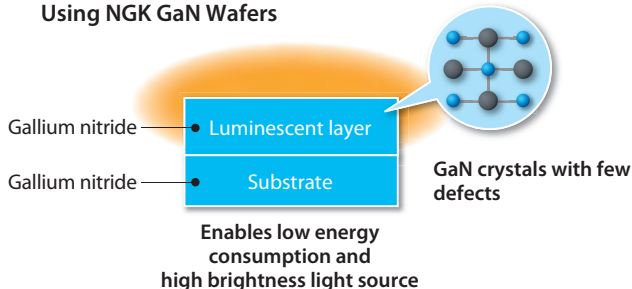
Gallium nitride (GaN) is already a standard material used in blue light-emitting diodes (LEDs). However, traditional manufacturing methods using sapphire wafers have resulted in many defects (disorder of atomic arrangement) in GaN crystals that limited LED intensity and energy efficiency.

The world's first GaN wafer manufacturing method developed by NGK creates high-quality GaN wafers that are colorless and transparent with only 1/100 of the defect density (number of defects per unit area) resulting from traditional manufacturing methods. The GaN wafers developed by NGK

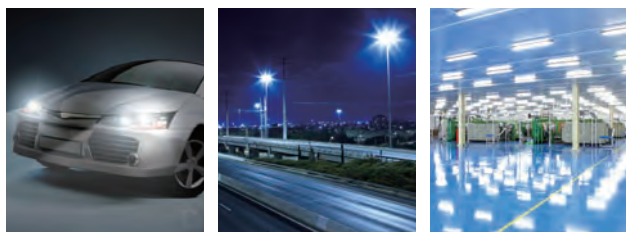
Commercial LEDs



Ultra-High Brightness LED Using NGK GaN Wafers



Ultra-High Brightness LED Application Examples



Automobile headlights

Streetlights

Factory lighting

realize revolutionary high-performance LEDs 20 times brighter than traditional LEDs. Applying conventional LEDs to equipment that requires high brightness, such as automobile headlights and large-scale lightings, is difficult because of the limitations of LED performance. This new wafer has paved the way for LED applications in new areas.

GaN is also highly anticipated as a new material for power semiconductors used to control large amounts of power. Going forward, NGK will promote higher-quality and larger-diameter GaN wafers for the power semiconductor area to contribute to power-loss reductions and energy conservation.

Bonded Wafers for SAW Filter Applications

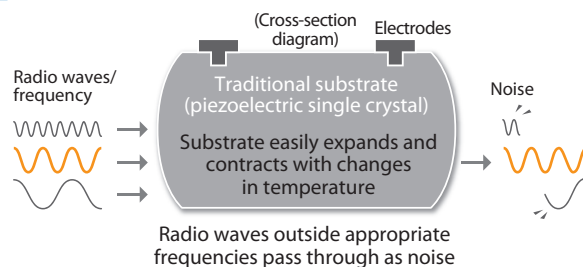
Realizing High Telecommunications Quality at a Low Cost

SAW filters are used primarily in wireless communication devices such as smartphones and tablets. They serve as a type of frequency filter that has a large bearing on communications quality. However, traditional SAW filters have one weakness: the substrate used consists of a piezoelectric single crystal which expands and contracts significantly with temperature change, causing deterioration of device performance. Therefore, traditional SAW filters are not adaptable for high speed telecommunication systems such as LTE and advanced LTE. Nowadays, another type of filter device is employed for such systems. As these devices require large-scale capital expenditure to manufacture, increased costs and energy

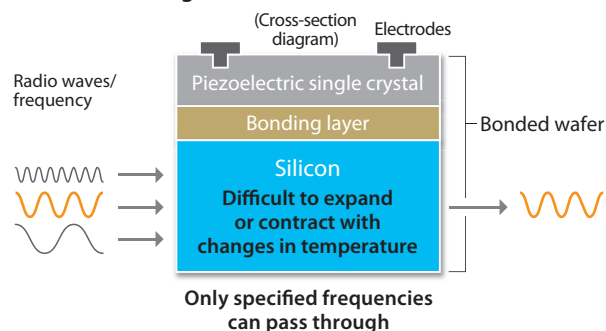
consumption resulting from the manufacture of these devices has become an issue.

The bonded wafers developed by NGK consist of a traditional substrate and silicone attached to the underside of the substrate, resulting in a product that restricts thermal expansion to less than one-third of traditional products. Use of bonded wafers creates a SAW filter that stands up to temperature fluctuations and is compatible with current and advanced LTE high-speed telecommunications standards. Also, filter makers can manufacture SAW filters on existing equipment, enabling further reductions in energy consumption and CO₂ emissions. NGK is already preparing for the mass production of bonded wafers, which should be ready for the market sometime in fiscal 2013.

Conventional SAW Filter



Saw Filters Using Bonded Wafers



Developer Voice

We aim to create products that benefit society on the basis of market needs.

Masahiro Sakai
Corporate R&D, NGK



The conventional method of manufacturing GaN wafers, where a thin layer of GaN is formed on a substrate made from different materials such as sapphire, frequently causes defects and limits LED performance. Although we already knew the substrate and GaN should be made from the same material, and despite the efforts of companies and research institutions around the world, it appeared to be too complex and difficult to accomplish. Then, NGK achieved a breakthrough by applying its core technology for growing ceramics like crystal to successfully manufacture high-quality GaN with extremely low defects.

We will continue to create new technologies and products that are useful to society through the optimal matching of NGK seed technologies with market needs.

Subnano-Ceramic Membranes

Nanometer (1 Billionth of a Meter) “Sieve” Brings Innovation to the Separation Process

As a comprehensive manufacturer of ceramic filters, NGK is also aggressively engaged in the development of subnano-ceramic membranes with pores under one nanometer* in width.

Capable of separation at the molecular level, subnano-ceramic membranes contribute significantly to both industry and the environment.

* 1 nanometer (nm) = 1 m/1,000,000,000



Subnano-Ceramic Membranes

Ceramic filter capable of separating at the molecular level

Separating Various Liquid and Gas Molecules with Ceramics

NGK, first to begin mass production of ceramic filters in Japan in the 1980s, is now a comprehensive manufacturer of ceramic filters with a global top class product lineup.

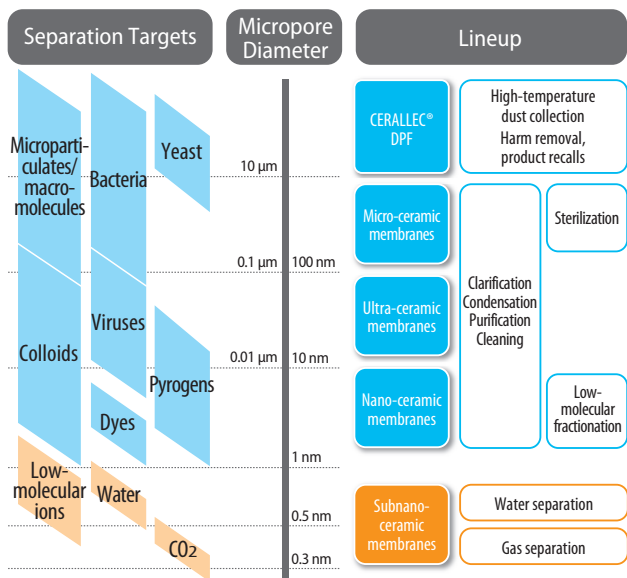
NGK ceramic filters are used in the manufacturing process of various products, including mineral water, wine, soy sauce, fruit juice and other food and beverages, as well as the purification, concentration and separation of cosmetics and pharmaceutical compounds. We also supply wastewater treatment systems using ceramic filters to semiconductor and solar cell plants.

Among these, the subnano-ceramic membranes area boasts the world's highest level of technological capability. Advanced

technologies and expertise go into the manufacture of subnano-ceramic membranes, with crystalline architecture lined up on the mesh to form microscopic pores less than one nanometer across. These technologies include those for creating large-sized wide surface area filters applied to extrusion forming technologies used to manufacture HONEYCERAM, and technologies for the formation of thin membranes with ultramicroscopic pores free from imperfection.

Subnano-ceramic membranes function to separate specific molecules according to differences in molecular size and composition. Used in this way, they enable the collection of specific components from liquids and the separation of specific vapors from mixed gases. NGK promotes the aggressive research and development of molecular separation to realize separation process innovations in a variety of manufacturing industry areas.

▶ NGK Ceramic Filter Lineup



Water Separation

Resistant to Acid and Water, Energy Consumption Reduced to Less Than Half

Synthetic resins, pharmaceutical compounds, paint and other chemicals in the manufacturing process require treatment to separate water (H₂O) from raw material liquids. At present, a method known as “distillation” is used for this separation process. However, distillation requires large-scale facilities and vast amounts of energy for heating, which accounts for approximately 40% of all the energy consumed in the chemicals industry.

NGK’s subnano-ceramic membranes bring innovation to this separation process. Compared to distillation, energy consumption is reduced to less than half and only half as much equipment is required to directly separate molecules. Traditional ceramic membranes have low resistance to acid and water, limiting the scope of their application, but NGK’s subnano-ceramic membranes are resistant to acid and water, making them more widely applicable.

▶ Water Separation Target Substances and Their Uses

Separation target substances	Uses
Acetic acid	Synthetic resins, adhesives, pharmaceutical compound ingredients, etc.
Ethanol	Pharmaceutical compounds, adhesives, ink/paint, agricultural ingredients, etc.
Isopropyl alcohol (IPA)	Acetone, glycerin, fuel water draining agent, etc.
Phenols	Phenol resin (plastic), pharmaceutical compounds, dye ingredients, etc.

Going forward, NGK will focus on acetic acid and ethanol applications.

CO₂ Separation

Enabling the Purification of High-Grade Methane

Subnano-ceramic membranes also work effectively in gas separation. NGK has amassed advanced technologies in this area for about 10 years, ever since independently developing a nano-ceramic filter that succeeded in separating methane and carbon dioxide (CO₂) from a gas mixture.

For example, in the manufacture of natural gas, methane extracted from the ground has the CO₂ removed to purify it into high-grade methane, but using the high-performance separation of NGK’s subnano-ceramic membrane enables manufacturing with even less waste. High-grade methane can be efficiently created from the production of biogas, which is garnering attention as a fuel with low-environmental impact, as well as the methane and CO₂ gas mixture emitted by fermenting garbage.

Furthermore, there is a possibility subnano-ceramic membranes may also contribute to the control of global warming. Subnano-ceramic membranes enable the containment of large concentrations of CO₂ with a small amount of energy and are expected to spur the development of new collection methods.



Developer Voice

We will continue to develop new applications for the unique technologies that only NGK can create.

Makiko Niino

Corporate R&D, NGK



Despite the subnano-ceramic membrane itself being one of only a few such technologies in the world, NGK succeeded in creating large subnano-ceramic membranes with a wide surface area and few imperfections. I feel confident in saying that only NGK combines technologies for the mass production of large substrates and compounding technologies for creating uniform membranes from different materials with advanced ceramics technologies refined over many long years.

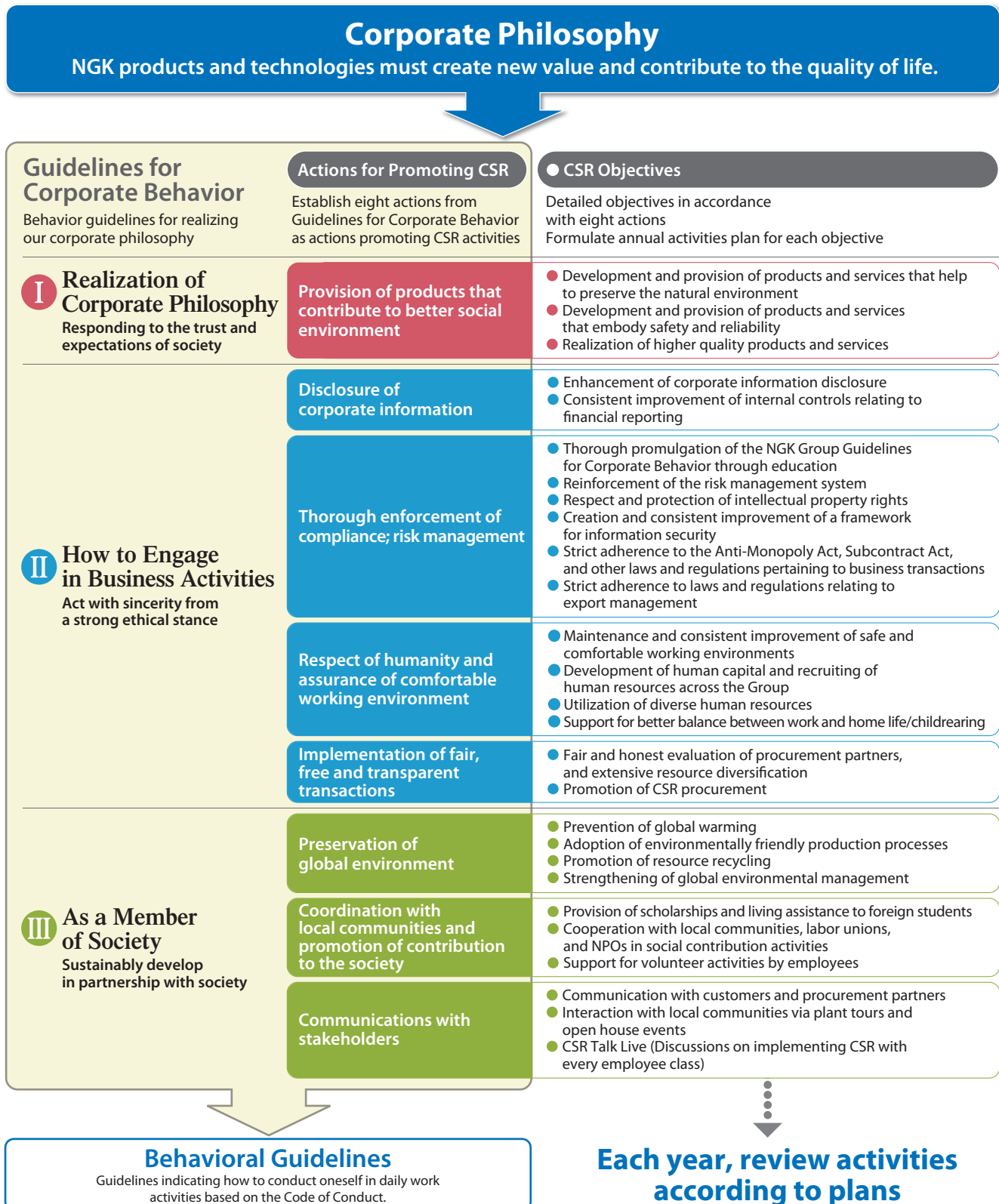
Only a small handful of ideas survive from R&D to commercialization to be born as new products. I felt both pride and pressure with respect to my involvement in the commercial development of the highly anticipated subnano-ceramic membranes. The application of the subnano-ceramic membranes is not a limitation; it has challenged the conventional wisdom as a development with a strong degree of environmental contribution. I want new application development to contribute to NGK’s social mission.



Through CSR Initiatives, NGK Is Contributing to Sustainable Social Development

Through the embodiment of our corporate philosophy, the NGK Group will continue to provide products and services that contribute to the creation of a better social environment and bring new value to society.

By putting these activities into practice, we are working together with our customers, employees and business partners to fulfill our social responsibility as a company in every respect, an act essential to meeting the public's expectations and earning its trust.

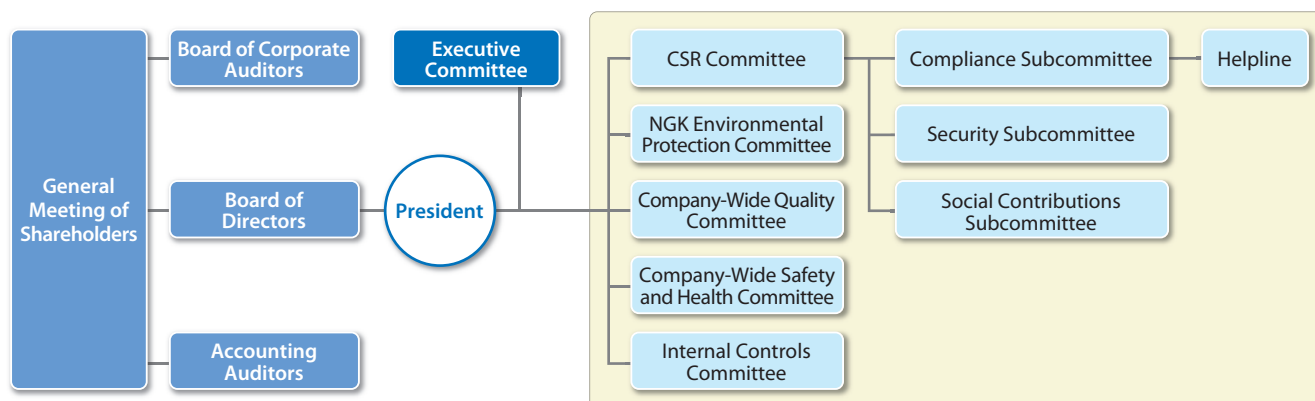


CSR Activities Promotion Structure

Promoting CSR Activities Through the Establishment of Various Committees

Aiming to contribute to the development of a sustainable society, the NGK Group has established the CSR Committee, the NGK Environmental Protection Committee, the Company-wide

Quality Committee, the Company-wide Safety and Health Committee, and the Internal Controls Committee to promote Group CSR activities.



CSR Committee

This body assists the president and CSR committee with decision-making by deliberating matters necessary for the observance of laws, regulations and corporate ethics.

Observance of laws, regulations and corporate ethics

- (1) Revision or abolition of basic policies related to the observance of laws, regulations and corporate ethics, including the Guidelines for Corporate Behavior.
- (2) Determination of systems, structures and strict observance of important activities pertaining to laws, regulations and corporate ethics company-wide.
- (3) Determination, revision or abolition of risk management structures pertaining to laws, regulations and corporate ethics.

Responses to items determined to pose a significant threat to the company, as well as consideration and evaluation of the projects promoted by each subcommittee and other CSR-related items identified as important by the CSR Committee pertaining to matters, incidents or accidents related to laws, regulations or corporate ethics, are also deliberated.

NGK Environmental Protection Committee

This body formulates and deliberates the planning of matters necessary to help the President and the NGK Environmental Protection Committee chairman with decision-making regarding the realization of our Core Policy on the Environment to promote business activities in harmony with the environment.

Company-Wide Quality Committee

Aiming to increase customer satisfaction and trust by realizing even higher-quality products and services, this body deliberates the matters necessary to help the President and the Company-wide Quality Committee chairman with decision-making regarding the following items.

- (1) Revision or abolition of Company-wide Quality Policy and Objectives
- (2) Items pertaining to the prevention of serious quality defects in the market and technological responses after occurrence
- (3) Other quality-related matters determined to be important

Company-Wide Safety and Health Committee

This body attempts to promote, through lower committees, the deliberation and determination of Company-wide basic policies regarding safety and health and the establishment of basic policies and priority targets.

Internal Controls Committee

This body deliberates matters necessary to help the President and Internal Controls Committee chairman with decision-making regarding internal controls system evaluation and reporting related to financial reporting based on the Financial Instruments and Exchange Law.

- (1) Determines reporting scope of same reports this fiscal year, evaluation and reporting schedules, evaluation standards relating to internal controls and other basic matters.
- (2) Determines internal controls evaluation summary and internal controls report drafts.

External Certification Acquisition Status

NGK Group quality management systems have acquired ISO 9001/TS 16949 certification on 32 lines. Environmental management systems have acquired ISO 14001 and other

third-party certification at 35 manufacturing bases worldwide.

Going forward, we will continue to acquire certification as new plants come on line.

Quality Management System (ISO 9001/TS 16949)		
Category		Number
Power Business Group	Electrical Insulator Division	1
	NAS Battery Division	1
	Domestic Group	2
	Overseas Group	5
Ceramics Business Group	AC Plant	1
	Ishikawa Plant	1
	Sensor Division	1
	Industrial Process Division	1
	Domestic Group	4
	Overseas Group	9
Electronics Business Group	Electronic Components Division	1
	HPC Division	1
	New Metals Division	1
	Overseas Group	3

Environmental Management System (ISO 14001, etc.)			
Category		No. of manufacturing bases	No. of bases certified
NGK		4	4
Domestic Group	Power Business	2	2
	Ceramic Products Business	6	6
	Electronics Business	7	7
Overseas Group	Power Business	5	5
	Ceramic Products Business	9	7
	Electronics Business	6	4

Safety and Health Management System (OSHMS)			
Site		Year certified	Renewed (planned)
NGK	Nagoya	2008	2011
	Komaki	2009	2012
	Chita	2009	(2013)

Plan

FY2012 Targets

Do

FY2012 Activities Summary

Check

*1 Evaluation


Reference

Action


Improvement Plan → FY2013 Targets

Actions for Promoting CSR: Provision of Products That Contribute to Better Social Environment


● Development and Provision of Products and Services That Help to Preserve the Natural Environment

1 Strengthen global production system in response to increased demand for automotive-related parts. (NGK Group)	1 Strengthened global production system in response to expanding demand for automotive-related products.	○	 P. 19, 20	● Strengthen global production system in response to market trends for automotive-related products.
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● Development and Provision of Products and Services That Embody Safety and Reliability


1 Restart NAS battery operations, diligently conduct safety enhancement measures and make efforts toward thorough quality assurance. (NGK)	1 Conducted NAS battery safety enhancement measures, strict quality management and the resumption of factory operations.	○	 P. 22	● Make an effort to restore confidence, and continuously receive orders.
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● Realization of Higher Quality Products and Services


1 Clarify impact of intentional and unintentional changes and evaluate on customer use and manufacturing processes to eradicate serious quality issues. (NGK Group)	1 Established clarification of intentional changes and unintentional changes and evaluation of their impacts of changes.	○	 P. 21	● Thoroughly eliminate quality risk by reinforcing design reliability and aim for further improvement of production quality.
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Actions for Promoting CSR: Disclosure of Corporate Information

● Enhancement of Corporate Information Disclosure

1 Continue to provide fair and honest information disclosure in a timely and appropriate manner. (NGK Group)	1 Conducted ongoing fair and honest information disclosure in a timely and appropriate manner.	○	 WEB	● Continue to provide fair and honest information disclosure in a timely and appropriate manner.
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● Consistent Improvement of Internal Controls Relating to Financial Reporting


1 Reduce the number of issues identified by audits. (NGK Group)	1 Issues identified by audits have been reduced through self-evaluations in each division and the monitoring of progress by the Internal Controls Committee.	○	 WEB	● Reduce the number of issues identified by audits.
2 Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year. (NGK Group)	2 Raised efficiency in assessment and audit of processes that were rated favorably.	○		● Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year.

Actions for Promoting CSR: Thorough Enforcement of Compliance; Risk Management



● Thorough Promulgation of the NGK Group Guidelines for Corporate Behavior Through Education

1 Raising Awareness of NGK Group Guidelines for Corporate Behavior and Behavioral Guidelines. (NGK Group)	1 Distributed materials during career education to inform and enlighten.	○	 WEB	● Raising Awareness of NGK Group Guidelines for Corporate Behavior and Behavioral Guidelines.
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● Reinforcement of the Risk Management System

1 Continue to have the CSR Committee periodically confirm and follow up on the status of Company-wide risk countermeasures. (NGK Group)	1 CSR Committee met three times, followed up on status of risk countermeasures.	○	 P. 24	● The CSR Committee will regularly follow-up on the status of Company-wide risk countermeasures.
	2 Conducted third CSA questionnaire targeting domestic group companies in December.	○		● Conduct fourth CSA questionnaire targeting all of NGK.


● Respect and Protection of Intellectual Property Rights

1 Continue to conduct dialog-style small group seminars for young engineers in R&D and business divisions. (NGK)	1 Patent Map Usage explanatory meetings were held three times and small group discussion-based seminars were held 10 times for young engineers.	○	 WEB	● Continue to conduct small group discussion-based seminars for young engineers.
2 Conduct training program for managers on Chinese intellectual property issues and case studies on intellectual property strategies of other companies. (NGK)	2 Conducted lecture presentations for managers on Chinese intellectual property issues and case studies on the intellectual property strategies of another company.	○	 P. 24	● Enhance awareness-raising programs for managers.

● Creation and Consistent Improvement of a Framework for Information Security

1 Enhance IT security education and strengthen measures to prevent leakage of confidential information. (NGK Group)	1 Completed by approximately 90% of all Group companies.	△	 P. 24	● Complete at all Group companies.
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● Strict Adherence to the Anti-Monopoly Act, Subcontract Act, and Other Laws and Regulations Pertaining to Business Transactions

1 Further enhance compliance with the Anti-Monopoly Act and the Subcontract Act by strengthening education to officers and employees. (Overseas group companies)	1 Created and distributed the "Competition Law Compliance Handbook" summarizing action guidelines to be followed by all officers and employees.	○	 P. 23, 24	● Make employees fully aware of and observe the Competition Law Compliance Handbook.
2 Regularly conduct competition law related seminars led by lawyers at group companies in the U.S. and Europe. (NGK Group)	2 Conducted seminars on competition laws at group companies in South Korea, the United States and Europe.	○		● Continue holding seminars on a regular basis.

※1 Evaluation standards:

○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved



Indicates activities covered in this report.



Indicates activities not included in this report that are covered on our website.

Plan	Do	Check	Action
FY2012 Targets	FY2012 Activities Summary	※1 Evaluation	Reference Improvement Plan → FY2013 Targets

Actions for Promoting CSR: Thorough Enforcement of Compliance; Risk Management

● Strict Adherence to Laws and Regulations Relating to Export Management

1 Make system improvements on the security export control database. (NGK)	1 Improved database system.	○	P. 24	<ul style="list-style-type: none"> Raise divisions to a higher level by supporting their educational and other activities.
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Actions for Promoting CSR: Respect of Humanity and Assurance of Comfortable Working Environment

● Maintenance and Consistent Improvement of Safe and Comfortable Working Environments

1 Continue to conduct worksite patrols as a priority issue for the prevention of workplace accidents and promote 5S activities (sort, set in order, shine, standardize, sustain). (NGK)	1 Company-wide 5S activities including engineering and administration.	○	P. 25, 26	<ul style="list-style-type: none"> Extend Company-wide activities to get approval as a 5S workplace. Follow up at Company-wide level to ensure all risks are identified and countermeasures formulated. Ongoing implementation.
2 Continue comprehensive risk predictions and conduct measures focused on high-priority risk. (NGK)	2 Improved risk identification, but serious accident occurred.	×		
3 Continue health management for employees who routinely work long hours. (NGK)	3 Continued health checks and interviews with industrial doctors for employees working long hours.	○		

● Development of Human Capital and Recruiting of Human Resources across the Group

1 Consider and conduct detailed training programs as needed. (NGK)	1 Conducted systematic human resource development in four areas (management, manufacturing, global and business skills).	○	P. 26	<ul style="list-style-type: none"> Optimize training by considering the needs of divisions and participants. Systematic training aimed at strengthening on-site capabilities. Ongoing language training (Goal: 80% of new hires score 600 or higher on the TOEIC).
2 Support activities of employees who completed in-house instructor training. NGK will expand and continue the worksite leader training. (NGK Group)	2 Supported activities to complete training of 13 in-house instructors, conducted training for 26 newly appointed worksite leaders.	○		
3 Continue to conduct language training for new employees. (NGK)	3 70% of new hires scored 600 or higher on the TOEIC.	×		

● Utilization of Diverse Human Resources

1 Achieve the legally mandated ratio of employees with disabilities during fiscal 2013. (NGK)	1 Achieved the 1.8% legally mandated ratio (1.91%).	○	P. 27	<ul style="list-style-type: none"> Raise to 2.0% in accordance with revised legally mandated ratio requirement. Continue to promote use of system for transferring to general employment jobs.
2 Conduct career plan roundtable discussions led by employees who have transferred to general employment jobs. (NGK)	2 13 employees participated in career plan roundtable discussions.	○		

● Support for Better Balance between Work and Home Life/Childrearing

1 Thorough observance of working hours rules. (NGK)	1 Rules for managers were thoroughly observed.	○	P. 28	<ul style="list-style-type: none"> Thorough observance of rules regarding working hours. Increase use of expanded childrearing support measures.
2 Establish a consultation helpdesk for inquiries regarding use of childrearing support systems. (NGK)	2 Expanded and increased use of systems offering shorter working hours for employees raising children.	○		

Actions for Promoting CSR: Implementation of Fair, Free and Transparent Transactions

● Fair and Honest Evaluation of Procurement Partners, and Extensive Resource Diversification

1 Select/maintain suppliers based on fair and honest evaluation. (NGK Group)	1 Conducted visits/evaluations at major supplier facilities.	○	P. 29	<ul style="list-style-type: none"> Conduct evaluations on 10% of all suppliers. Ongoing promotion.
2 Ensure multiple suppliers for important materials. (NGK Group)	2 Promoted multiple suppliers, secured stock of items supplied by a single source.	○		

● Promotion of CSR Procurement

NGK Green Procurement	1 97% of purchases were from certified suppliers.	○	P. 29	<ul style="list-style-type: none"> We will integrate Green Procurement Guidelines into CSR Procurement Guidelines and advance from the diffusion (understanding) to factual investigation stage to the compliance (agreement) to expansion stage.
Group Company Green Procurement	1 61% of purchases were from green certified suppliers.	○	P. 29	
Group-wide CSR Procurement	1 In light of the results of a CSR procurement survey, we confirmed the efforts of unsatisfactory suppliers.	○	P. 29	

Plan

FY2012 Targets

Do

FY2012 Activities Summary

Check

*1 Evaluation


Reference

Action


Improvement Plan → FY2013 Targets

Actions for Promoting CSR: Preservation of Global Environment


● Prevention of Global Warming

1 Curb CO ₂ emissions. Domestic: Emissions volume of less than 201,000 metric tons Basic unit per net sales 8% reduction from fiscal 2010 (Down 2% compared to previous fiscal year) Overseas: Basic unit per net sales 2% reduction from fiscal 2010 (Down 8% compared to previous fiscal year) (NGK Group)	1 Curbed CO ₂ emissions. Domestic: CO ₂ emissions 185,000 metric tons Basic unit per net sales 5% reduction from fiscal 2010 (Up 1% compared to previous fiscal year) Overseas: Basic unit per net sales 8% increase from fiscal 2010 (Up 2% compared to previous fiscal year)	×	 P. 33	<ul style="list-style-type: none"> • Curb CO₂ emissions.*2 Domestic: Emissions volume of less than 181,000 metric tons Basic unit per net sales 10% reduction from previous fiscal year Overseas: Basic unit per net sales 1% reduction from previous fiscal year
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● Adoption of Environmentally Friendly Production Processes

1 Attempt to develop global standards for CO ₂ reduction measures and promote the introduction of eco-processes. (NGK Group) 2 Review energy conservation measures for boilers and air conditioning equipment operation. (NGK)	1 Process improvements implemented in Japan developed overseas. 2 Thoroughly implemented boiler and compressor energy conservation measures and improved operation of air conditioning and lighting.	○	 P. 30, 33	<ul style="list-style-type: none"> • Promote the development of innovative process technologies for overseas locations. • Develop NGK energy-efficiency measures for general-purpose equipment at Group companies.
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● Promotion of Resource Recycling

1 Curb amount of discarded materials generated. Domestic: Basic unit per net sales 4% reduction from fiscal 2010 (Down 9% compared to previous fiscal year) Overseas: Basic unit per net sales 2% reduction from fiscal 2010 (Down 4% compared to previous fiscal year) (NGK Group) 2 Recycling rate improvement: Conduct detailed analysis of overseas Group companies with low recycling rates. (NGK)	1 Curbed discarded materials. Domestic: Basic unit per net sales 2% decrease from fiscal 2010 (Down 8% compared to previous fiscal year) Overseas: Basic unit per net sales 2% increase from fiscal 2010 (Down 0% compared to previous fiscal year) 2 Improved recycling rate. Inspected progress and issues at North American production bases.	×	 P. 34	<ul style="list-style-type: none"> • Curb amount of discarded materials generated.*2 Domestic: Basic unit per net sales 17% reduction compared to the previous fiscal year Overseas: Basic unit per net sales 2% reduction compared to the previous fiscal year • Conduct detailed analysis of Group companies in Indonesia, Poland and Mexico.
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● Strengthening of Global Environmental Management

1 Create and expand collection of cases regarding CO ₂ reduction measures and reductions of discarded materials for introduction at overseas Group companies. (NGK Group) 2 Create and test mechanism for sharing information on amendments to overseas laws. (NGK Group)	1 Introduced 35 additional CO ₂ reduction examples to overseas production bases. 2 Conducted factual investigations and identified issues at overseas Group companies.	○	 P. 34	<ul style="list-style-type: none"> • Conduct ongoing publication example enhancements. • Began creation of a mechanism for sharing information in China, where laws and regulations change frequently.
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*2 Fiscal 2013 objectives were revised from existing fiscal 2010 objective comparisons compared to the previous fiscal year because of significant variance in product category mix and other preconditions compared to fiscal 2010. Confirming trends, we plan to consider responses that also include a review of initiatives.

Actions for Promoting CSR: Coordination with Local Communities and Promotion of Contribution to the Society


● Provision of Scholarships and Living Assistance to Foreign Students

1 Continue to provide assistance to foreign students. (NGK) 2 Continue to hold language classes and cross-cultural exchange meetings led by foreign students conducted within and outside the company. (NGK) 3 Continue to investigate responses of other organizations. Consider incorporating findings in future measures. (NGK)	1 Provided housing for 40 students from five countries and scholarships for 20 students from nine countries. 2 Held 40 language classes and 14 cross-cultural exchange meetings. 3 Distributed information after support ended.	○	 P. 35	<ul style="list-style-type: none"> • Maintain support to foreign students. • Continue to hold language classes and cross-cultural exchange meetings led by foreign students conducted within and outside the company. • Distribute information after support ends.
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● Cooperation with Local Communities, Labor Unions, and NPOs in Social Contribution Activities

1 Continue making efforts to understand Group company activities with initiatives for information transmission and sharing to link activities of each company. (NGK Group)	1 Shared the status of activities at each company.	○	 P. 36	<ul style="list-style-type: none"> • Ascertain status of activities at each Group company, distribute information intended to foster subsequent company activities.
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● Support for Volunteer Activities by Employees

1 Continue to focus efforts on embedding and revitalizing activities, engaging in the creation of an environment conducive to volunteer activities in which employees can readily participate. (NGK)	1 Donated approximately 40,000 school meals to Africa through Table for Two (TFT).	○	 P. 35	<ul style="list-style-type: none"> • Create environment enabling employees to easily participate in volunteer activities.
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※1 Evaluation standards:

○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved



Indicates activities covered in this report.



Indicates activities not included in this report that are covered on our website.

Plan	Do	Check	Action
FY2012 Targets	FY2012 Activities Summary	※1 Evaluation	Reference Improvement Plan → FY2013 Targets

Actions for Promoting CSR: Communications with Stakeholders

● Communication with Customers and Procurement Partners

1 Hold earnings results presentations for major suppliers. (NGK) 2 Continue to operate the supplier helpline. (NGK) 3 Conduct individual visitation activities at supplier locations in Japan and overseas. (NGK)	1 Held earnings results presentations for approximately 120 major suppliers. 2 Continued to operate the supplier helpline. 3 Visited suppliers and important material suppliers.	○ ○ ○	P. 39 <ul style="list-style-type: none"> Hold earnings results presentations for major suppliers. Continue to operate the supplier helpline. Employ most appropriate suppliers and continue supplier visitation activities to step up supplier quality.
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● Interaction with Local Communities via Plant Tours and Open House Events

1 Place a priority on support for plant tours aimed at elementary and junior high students to invigorate interactions with regional communities. (NGK) 2 Conduct dialog with expert panel or NPO. (NGK)	1 Conducted 10 plant tours at 4 sites. 2 Held CSR Dialog with experts regarding NGK Group environmental activities.	○ ○	P. 37, 38, 40 <ul style="list-style-type: none"> Conduct ongoing exchanges with regional communities through plant tours and other activities. Conduct dialog with external stakeholders.
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● CSR Talk Live (Discussions on Implementing CSR with Every Employee Class)

1 Continue to hold CSR Talk Live and distribute condensed versions of the CSR Report to employees of NGK and domestic Group companies. (NGK and domestic Group companies) 2 Further enhance CSR-Web content. (NGK and domestic Group companies)	1 Conducted CSR Talk Live 9 times, distributed a condensed version of the CSR Report. 2 Distributed information related to CSR activities and CSR Committee proceedings on the online CSR Web.	○ ○	P. 40-42 <ul style="list-style-type: none"> Hold two-way communication events with NGK and domestic Group company employees. Enhance CSR-Web content.
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Initiatives Other than CSR Objectives and Achievements

In addition to annual activities corresponding to CSR actions for promoting CSR and CSR objectives, activities for which no objectives have been established, but are nevertheless important to society, are also reported in this report and on our website as listed below.

Provision of Products That Contribute to Better Social Environment <ul style="list-style-type: none"> Contribute to Limiting Emissions of Particulate Matter (PM) (NGK) P. 19 Total Employee Participation in Development of QuiC Activities to Improve Quality (NGK Group) Strengthening Product Quality Education, Including Training to Prevent Quality Defect Risks, and Training to Raise the Level of DR (NGK Group) 	Respect of Humanity and Assurance of Comfortable Working Environment <ul style="list-style-type: none"> Extention of Activities Supporting Mental and Physical Health (NGK) Respect for Human Rights and Thorough Prevention of Harassment (NGK) Proactive Exchange of Opinions Among Labor-Management Regarding Management Issues and Welfare (NGK) Cultivate Global Human Resources, Conduct Practical Overseas Training (NGK) Ongoing Expansion of Employment and Positions for Women as a Company Promoting Women's Activities (NGK) P. 27 Two Systems for Making Use of Employee Individuality and Skills (NGK) P. 27 Extending Transfers to Regular Employment and Double Promotions to Contract Manufacturing Employees (NGK) P. 27 Management of Follow-up System to Fit Young Employees in the Workplace (NGK) P. 27 Updating System for Rehiring Employees to Include Half-Time Employment Option (NGK) P. 27 Certified by the Ministry of Health, Labour and Welfare as a Company Supporting Childcare (NGK) P. 28 	Preservation of Global Environment <ul style="list-style-type: none"> Environmental Philosophy (NGK Group) Environmental Action Guidelines (NGK Group) Consolidated Environmental Management Promotion System (NGK Group) History of NGK's Environmental Activities (NGK Group) Environmental Management System Initiatives (NGK Group) Environmental Audits (NGK Group) Environmental Risk Management (NGK Group) Education and Development (NGK) Environmental Accounting (NGK and domestic Group companies) Maintaining High Level Domestic Recycling Rates (NGK and domestic Group companies) Environmental Communication (NGK)
Disclosure of Corporate Information <ul style="list-style-type: none"> Aiming for More Open Shareholder Meetings (NGK) Investor Presentations and Individual Visits (NGK) Measures for Returning Profits to Shareholders (NGK) Shareholders Information (NGK) 	Preservation of Global Environment <ul style="list-style-type: none"> Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project) (NGK Group) P. 30 NGK's Core Policy on the Environment (NGK Group) P. 31 Overall Perspective of Environmental Impact (NGK) P. 31 Fiscal 2012 Initiatives Within the Third Five-Year Environmental Action Plan (2011-2015) (NGK Group) P. 32 	Communications with Stakeholders <ul style="list-style-type: none"> Promoting the Creation of a Mechanism for Responding to Customer Voices (NGK) P. 39 Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake (NGK) P. 39 Free Replacements for the Life Indicator Units on Fine Ceramic Filter Water Purifier C1 SLIM Announced on Our Corporate Website (NGK) P. 40
Thorough Enforcement of Compliance; Risk Management <ul style="list-style-type: none"> Conducting Compliance Education in Japan and overseas (NGK Group) Strengthening Understanding of Overseas Group Company Legal Risk Management Status (NGK and overseas Group companies) Establishing an Employee Invention Incentive System, Encouraging Employee Inventions (NGK) 		
Respect of Humanity and Assurance of Comfortable Working Environment <ul style="list-style-type: none"> Strengthen Occupational Safety and Health Management (NGK Group) P. 25 Safety and Health Education Targeting the Prevention of Workplace Accidents (NGK) 		

Provision of Products That Contribute to Better Social Environment

Guided by a Company-wide Quality Policy that puts customers first, the NGK Group considers the provision of products and services that contribute to a better social environment to be one of its most important missions in an effort to create quality from the customer's perspective.

Fiscal 2012 Highlights

CSR Objectives

Development and Provision of Products and Services That Help to Preserve the Natural Environment

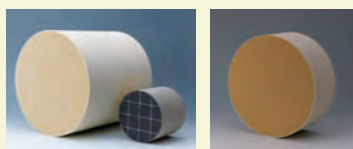
Contribute to Limiting Emissions of Particulate Matter (PM)

Diesel Particulate Filter (DPF), Large Size HONEYCERAM® to Purify Diesel Automobile Exhaust

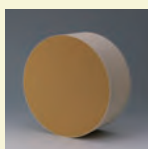
Diesel vehicles, which are more fuel efficient and emit less CO₂ than gasoline-powered automobiles, are being rapidly adopted primarily in Europe. At the same time, diesel vehicle exhaust includes black smoke and other particulate matter (PM) that causes air pollution. NGK's ceramic products for diesel vehicles contribute to the adoption of diesel vehicles as they comply with increasingly strict exhaust gas regulations in Japan and overseas.

DPF installed on diesel vehicle exhaust systems use porous ceramics with small uniform holes that act as a filter capturing over 90% of PM found in exhaust gas. NGK is the only company mass producing two types of ceramic DPF; cordierite, appropriate for trucks and other large-sized vehicles, and silicon carbide, appropriate for light-weight automobiles.

On the other hand, large size HONEYCERAM is a honeycomb ceramic substrate containing catalysts that render



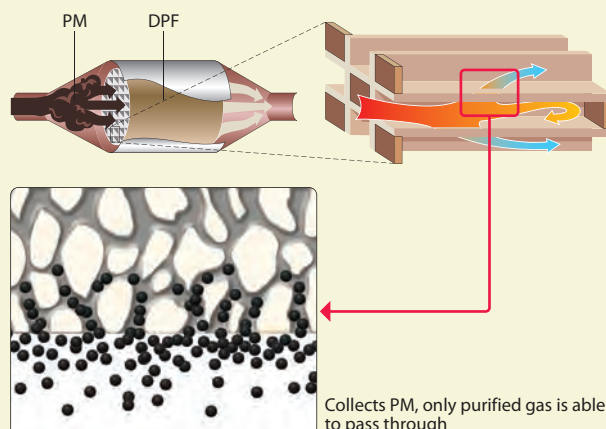
Cordierite (left) and silicon carbide (right) DPFs



Large size HONEYCERAM®

harmless PM and nitrogen oxide (NO_x) in large diesel vehicle exhaust gas. Both products are used by global automobile manufacturers and contribute to the prevention of air pollutants.

PM Collection Using DPF



CERALLEC® Collects Over 99% of PM Emitted from Diesel Power Generators

Among internal combustion engines, diesel engines are the most fuel efficient, using low-cost light and heavy oil as fuel and used everywhere in factories to generate electricity. Also, in recent years, marked economic developments in China have driven an increase in fossil fuel consumption, with the fuel burned resulting in air pollution that is becoming a serious problem. This air pollution drifts over to Japan, where its affects are also causing problems.

CERALLEC, NGK's diesel power generator black smoke removal system, is a product developed using DPF technology employed in diesel vehicles that eliminates over 99% of black smoke. This product is popular around the world and contributes to solving problems such as air pollution from PM and other health hazards.

The DPF used by CERALLEC is able to process diesel exhaust gas at a temperature higher than a typical bag filter can handle, enabling reuse of steam boiler waste heat. Furthermore, PM run through the filter is

automatically purified, making easy maintenance just one of its many special features.

At present, CERALLEC is protecting the environment where we live through its use on diesel engines in power plants, subways, and sewer pump stations, and in a variety of other applications around the world.



CERALLEC®



Before CERALLEC installation



After CERALLEC installation

CSR Objectives

Development and Provision of Products and Services That Help to Preserve the Natural Environment

Augmenting Our Manufacturing System for Automobile Exhaust Countermeasure Products Around the Globe

NGK focuses efforts on the development and production of exhaust emissions control products such as HONEYCERAM, DPF and NOx concentration measurement sensors for automobiles. Furthermore in recent years, we have been expanding and upgrading our global manufacturing system in response to increasing demand driven by the strengthening of automobile exhaust regulations around the world and increased auto sales, mainly in developing countries.

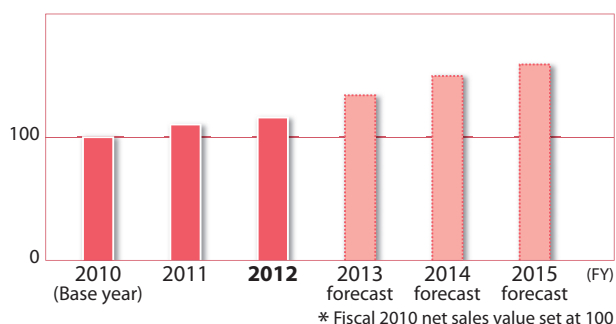
With regard to ceramics for automobile exhaust purification, NGK will invest ¥37 billion in six production sites worldwide, including the construction of a new large size HONEYCERAM diesel automotive exhaust gas purifier plant in Poland in March 2012, with plans to increase production capacity 40% by the end of fiscal 2013.

We have also decided on capital expenditure of ¥4.7 billion on NOx sensors. We will raise production capacity from the current 2.4 million units per year to 7 million units in fiscal 2014. These sensors, jointly developed with Continental AG (Germany) and commercialized for the first time in the world in 2008, enable highly precise, real time measurement of NOx concentrations in exhaust gas at the parts per million (ppm) level.

► Status of Global Production System Enhancements

Site	New Construction/ Facilities Augmentation	Production Status
NGK Ceramics Suzhou	Expansion of HONEYCERAM and large size HONEYCERAM manufacturing facilities	Began August 2012
	Expansion of cordierite DPF manufacturing facility	
NGK Ceramics Mexico	Expansion of large size HONEYCERAM manufacturing facility	Began March 2013
	Expansion of cordierite DPF manufacturing facility	
NGK Ceramics Indonesia	Expansion of HONEYCERAM and large size HONEYCERAM manufacturing facilities	Began April 2013
NGK's Ishikawa Plant	New large size HONEYCERAM manufacturing facility	Began July 2013
	New cordierite DPF manufacturing facility	
NGK Ceramics Polska	New large size HONEYCERAM manufacturing plant	Begins January 2014
	Expansion of silicon carbide DPF manufacturing facility	Begins incrementally in January 2014
	New NOx sensor assembly facility	
NGK Ceramics USA	Expansion of HONEYCERAM manufacturing facilities	Begins in January 2014

► Ceramic Products to Purify Exhaust Gas Net Sales* Forecast (Consolidated)



Development and Production of Various Products That Contribute to the Environment

Shortening the Solvent Drying Process, Reducing Environmental Impact

● Wavelength Control Drying System

The solvent drying process is indispensable in the production of high performance films used in computers and smartphones. The proprietary drying system developed by NGK contributes to the shortening of this process and reduces impact on the environment.

As opposed to the hot air traditionally used in this process, drying is achieved through bombardment by infrared light with wavelengths that have effective evaporative properties. Low temperatures are maintained inside the furnace, increasing traditional drying capabilities several times over and enabling shortened drying times and energy savings.



Safe Disposal of Waste from Nuclear Power Plants

● Induction-Heat Melting/Solidification System

Low-level radioactive waste, such as metals and filters, thermal insulating materials, glass, concrete and other non-combustible solid waste stored at nuclear power plant facilities must be physically and chemically stabilized when buried underground.

To meet these requirements, NGK developed an induction heat melting/solidification system enabling significant reduction of waste materials. Five units have been delivered to nuclear power plants in Japan, and are operating nominally.



● Combustible Solid Waste Incineration System

Nuclear power plants also produce a large amount of combustible waste. NGK delivers incineration systems for the safe incineration disposal of waste to all nuclear power plants and several research facilities in Japan.

This incineration system incorporates a self-sustained combustion system that uses the calorific value of combustible solid waste, requiring no fuel except at the start. Off-gas treatment consists of two-tiered ceramic and high-performance PM filters working together to achieve highly decontaminative high-temperature dust removal.



CSR Objectives

Realization of Higher Quality Products and Services

Corporate Quality Policy

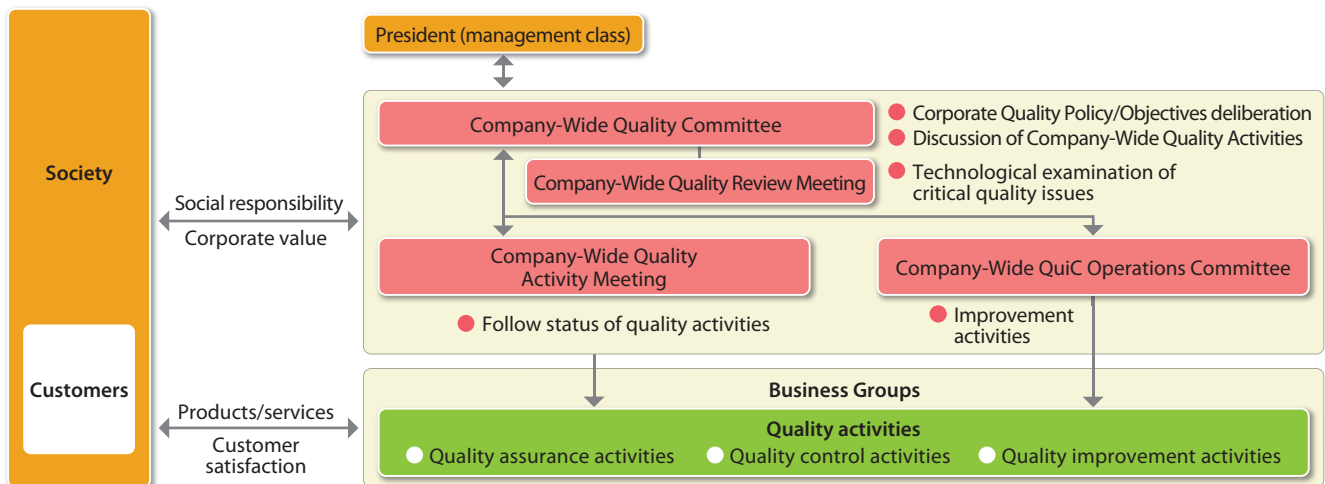
NGK is dedicated to quality and committed to providing valuable products and services that are trusted by our customers and respected by society

Corporate Quality Objectives 2013

Thoroughly eliminate quality risk by reinforcing* design reliability and aim for further improvement of production quality

* In order to improve product design reliability, specifically promote reinforcement of examination of product failure and its influence, process design, promote prevention of defects caused by process abnormalities, work-mistakes and others.

Company-Wide Quality Activities System (Applies to Entire Group)



Strengthening the Elimination of Quality Risks Company-Wide

Formulating Corporate Rules for Company-Wide Quality Activities Rules in Fiscal 2010

In recent years, amid increasingly sophisticated and diverse customer quality demands, target market and other discrepancies have resulted in a disparity in quality activity levels among divisions in the NGK Group. Having decided on restructuring NGK quality activity, in fiscal 2010 NGK formulated Corporate Rules for Company-wide Quality Activities aimed at eliminating quality risks.

Corporate Rules for Company-wide Quality Activities can be broadly divided into four main categories. The first is the confirmation for NGK's indispensable quality rule, which confirms indispensable quality is maintained when product design or production conditions change. The second is the effective design review meeting rule, which formulates company-wide registration of important design reviews (DR) and Company-wide DR (conducted in Company-wide Quality Review Meetings). The third is the quality surveillance to the production and market rule, which shares in-house and external information regarding quality defects and actions to handle them. The fourth is the major market complaints handling rule.

DR is positioned as NGK's most important corporate activity, implemented when development milestones or manufacturing processes change. Reviewers from the entire company participate in important DR to support the elimination of quality risks. Professional engineers and management also participate in Company-wide DR to evaluate product reliability and safety from a variety of perspectives.

Improving Rule Retention Rate, Efficiency Year by Year

Corporate Rules for Company-wide Quality Activities were

first implemented in fiscal 2011 in each of our divisions then expanded to domestic and overseas Group companies. In accordance with this rule, NGK reviewed company-wide safety countermeasures to ascertain the cause of the NAS Battery fire accident in fiscal 2011.

In fiscal 2012, NGK engaged in initiatives to establish and improve the efficacy of Corporate Rules for Company-Wide Quality Activities by focusing efforts on intentional and unintentional changes and evaluating their impacts on customer use, product design, manufacturing processes, material procurement, etc.

In terms of DR in fiscal 2012, reviewers belonging to the Company-wide Quality Management Department and each division proactively participated in DR with the aim of improving DR quality, identifying quality risks and recommending DR improvement points. Guidelines created to indicate the ideal of DR the NGK Group should be striving for went into practice in fiscal 2013.

From fiscal 2012, the Company-wide Quality Management Department strengthened the collection and analysis of quality-related complaints and in-house defective products from each division to support recurrence prevention activities, and conducted a quality activities audit on the development, design and production technology departments of each division. As a result, it was confirmed that each division was in compliance with Corporate Rules for Company-Wide Quality Activities. Furthermore, NGK established activities that review and support critical issues company-wide through Company-wide Quality Review Meeting deliberations on the formulation of countermeasures to address the NAS battery accidental fire and other issues.

In fiscal 2013, NGK will strengthen reliability design from the perspectives of durability and safety of products in the market, thoroughly eliminating quality risks, and making further improvements to production quality through initiatives to strengthen quality activities.

Providing High-Safety NAS® Batteries

After the NAS battery fire incident in September 2011, NGK's internal Accident Investigation Committee, with the cooperation of external experts, created safety enhancement measures. As the only mass producer of NAS batteries demanded throughout the world, we will make an effort to restore confidence and expand our business.

Large-Capacity Energy Storage Batteries Demanded Throughout the World

With the expansion of renewable energy, the demand for large-capacity storage batteries is growing in many countries of the world. In Japan, the government has announced a policy expanding the use of batteries for the stable supply of energy.

● Stabilizing Intermittent Renewable Energy

NAS battery systems smooth the variable output of wind and solar generation that causes voltage and frequency fluctuations on the power network.

● Measures for Power Peak Shaving

NAS battery systems store energy during off-peak periods and discharge at peak periods. They will reduce peak power usage and level the power load.

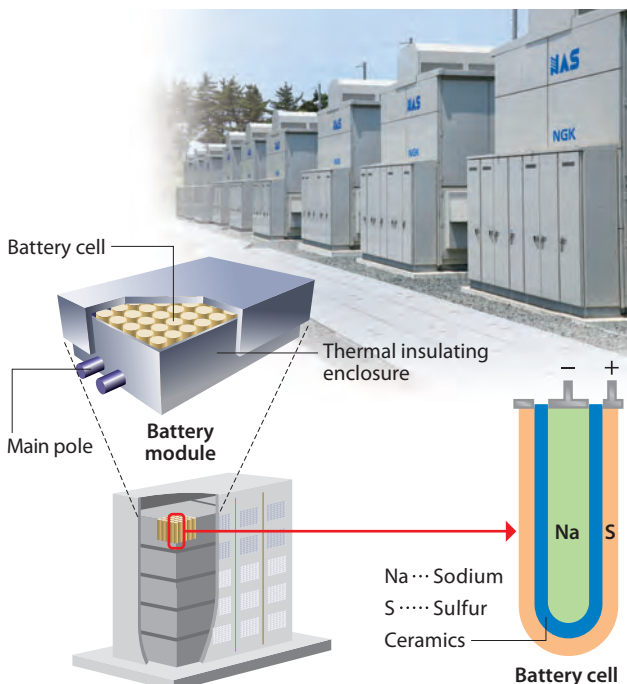
● Vital Role for Smart Grid

Large-capacity energy storage batteries are vital for Smart Grids to make the power supply more efficient. NGK participates in the planning of Japan-U.S. Collaborative Smart Grid Projects.

● Emergency Power Supply

By maintaining a certain amount of battery capacity during daily operation, the battery becomes a backup power source in the event of a power outage or momentary drop in voltage.

▶ Structure of NAS® Battery System



Implementation of Thorough Safety Enhancement Measures to Restore Confidence

After the fire incident, we suspended the production and sales of NAS battery systems, incurred an extraordinary loss of ¥61.1 billion in the fiscal year ended March 31, 2012, and made efforts to thoroughly investigate the causes of the fire incident and fully prevent a recurrence. And, with verification by a third-party investigation committee, we resumed operations at the NAS battery factory.

First, we gave priority to customers asked to suspend or restrict usage of NAS battery systems. We promptly upgraded NAS batteries and implemented safety enhancement measures in accordance with installation conditions. To respond to high domestic and global demand, we plan on fully restructuring the system for new production in fiscal 2013. With regard to the resumption of factory operations, we have eliminated all the defects in our production processes determined to be the cause of the fire and will thoroughly manage safety feature parts in an effort to provide products that allow our customers to use NAS battery systems with even greater peace of mind.

The NAS battery system is a product that contributes to solving the environmental and energy problems faced by the world today, and we are making company-wide efforts to expand this business.

▶ Measures Implemented

Delivered Products	<ul style="list-style-type: none"> ● Installed insulation boards and added fuses to battery modules ● Installed anti-fire boards in battery modules ● Added insulation between dominant pole cables ● Installed monitoring equipment ● Installed fire extinguishers and fire-prevention equipment
Manufacturing Processes and Future Development	<ul style="list-style-type: none"> ● Eliminated part defects (inspected 100% of all safety feature parts) ● Strengthened production process management (in-process inspections and contamination prevention)
Installation Environment	<ul style="list-style-type: none"> ● No installation in places that fill with smoke or have an unspecified number of personnel coming and going
Customer Reminders	<ul style="list-style-type: none"> ● Requested the formulation of escape routes and systems for guidance and fighting fires ● Also requested support from fire departments

Providing Safe, High-Quality NAS Battery Systems to Global Customers

Since the fire incident, our response has achieved legitimacy among customers throughout Japan with a strong desire to resume use of their NAS battery systems as quickly as possible.

The demand of renewable energy continues to expand, especially in Europe, and the expectations for NAS battery systems are growing around the world. We are pleased to announce, in May 2013, NGK signed a framework agreement with Italy's largest transmission system operator Terna S.p.A. for the supply of NAS battery systems with a maximum 70,000 kilowatt output power. We also decided to restart a project ordered by Abu Dhabi Water and Electric Authority in the United Arab Emirates (UAE) in 2009, with a contract providing 60,000 kilowatts to begin shipment in 2013.

Since the end of 2012, we have been participating in energy-related exhibitions and have resumed sales and promotional activities. Going forward, we will proceed proactively with proposal activities on a global scale to expand NAS battery systems. At the same time, we will make further efforts to improve safety and quality while keeping costs down to meet the expectations of customers all over the world.

Thorough Enforcement of Compliance; Risk Management

The NGK Group views compliance as the foundation of CSR and makes an effort to instill this view into employees. We also endeavor to minimize business risks by strengthening information security.

Fiscal 2012 Highlights

CSR Objectives

Strict Adherence to the Anti-Monopoly Act, Subcontract Act, and Other Laws and Regulations Pertaining to Business Transactions

Reinforcing Efforts to Observe Competition-Related Laws

We have compiled action guidelines into and are making employees fully aware of the Competition Law Compliance Handbook.

The NGK Group endeavors to strictly and thoroughly observe business related laws and regulations such as the Anti-Monopoly Act and the Subcontract Act.

To strengthen our compliance system for competition laws, we established Competition Laws Compliance Rules in fiscal 2011 as one of the company rules that define compliance duties for officers and employees, management structure

► Features and Utilization Policy for the Competition Law Compliance Handbook

Features	We value simplicity and brought together legal explanations in a separate volume.
Recipients	<ul style="list-style-type: none"> • All NGK officers and employees (who are in a management positions or are general staff in divisions relevant to competition laws), including people who are assigned to group companies in Japan and overseas. • We also distributed the handbook to each division and all group companies as a material to be commonly shared.
Dissemination Method	Explained at various seminars such as the Informative meetings for Laws and Compliance.
Utilization Policy	The handbook will be used for each individual's business practices and as an educational material concerning competition laws.

and matters that must be observed or are prohibited.

To make officers and employees fully aware of these rules, in fiscal 2012 we explained them to officers and employees at various compliance law seminars. We also prepared the Competition Law Compliance Handbook which summarized actions to be taken by each individual, and distributed it to all NGK officers and employees (who are in a management positions or are general staff in divisions that are relevant to competition laws). We also explained this handbook at various compliance seminars.



Competition Law Compliance Handbook



Informative Meetings for Laws and Compliance (January 2013)

Conducting a Variety of Education in Japan and Overseas to Enhance Compliance with Competition Laws

The NGK Group strives for thorough compliance by conducting education in Japan and overseas with regard to compliance with competition laws in particular.

In fiscal 2012, The NGK Group invited lawyers as external lecturers and held three lectures on the latest trends in competition laws, such as the situation of enforcement of the laws. A total of about 380 persons including NGK's officers and employees in management positions participated in the lectures. In overseas group companies, we also conducted seminars

led by Japanese and local lawyers focusing on compliance with competition laws in business operations and explained details of each competition law and current situation of law enforcement in South Korea, the United States and Europe. We will continue to hold competition law seminars every year.

Note that, we are currently providing education on anti-bribery rules for Japanese and foreign government officials, mainly to employees in management positions. Going forward, we will provide the same education to overseas group companies.

► Education Activities for Competition Law Compliance

Lectures by External Speakers (NGK)	
Contents	Once (same theme at three different venues)
Participants (Divisions)	Approx. 380 people (Officers, employees in management positions, sales staff)
Contents	Latest developments in competition laws
Education for Overseas Group Companies	
Country/Region	Once or twice in South Korea, United States, Europe
Participants (Divisions)	Approx. 100 people (Officers, employees in management positions, sales staff)
Contents	Explanation on competition laws and practical cautions

Training for Sales Staff by In-House Speaker (NGK)	
Conducted	11 times
Participants (Divisions)	Approx. 220 people (Sales staff, planning group staff)
Contents	Specific actions for competition law compliance

Other activities: We conducted briefing sessions in response to requests from each division between April and September 2012 to explain competition law compliance and NGK's compliance structure.

CSR Objectives

Reinforcement of the Risk Management System

Risk Countermeasures Based on CSA Questionnaire

As one part of enhanced risk management structure, NGK and domestic group companies conduct the Control Self Assessment (CSA) questionnaire, which tests the knowledge of respondents regarding potential risks and their impact with the aim of ascertaining and avoiding various potential risks arising from daily business operations.

In fiscal 2012, the CSR Committee followed up three times on the risk status results from the 2011 questionnaire. Also, the questionnaire was given to directors at 13 domestic group companies and 127 managers. We provided the results to business departments and divisions and asked them to implement countermeasures.

CSR Objectives

Respect and Protection of Intellectual Property Rights

Awareness Programs for Managers

In fiscal 2011, NGK expanded and upgraded our manager-class enlightenment programs to enhance intellectual property strategy in the research and development and business divisions, focusing efforts on selecting optimal themes. Selected themes included intellectual property issues in the Chinese market, where patent applications and intellectual property litigation are increasing, and intellectual property case studies from other companies.

In fiscal 2012, NGK held lectures on these themes conducted by external instructors.

▶ Lectures Presented in Fiscal 2012 (NGK)

Intellectual Property Activates and Business in China, October 2012	
Lecturer	Shenmin Xu (Lawyer, patent attorney) Senior Partner, Watson & Band Mediator, Shanghai Mediation Committee
Participants	137 people
Details	Intellectual property risks and strategies for Japanese companies operating in China, where economic development has resulted in a number of intellectual property litigation
Toyota Motor Corporation Intellectual Property Strategies, February 2013	
Lecturer	Masahiro Ezaki Vice President, Techno Search, Inc.
Participants	93 people
Details	Lecture featuring case studies from Toyota and other companies with respect to the creation of intellectual property strategy, analysis of own patents and the research, analysis and measures for other company patents

CSR Objectives

Creation and Consistent Improvement of a Framework for Information Security

Promoting Enhanced Group IT Security Levels

Based on the NGK Group IT Security Standards formulated in August 2010, NGK promotes initiatives aimed at creating an IT security structure for the entire Group. For example, we are expanding to all domestic Group companies automatic encryption of all email attachments sent to company email addresses. We also provide English and Chinese language versions of our Digital Information Security Handbook, which establishes rules regarding the security of electronic information for all NGK employees, and distribute these as educational materials

to Group companies in Japan and overseas.

Recognizing the need to expand these initiatives to the entire Group, once again in fiscal 2012, NGK established Group common priority countermeasures for employee education, the encryption of important email file attachments and the encryption of important files managed and saved on computers and removable storage media. NGK provided support for the promotion of countermeasures in each Group company. Priority measures were complete for approximately 90% of Group companies in fiscal 2012. The remainder were completed at the end June 2013.

In fiscal 2013, we plan on implementing major updates to our computer OS environment from the perspective of security. We will implement security countermeasures even for the continued use of older OS in an effort to maintain and improve the security level of the entire Group.

CSR Objectives

Strict Adherence to the Anti-Monopoly Act, Subcontract Act, and Other Laws and Regulations Pertaining to Business Transactions

Individual Support to Business Groups and Group Companies

In order to enhance compliance with business related laws including the Subcontract Act, the NGK Legal Department has been extending support, such as individual training, to NGK's business divisions and domestic group companies. The Legal Department offers a variety of support in response to requests from business divisions and domestic group companies, including consultations, preparation of necessary documentation and confirmation of compliance situations. The Legal Department, in fiscal 2012, continued to support business divisions and domestic group companies such as by preparing necessary documents to meet the needs of each individual division or group company.

CSR Objectives

Strict Adherence to Laws and Regulations Relating to Export Management

Strict Implementation of Secure Screening and Export/Import Procedures

In response to the Foreign Exchange and Foreign Trade Act and other export control-related laws and regulations, NGK screens exports and judges whether export licenses are required and records screening results in a security export control database.

In fiscal 2012, to ensure secure screening, we began operation of a database that performs additional processes to confirm whether or not all screening procedures have been completed to prevent exportation before screening procedures are completed and added search and other functions to this database. We also distributed an Export/Import Handbook covering the rules to be followed to prevent breaches of customs-related laws and regulations in the export/import process. We are planning to raise divisions to a higher level by supporting their educational and other activities.



Respect of Humanity and Assurance of Comfortable Working Environment

The NGK Group makes an effort to respect the humanity of its employees and provide a safe and comfortable working environment. In the interest of fair treatment, NGK employs a human resources system that enables employees to maximize their potential.

Fiscal 2012 Highlights

CSR Objectives

Maintenance and Consistent Improvement of Safe and Comfortable Working Environments

Strengthen Occupational Safety and Health Management

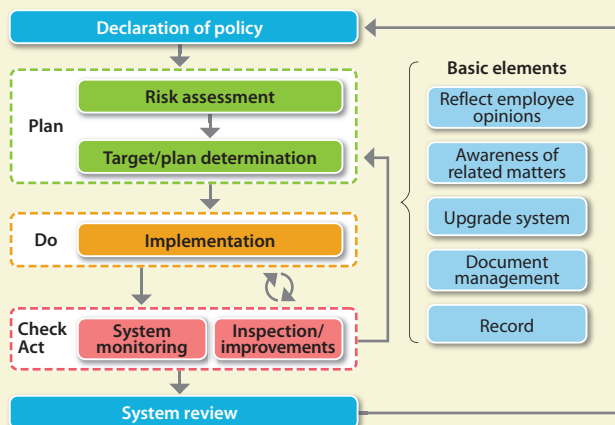
Engaged in the Creation of OSHMS at Domestic Major (Manufacturing) Sites and Improving the Workplace Environment

Aiming for zero industrial accidents, NGK is promoting the creation of an occupational safety and health management system. Under the Company-wide Safety and Health Committee, an organization covering all sites (manufacturing bases), we have established Safety and Health Committees at each site, department and factory, and conduct safety meetings in each workplace, applying a PDCA cycle consisting of Risk assessment → Target/plan determination → Implementation → System monitoring → Inspection/improvement, with the aim of systematic and organizational improvement of occupational safety and health activities.

These activities include initiatives aimed at acquiring OSHMS certification at domestic key sites via the Japan Industrial Safety and Health Association, which we acquired at the Nagoya Site in 2008 and at the Chita and Komaki Sites in 2009. Since then, the Nagoya and Komaki Sites have passed renewal inspections. As a serious accident occurred at the Chita Site in July 2012, we declined renewal inspections to first conduct improvements (please see next page for a detailed report). We plan to have the Chita Site inspected in 2013.

NGK will continue to focus efforts on improving the work environment.

▶ PDCA Cycle



▶ Status of External Certification Acquisition

Site	Year Acquired	Renewal (planned)
Nagoya	2008	2011
Komaki	2009	2012
Chita	2009	(2013)



Establishing OSHMS and Developing Independent Activities at Manufacturing Subsidiaries in China

In 2009, we launched OSHMS at Chinese manufacturing subsidiary NGK Ceramics Suzhou. In terms of "close call activities" aimed at identifying the residual risks inherent in risk assessment, as well as danger prediction (KY) activities and examples of preventing close calls before they occur, we identify priority issues every year and determine targets in light of the results of the previous year's occupational safety and health activities to formulate initiatives to meet those targets.

Regarding independent activities, we are seeing results from month-long emphasis activities conducted with a different theme each month, systematic safety checks implemented upon completion of monthly Company-wide Safety and Health Committee meetings and workplace environment improvements related to noise, heat and dust. As an example, test results from month-long emphasis activities demonstrate a heightened employee understanding of the Health and Safety Handbook, among other materials.

Reciting the Health Safety Handbook, part of March 2013 month-long emphasis activities

Emphasizing safe manufacturing, part of November-December month-long emphasis activities



CSR Objectives

Maintenance and Consistent Improvement of Safe and Comfortable Working Environments

Learning From Serious Accidents to Prevent Recurrence

On July 5, 2012, at NGK's Chita Site, a serious accident occurred during the manufacture of insulators involving the accidental electrocution of one of our employees. We pray for the victim's happiness in the next world, and deeply apologize to the many people affected by this tragedy.

On July 6 and 18, a special meeting of the Company-wide Safety and Health Committee was held to reconfirm thinking and initiatives with regard to Company-wide safety, and discuss action policies to prevent future recurrence. From July 18 to August 24, we once again reviewed serious risks in the workplace.

In fiscal 2012, at the beginning of the year, we reviewed all operations and began comprehensive risk assessments according to degree of importance and danger, focusing on a three-year scenario. Responding to this serious accident with sincerity, we instantly moved to expand the scope of assessment, conducting an emergency review of the potential for serious accidents, such as getting caught or pulled into machinery and electric shock hazards, to promote both tangible and intangible safety countermeasures.

At present, NGK is engaged in initiatives to counter these risks, and going forward, we will provide workplace education on residual risks and sources of danger to prevent recurrence and heighten safety awareness Company-wide.



Onsite manufacturing risk assessment

Company-wide 5S Activities That Include Administrative Divisions

The 5S* activities traditionally conducted by NGK were expanded Company-wide to include administrative divisions in fiscal 2012. Teams were formed in each workplace to promote the establishment of team objectives and periodic times to conduct activities.

In addition, we established a system to certify 5S workplaces for teams that clear assessment standard check items, reporting successful examples to the Company-wide Safety and Health Committee to be shared throughout the company.

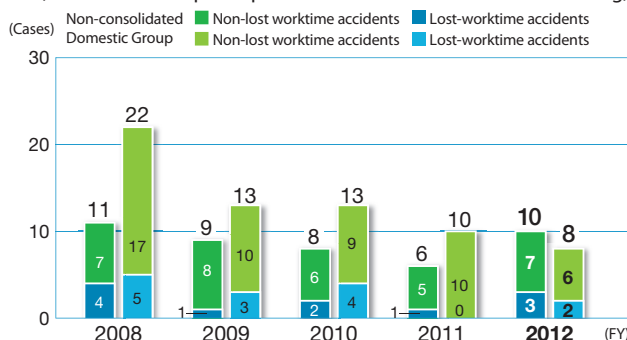
* Sort, Set in order, Shine, Standardize and Sustain the workplace.

Promoting Interviews and Health Checks for Employees Working Long Hours

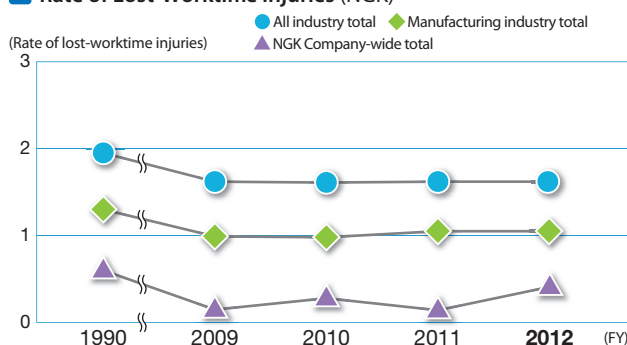
NGK regular employees working long hours are provided with health checks and interviews with an industrial doctor. Since

Work-Related Accidents

(NGK and 15 Group Companies Involved in Domestic Manufacturing)



Rate of Lost-Worktime Injuries (NGK)



Note: Rate of lost-worktime injuries: One safety indicator showing the rate of occurrence of labor accidents, which is calculated based on the formula below.
Rate of lost-worktime injuries = No. of lost-worktime injuries / Total actual working hours × 1,000,000 hours

April 2011, key personnel (management) have also been included in these initiatives.

In addition to making clear an employee's workload and work procedures, these interviews and health checks may result in limiting overtime work when necessary. These countermeasures resulted in 131 regular employees and 113 key personnel seeking interviews and health checks in fiscal 2012, a significant decrease in both categories. We also conduct these initiatives overseas.

CSR Objectives

Development of Human Capital and Recruiting of Human Resources across the Group

Strengthening the Training of Onsite Leaders

The NGK Group views human resources as its most important management resource. We conduct human resource training that respects employee ambitions and aspirations, creating the next-generation of leaders. In recent years, as large numbers of older, experienced employees reach retirement age, the percentage of on-site employees with less career experience increases. Accordingly, NGK conducts systematic training in an attempt to strengthen on-site capabilities.

From fiscal 2011, NGK began training to develop in-house instructors with the aim of educating human resources able to lead the manufacturing divisions. Three courses between seven and 18 days in duration were held on low-cost management and set-up improvement guidance. In fiscal 2012, we conducted training to follow up with and provide support to the 13 instructors trained so far.

Furthermore, in fiscal 2011, NGK began training for all manufacturing site worksite leaders aimed at improving the leadership qualities and communication skills of on-site leaders that guide and educate younger employees. In fiscal 2012, 26 newly appointed worksite leaders underwent training on labor management and recognition of the role of the worksite manager.

CSR Objectives

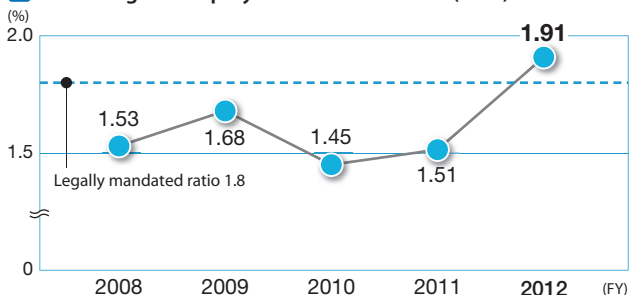
Utilization of Diverse Human Resources

Employment of People With Disabilities Surpasses Legally Mandated Ratio

The NGK Group is engaged in initiatives to expand employment of people with disabilities. In April 2011, NGK expanded the employment domain from its traditional focus on manufacturing divisions. In fiscal 2012, one disabled person was hired in manufacturing and one in engineering. We increased the number of employment seminars for people with disabilities in fiscal 2012, as well as enhanced PR activities at university career centers and expanded introductions through staffing agencies to promote the hiring of people with disabilities. These efforts successfully raised the ratio of people with disabilities employed at NGK in fiscal 2012 to 1.91%, which was above the legally mandated ratio of 1.8%.

We will further expand positions for people with disabilities in an effort to achieve the new legally mandated ratio of 2.0%, which went into effect in April 2013.

▶ Percentage of Employees with Disabilities (NGK)



Ongoing Promotion of Use of System for Transferring to General Employment Jobs

NGK promotes the pervasion and use of a system created in 1992 for transferring to general employment jobs that enables women who joined the company as regular employees to transfer into general employment positions with expanded duties and specializations. In fiscal 2010, we revised this system so that ambitious employees could apply without a recommendation from their boss and clarified job transfer conditions, increasing opportunities for ambitious and skilled women to refine their capabilities as general employees.

In fiscal 2012, we notified all regular employees about the details of this system by email and conducted career plan roundtable discussions led by veteran employees who transferred to general employment positions, attended by a total of 13 people. In fiscal 2012, applications from younger employees demonstrated the successful promotion of this system's utilization.



Career plan roundtable discussion (July 2012)

Ongoing Expansion of Employment and Positions for Women as a Company Promoting Women's Activities

As of the end of fiscal 2012, female employees accounted for 13% of NGK's workforce and 1% of key personnel, the same levels as the previous fiscal year. Looking at the six-year period beginning in 2007, 193 (15%) were women out of the 1,299 people hired as permanent employees. In fiscal 2012, female employees were posted at the last two sales locations where no women were assigned, with follow-up interviews conducted after posting.

In recognition of our initiatives aimed at establishing and expanding employment and positions for women, in January 2012 NGK was recognized as a company that promotes women's activities by the city of Nagoya.



Two Systems for Making Use of Employee Individuality and Skills

To open the way for employees to take full advantage of their individuality and skills, NGK operates an internal job application system, as well as a system for registering for career tracking enabling applicants to register their work history, qualifications and desired position to provide an opportunity for individuals to carry out their work duties with a sense of satisfaction.

In fiscal 2012, three sections were opened in the internal job application system, and four people were approved for a change of section. Two employees utilized the system for registering career track and were able to transfer to their desired section.

▶ Internal Job Application System Results

Fiscal year	2008	2009	2010	2011	2012
Applications (Cases)	16	4	5	16	3
Recruits (People)	23	7	5	27	4
Applicants (People)	7	5	4	9	8
Successful applications (Cases)	3	4	3	3	4

▶ Career Follow-Up System

Fiscal year	2008	2009	2010	2011	2012
Registered (People)	2	4	1	2	7
Transferred (People)	0	3	0	2	2

Extending Transfers to Regular Employment and Double Promotions to Contract Manufacturing Employees

NGK seeks to strengthen the core workers at manufacturing sites from the perspective of employee evaluation and treatment. To this end, we established a system enabling contract manufacturing workers to transfer to regular employment positions. In fiscal 2012, 17 employees transferred to regular employment positions.

Excellent workers out of the ones who could transfer to regular employment positions also have a chance at promotion by two ranks of company qualification. In fiscal 2012, 12 employees were promoted under this system.

Management of Follow-up System to Fit Young Employees in the Workplace

To prevent career mismatches, NGK employs a follow-up system for younger employees. We conduct surveys and interviews about jobs and the work environment for career-track employees in their second year and manufacturing technology staff in their third or fourth year of employment. If they desire, feedback is provided to the managers responsible for these employees.

During fiscal 2012 interviews, we received various requests such as countermeasures against heat, building earthquake reinforcement and employee dormitory improvements, and we followed-up on these requests by asking each division to improve and explain countermeasures. For the past three years, the unemployment rate within the first three years of employment has remained flat at 2.0%, which we think demonstrates the efficacy of our initiatives aimed at following-up with young employees.

Updating System for Rehiring Employees to Include Half-Time Employment Option

NGK has introduced rehiring system after retirement for regular employees since April 2001, and for management staff since April 2007 respectively. As of the end of fiscal 2012, we had 205 rehired employees, which is equivalent to 6.0% of the total workforce.

In fiscal 2013, we will upgrade this system in accordance with the work style for senior employees by choosing full-time or half-time employment options.

Promoting Work-Life Balance with Eight Rules Pertaining to Working Hours

NGK is engaged in the creation of an environment that makes work easy for employees who are both working and raising children or providing care for a family member.

In fiscal 2011, the company announced eight rules formulated by management and labor over the three-year period ended in fiscal 2010 to promote the prevention of employee health issues and support work-life balance. We promoted awareness of eight priority rules including, limiting overtime working hours to 80 hours or less per month; limiting the number of months in which 45 or more hours outside business hours can be worked to six months each year; providing at least six days of paid leave each year to employees excluding new hires in the current fiscal year; observing Refresh Wednesdays, a day when no overtime is required; and no working more than seven days in a row without a day off.

In fiscal 2012, we attempted to inculcate strict observance through management-labor workplace colloquiums and in-house training for managers. If, for a variety of circumstances, rules cannot be observed out of necessity, management and labor will work together to confirm the reason and formulate follow-up countermeasures. Each year, the status of working hours and paid leave acquisition are disclosed to the labor union, upon which opinions are exchanged and countermeasures are deliberated. Regarding employees identified as working long hours, depending on the frequency of the occurrence, individual deliberations are conducted with the labor union at individual workplaces to discuss countermeasures.

Increasing Use of Expanded Childrearing Support Measures

In 2010, NGK established new rules related to childrearing. We also expanded core measures supporting childcare from the perspective of contribution to working hours and expanded financial support. In terms of time, we established a half-day paid leave system and shortened working hours. From an economic perspective, we increased amount of maternity gift payments, established a gift payment for starting elementary school and established a babysitter expense subsidy system. Furthermore, from fiscal 2011, NGK began a system for preferentially allotting employee parking spaces within the vicinity of the headquarters to employees raising children.

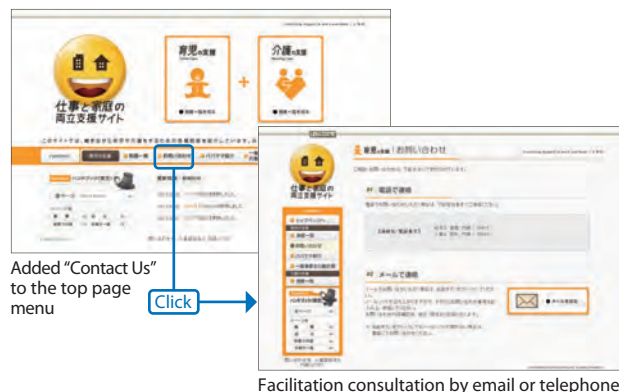
In fiscal 2012, three years after support measures were expanded, usage continued to expand with 33 employees taking advantage of shortened working hours to raise their children, nine more people than the previous fiscal year. The number of employees who utilized the half-day paid leave system amounted to 6,632 people, an increase of 849 people from the previous fiscal year. 19 employees received babysitter expense subsidies and 10 employees utilized priority parking spaces.

Users of NGK's traditional child care leave system also increased. In fiscal 2012, a total of 25 employees utilized the system, one more than the previous year, nine of whom were men. Three more male employees participated this fiscal year than last.

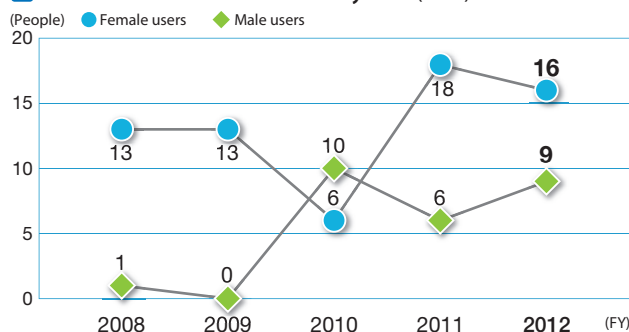
In addition to expanding child rearing support measures, we also strive to make them well known. In March 2010, we launched a work-life balance support site on the NGK intranet to explain

various systems and support measures in detail, and introduce case study references for users. We also distribute this information via internal bulletins. For employees going on leave for maternity or child care purposes, we deepen supervisor understanding by holding employee briefings on these systems where supervisors are also present, in an effort to create an environment in which these systems and support measures can be utilized easily. In fiscal 2012, we added a consultation section to the work-life balance support site enabling employees to contact support staff directly.

NGK works continuously to improve the workplace environment in support of work-life balance.



Utilization of Child Care Leave System (NGK)



Using the child care leave system, I am able to enjoy time with my family (Masaru Nomura, Electronic Components Division, Electronics Business Group)

Certified by the Ministry of Health, Labour and Welfare as a Company Supporting Childcare

In fiscal 2012, NGK was certified as a Company Supporting Childcare and received the Kurumin mark based on the Ministry of Health, Labour and Welfare's Act for Measures to Support the Development of the Next Generation. Since 2005, NGK has formulated ordinary entrepreneur action plans and continued initiatives supporting both work and child care, and in March 2010, we expanded these support measures. We were certified because of child-rearing employee praise for the system and its ease of use, as well as in recognition of the use of paid leave for child care by male employees.

As a result of these initiatives, in February 2011, NGK was certified as a Company Supporting Childcare. In January 2012, we were also certified as a Company Promoting Women's Activities by the city of Nagoya.



With a basic policy centered on the three principles of openness and fairness, partnership and relationship with society, the NGK Group is engaged in fair, free and transparent business transactions with the procurement partners in our supply chain.

Fiscal 2012 Highlights

CSR Objectives

Promotion of CSR Procurement

In Response to Societal Demands on Procurement Activities

Advancing CSR Procurement Activities from the Diffusion (Understanding) to Factual Investigation Stage to the Compliance (Agreement) to Expansion Stage

NGK formulated CSR Procurement Guidelines in fiscal 2010 to promote CSR procurement throughout the entire Group, including overseas Group companies. To clearly meet our social responsibilities, we formulated the following seven areas of social responsibility suppliers are asked to observe.

- Human/labor rights ● Health and safety
- Environmental protection
- Fair and ethical business practices ● Quality and safety
- Information security ● Contributions to communities

We make efforts to spread knowledge and understanding of the guidelines, including posting them on our website in Japanese, English and Chinese languages.

In fiscal 2011, we conducted a factual investigation targeting 80% of the suppliers the Group does business with. Based on the results, in fiscal 2012, we confirmed the status of the understanding and efforts of unsatisfactory suppliers.

CSR Procurement Guidelines Diffusion/Expansion Roadmap



In fiscal 2013, in light of changes in social conditions in recent years, we will formulate guidelines and advance CSR procurement activities from the diffusion (understanding) to factual investigation stage to the compliance (agreement) to expansion stage.

Further Expansion of Procurement from Suppliers Passionate About Environmental Initiatives

NGK formulated the Basic Green Procurement Policy in fiscal 2000 to expand procurement of materials with a low environmental impact. In fiscal 2011 we revised Group-wide Green Procurement Guidelines and began certifying suppliers who met our standards as green suppliers. Guidelines are posted in Japanese, English and Chinese on our website. As a result of our cultivation of new suppliers and the efforts by existing suppliers to meet demands for improvement,

all our Japanese domestic suppliers of materials received certification as green suppliers.

As of fiscal 2012, 97% of NGK purchases came from certified suppliers, while domestic and overseas Group company purchases expanded to 61%. In fiscal 2013, we will integrate part of the Green Procurement Guidelines into the CSR Procurement Guidelines and promote agreement to the observance of these new guidelines.

CSR Objectives

Fair and Honest Evaluation of Procurement Partners, and Extensive Resource Diversification

Selecting Suppliers Based on Fair and Honest Evaluation

The NGK Group opens its doors to a wide range of procurement sources, including companies with which it has had no previous transactions.

In terms of selecting new suppliers, we choose from multiple companies through fair and honest evaluation of their CSR initiatives, environmental conservation efforts and financial condition in addition to their delivery, cost and quality.

Not only is the procurement department involved in the selection of suppliers, multiple departments are also involved in this process requiring multi-stage approval before selection occurs in an effort to ensure fair and honest evaluation and decision-making.

The NGK Group engaged in ongoing environmental conservation efforts by improving manufacturing processes through the development and introduction of innovative manufacturing technology that reduces environmental impact.

Fiscal 2012 Highlights

CSR Objectives

Adoption of Environmentally Friendly Production Processes

Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)

2012 Introduction of Regenerative Burners in Mexico Approved as CDM

The CO₂ emissions reduction project promoted by NGK at NGK CERAMICS MEXICO was approved as a Clean Development Mechanism (CDM) by the United Nations and registered on September 14, 2012. This project introduces energy-saving production reactors to Mexico, contributing to the improvement of operational and maintenance technologies. As a result, the approximately 5,000 metric ton reduction in CO₂ emissions forecasted annually can be added to NGK emission reduction credits, enabling NGK to contribute to nationwide CO₂ reductions in Japan.

NGK CERAMICS MEXICO, which began operations in July 2011, mainly manufactures diesel particulate filters (DPF) and large size HONEYCERAM for heavy diesel-engine vehicles. The development of energy-saving technologies is important for firing ceramics at high temperatures, an indispensable part of the ceramic production process. This project realizes energy conservation and reduced CO₂ emissions through the installation of regenerative burners on firing furnaces that recover and make use of lost heat energy.

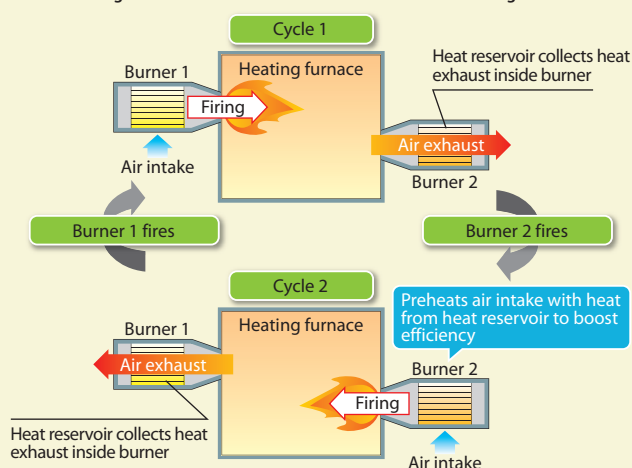
The NGK Group will continue to introduce advanced technologies at sites in Japan and overseas in an effort to reduce CO₂ emissions.

Clean Development Mechanism (CDM)

A system for emission-reduction projects in developing countries. Certified emission reduction credits can be traded by industrialized countries to meet emission reductions under the Kyoto Protocol. Once the governments of both countries agree, approval is sought from the United Nations to register as a CDM project.

▶ Regenerative Burner Mechanism

Pair of Regenerative Burners Installed on Both Sides of Heating Furnaces



Regenerative Thermal Oxidizers Installed in Mexico and Indonesia Approved Again in 2011

Again in 2011, NGK received two CDM approvals. The first was at Indonesian manufacturing subsidiary NGK CERAMICS INODONESIA in March and in June, NGK CERAMICS MEXICO received CDM approval for the introduction of highly heat-efficient regenerative thermal oxidizers that break

down organic compounds included in exhaust gas from firing furnaces.

With the CDM approval of NGK CERAMICS MEXICO in September 2012, we forecast maximum annual CO₂ reductions totaling 12,000 metric tons from all three projects.



NGK CERAMICS MEXICO



NGK CERAMICS INDONESIA

▶ CDM Registered Locations

Locations	Approval	Maximum Annual CO ₂ Reduction
NGK CERAMICS INDONESIA	March 2011	1,400 metric tons
NGK CERAMICS MEXICO	June 2011	5,600 metric tons
NGK CERAMICS MEXICO	September 2012	5,000 metric tons

Activities Covered

- **NGK** Headquarters/Nagoya Site/Chita Site/Komaki Site/Ishikawa Plant (Does not include Tokyo Main Office, Osaka Branch and six other sales offices)
- **Domestic** NGK and Group companies (12 manufacturing-related consolidated subsidiaries)
- **Overseas** Overseas Group companies (17 manufacturing-related consolidated subsidiaries)

NGK's Core Policy on the Environment

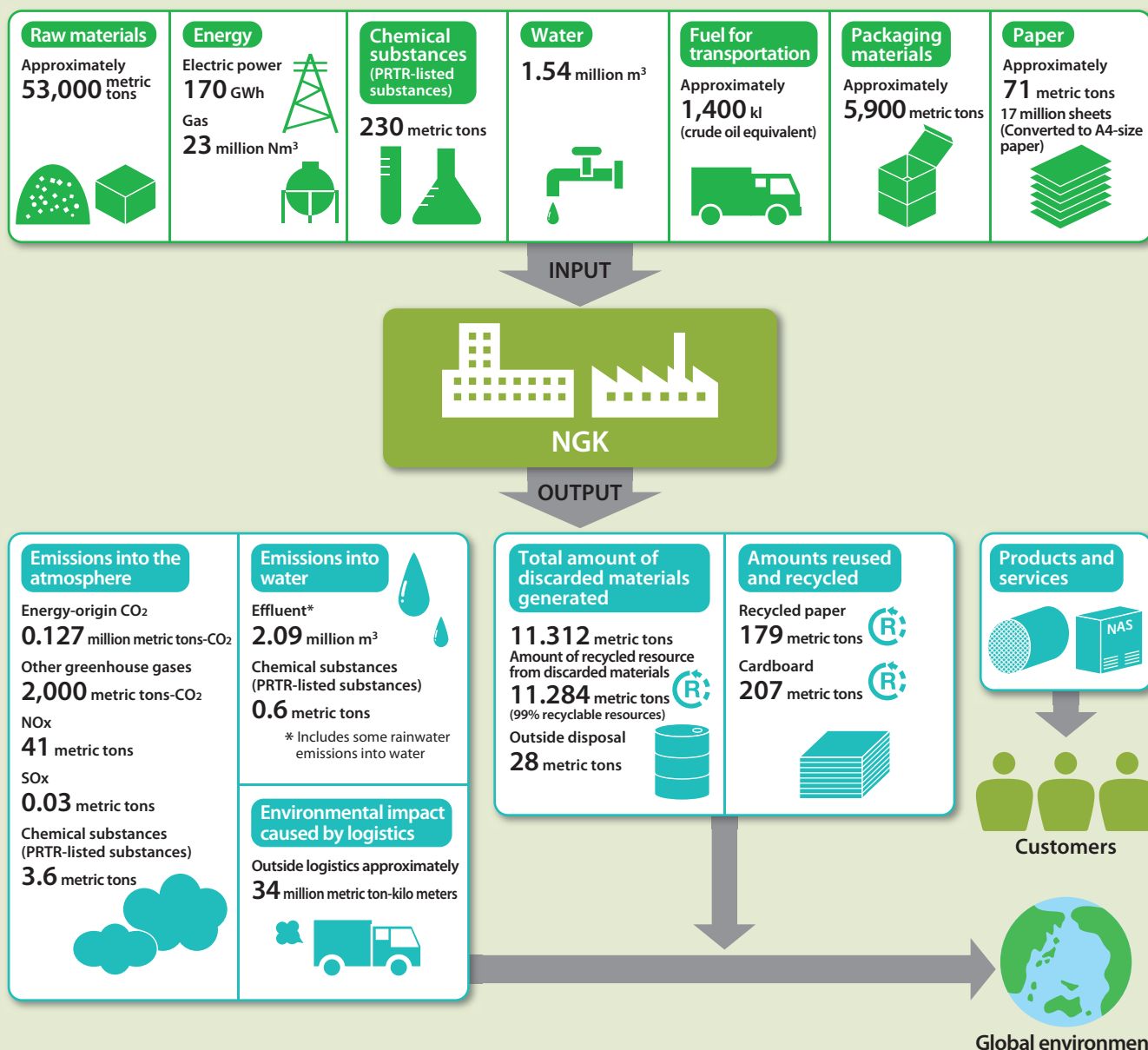
Recognizing that protecting the environment is a vital issue that all of humanity must face, the NGK Group formulated its Core Policy on the Environment in April 1996 in order to bring its corporate activities into harmony with the environment. On the basis of this policy, we work to reduce the environmental impact of business activities, and actively strive to help protect the environment by developing products and technologies to that end.

Overall Perspective of Environmental Impact

The diagram below shows inputs and outputs in business activities conducted by NGK. It shows inputs of raw material and energy and outputs in the form of manufactured products and services, as well as substances that are discharged into the atmosphere and into water.

Compared to fiscal 2011, the amount of raw materials used, discarded materials generated, energy consumed and energy-origin CO₂ emissions were lower in fiscal 2012. This was the result of initiatives aimed at a more efficient manufacturing process and lower production volumes.

NGK Input/Output



Notes: 1. Environmental performance values in this report have been rounded up for convenience; therefore they may not match totals when added together.

2. indicates outside recycling.

Fiscal 2012 Initiatives Within the Third Five-Year Environmental Action Plan (2011-2015)

The NGK Group promotes environmental initiatives based on the formulation of Five-Year Environmental Action Plans. The Third Five-Year Environmental Action Plan, which started in fiscal 2011, establishes reduction targets for CO₂ and discarded materials that also include new production activities enacted by overseas Group companies aimed at reducing our environmental impact on a global scale in an attempt to lower the environmental impact of the entire NGK Group.

Current five-year plan targets and the results of fiscal 2012

initiatives are stated below.

In Japan, we failed to achieve basic unit per net sales targets for both CO₂ and discarded materials because of the impact of special conditions related to preparations for the resumption of NAS Battery production. We also failed to achieve CO₂ and discarded material targets overseas, where the product mix is undergoing significant changes and the ratio of products with large basic units is on the rise.

We will chart future movements and plan to consider responses that include the revision of initiatives.

Category	Item	Management item	FY2012 environmental performance			Five-Year Plan Objectives (Fiscal 2015)
			Targets	Achievements	Evaluation*1	
Global warming prevention	Reduction of CO ₂ from production activities	Domestic CO ₂ emissions	201,000 metric tons or less	185,000 metric tons	○	10% reduction compared to fiscal 1990 (Less than 190,000 metric tons)
		Domestic basic unit per net sales	8% reduction from fiscal 2010	5% reduction from fiscal 2010	×	20% reduction from fiscal 2010
		Overseas basic unit per net sales	2% reduction from fiscal 2010	8% increase from fiscal 2010	×	5% reduction from fiscal 2010
	Reduction of CO ₂ from logistics	NGK basic unit per transport volume*2	1% reduction from fiscal 2011	5% reduction from fiscal 2011	○	1% reduction each year
Effective use of resources	Reduction of discarded materials	Domestic basic unit per net sales	4% reduction from fiscal 2010	2% reduction from fiscal 2010	×	10% reduction from fiscal 2010
		Overseas basic unit per net sales	2% reduction from fiscal 2010	2% increase from fiscal 2010	×	5% reduction from fiscal 2010
	Promotion of resource recycling	Domestic recycling rate	Ongoing improvement of domestic Group company recycling rate	Further promoted sharing of information between NGK and domestic Group companies	○	99% or more
		Overseas recycling rate	Analyze details of Group companies with low recycling rates	Conducted survey on progress and issues related to recyclers mainly in North America	○	Set and manage recycling rates established with consideration for the conditions in each country
	Effective use of water resources	Progress rate of plan	Survey on Group company water usage conditions	Implemented survey on status of overseas and domestic Group company water usage	○	Create standards for efficient usage based on water resource usage status survey
Ensuring chemical substances management	Improvement in management level for chemical substances	Progress rate of plan	Upgrade chemical substances management system	Upgraded system and resumed operations	○	Upgrade a chemical substance management system
Provision of eco products	Promotion of environmental contribution through products	Progress rate of plan	Conduct ongoing quantitative evaluations of major products	Conducted evaluations of five product lines, including the NAS Battery	○	Formulate quantitative standards for degree of environmental contribution from products
	Promotion of green procurement		NGK: 95% of purchases from NGK certified green suppliers Domestic/overseas Group companies: 60% of purchases from NGK certified green suppliers	NGK: 97% of purchases from NGK certified green suppliers Domestic/overseas Group companies: 61% of purchases from NGK certified green suppliers	○	Complete green supplier certification
Promotion of environmental communication	Robust environmental contribution activities	Progress rate of plan	Promote Environmental Partnership Organizing Club (EPOC) event Promote environmental volunteer activities	Conducted corporate seminars and next-generation environmental education Conducted regional activities	○	Continue and expand activities related to regional communities
	Improvement in environmental awareness		Conduct employee environmental education Promote participation in environmental events	Conducted position-based training, professional training and environmental lectures Conducted eco-proposals and encouraged participation in green curtain and Candle Night activities	○	Continue and expand environmental education, information disclosure

Note: Figures noted in the Third Five-Year Environmental Action Plan are targets established each fiscal year.

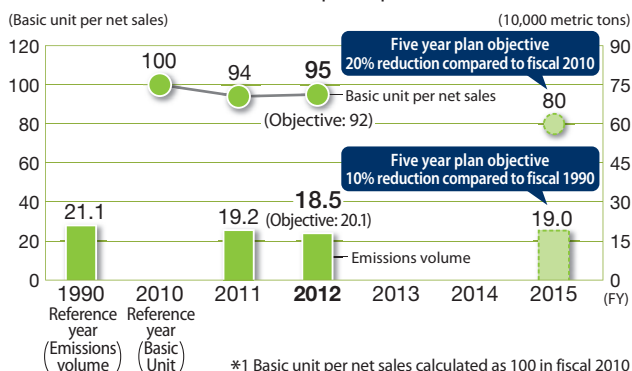
*1. Self-evaluation standards for achievement level: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

*2. NGK basic unit per transport volume expresses in metric ton-kilometers the amount of crude oil equivalent fuel used.

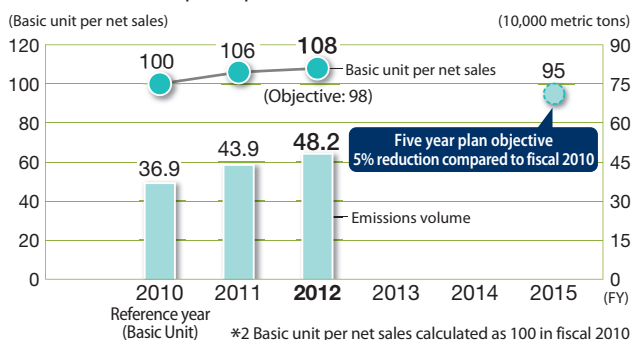
CSR Objectives

Prevention of Global Warming

CO₂ Emissions/Basic Unit Per Net Sales*¹ (NGK and domestic NGK Group companies)



CO₂ Emissions/Basic Unit Per Net Sales*² (Overseas Group companies)



Domestic CO₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas

The NGK Group is engaged in curbing global CO₂ emissions through manufacturing process improvements.

In Japan, steady implementation of CO₂ reduction measures planned at the beginning of the year, energy-origin CO₂ emissions*³ were 185,000 metric tons, just short of the 201,000 metric ton objective. We achieved the basic unit per net sales objective of a 5% reduction compared to fiscal 2010, but the impact of the aforementioned special conditions resulted in a failure to achieve the objective of an 8% reduction compared to fiscal 2010.

Although measures conducted overseas resulted in the reduction of 12,000 metric tons of CO₂, the basic unit per net sales increased 8% compared to fiscal 2010, falling short of its 2% reduction objective. The impact from increased production of ceramic products for large exhaust gas purifying equipment with large basic units was significant.

NGK will continue its efforts to curb CO₂ emissions by promoting further process improvements and increased firing efficiency.

*3 CO₂ conversion factors (kg-CO₂/unit) used in calculating CO₂ emissions are as follows:
Units are indicated in parentheses. Purchased electric power (kWh): 0.42 Fuel oil (L): 2.677 Diesel fuel (L): 2.64 Kerosene (L): 2.49 City gas (Nm³): 2.347 LPG (kg): 3.007 LNG (kg): 2.70 Gasoline (L): 2.322
Sources: Federation of Electric Power Companies of Japan (fiscal 1990 actual figures), Ministry of the Environment. Some factors have been calculated independently by NGK. However, fiscal 2012 energy-origin CO₂ emission volume for NGK on a non-consolidated basis is 144,000 metric tons when using the CO₂ conversion factor provided by the Cabinet Orders of the Law Concerning the Promotion of Measures to Cope with Global Warming (revised in March 2010).

CSR Objectives

Adoption of Environmentally Friendly Production Processes

Manufacturing Efficiency to Realize Eco-Processes

As the NGK Group continues to expand overseas manufacturing, we are focusing efforts on manufacturing efficiency at our overseas locations in an attempt to curb the amount of CO₂ and discarded materials released. We have made steady progress as a result of introducing improvements to facilities and operations conducted in Japan to our overseas manufacturing locations.

Fiscal 2012 CO₂ reduction measures at overseas plants aimed mainly at firing processes, such as the introduction of high-efficiency firing furnaces, have had a major impact. In terms of discarded materials, we were able to confirm the efficacy of measures aimed at using resources effectively between Group companies, boosting yields and improving processes to increase the rate resources are reused.

NGK will continue these activities in an effort to use resources efficiently and make effective use of energy.

Expanding Initiatives to Curb CO₂ Emissions

NGK conducted ongoing CO₂ reduction initiatives, including productivity improvements, waste heat collection and the introduction of highly efficient equipment. Since fiscal 2010, we have focused attention on the air and steam inside plants and promoted the thorough improvement and elimination of waste from both supply sources (compressors, boilers) and supply destinations (manufacturing equipment). These measures include the creation of an energy conservation checklist and guidelines summarizing perspectives and focus, as well as energy conservation diagnostics conducted at each facility. Based on the diagnostics, we eradicated air and steam leaks and made the operation of compressors and boilers more efficient, resulting in the elimination of 1,200 metric tons of CO₂ during the three years ending in fiscal 2012. The self-evaluation initiatives conducted by each division are not only an exercise in actualization, they are also linked to an increase in onsite energy conservation knowledge. We also focused efforts on energy-conserving air conditioning and lighting for offices in fiscal 2012. We strictly managed air conditioner operation through a review of temperature settings and hours of operation aimed at enhancing the management and patrol of energy conservation. Fluorescent lighting was phased out and replaced with high-efficiency lighting. These measures were linked to the reduction of 360 metric tons of CO₂.

In an attempt to horizontally deploy these initiatives at Group companies in Japan and overseas, NGK will support energy conservation measures at each company through the introduction of reduction examples and onsite inspections.

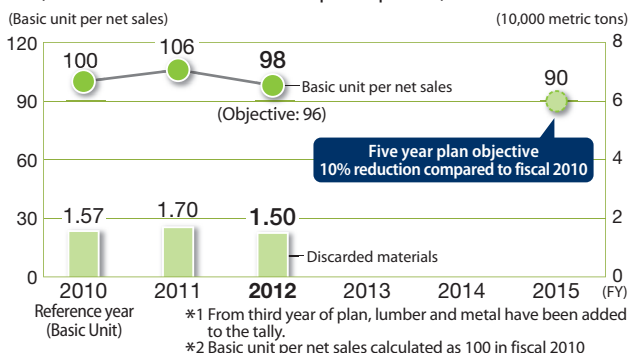
Moreover, NGK is also engaged in the reduction of CO₂ emissions from logistics. Aiming for a 1% or higher reduction in basic unit per transport volume of NGK logistics compared to the previous fiscal year, we are moving forward with a modal shift*⁴ to ocean and rail shipping for large projects. We were able to reduce the basic unit per transport volume by 5% compared to the previous fiscal year using marine vessels to ship some of our larger products in fiscal 2012.

*4 The switch from truck to ocean and rail shipping of products and resources to lessen the environmental impact of freight shipping.

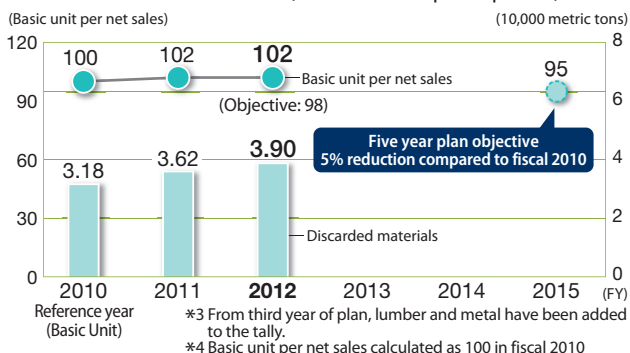
CSR Objectives

Promotion of Resource Recycling

▶ Amount of Discarded Materials Generated*1/ Basic Unit Per Net Sales*2 (NGK and domestic NGK Group companies)



▶ Amount of Discarded Materials Generated*3/ Basic Unit Per Net Sales*4 (Overseas Group companies)



Falling Short of Basic Unit Per Net Sales Targets for Discarded Materials

The NGK Group is engaged in curbing discarded materials globally and is focusing efforts on expanding the reuse of raw materials in domestic and overseas manufacturing processes.

In Japan, planned reductions of discarded materials resulted in a significant eight-point improvement of basic unit per net sales compared to the previous fiscal year. However, the decrease compared to fiscal 2012 stalled at 2%, falling short of the targeted 4%.

Overseas, despite the implementation of planned reductions of discarded materials, as with CO₂, the basic unit per net sales compared to the previous fiscal year was flat, falling short of the targeted 2% reduction compared to fiscal 2010.

NGK will curb discarded materials by continuing to promote the recycling of raw materials within processes and increase yield rates through manufacturing process improvements.

Conducted Survey and Study Aimed at Improving Recycling Rates at Each Overseas Group Company

To improve the recycling rate from a global perspective, NGK conducts surveys regarding recycling at overseas Group companies in an effort to better understand conditions there. Group companies identified as having high amounts of discarded materials and low recycling rates were analyzed in detail regarding

which processes generate discarded materials and in what volumes, discarded material properties, status of separation efforts and disposal routes.

In fiscal 2012, we reviewed the status of, and issues related to, recycling at North American Group companies, conducting a survey targeting nearby recyclers and reviewed the pros and cons of recycling.

In fiscal 2013, we will conduct the same measures at Group companies in Indonesia, Poland and Mexico with the aim of improving the recycling rate.

CSR Objectives

Strengthening of Global Environmental Management

Horizontal Deployment of CO₂ Reduction Examples to Overseas Group Companies

NGK compiled case studies on CO₂ reduction measures for general-purpose equipment, such as compressors, boilers and air conditioning and lighting equipment introduced at all Group companies worldwide in an attempt to develop standardized measures.

In fiscal 2012, there were a total of 72 case studies introduced at all production bases worldwide, including 35 additional examples of CO₂ reductions from equipment operation improvements and other initiatives. NGK also introduced air conditioning checklists and energy conservation guidelines and checklists for new boilers installed at NGK. These initiatives were incorporated into CO₂ reduction measures at all Group companies.

In fiscal 2013, we will maintain our support of initiatives at each base, formulating optimal management indicators incorporating a global perspective with the aim of strengthening environmental management throughout the entire Group.

Promoting the Creation of a Mechanism for the Global Sharing of Information on Environmental Regulation Revisions and Compliance Status

When Japanese laws and regulations are revised, both domestic Group companies and NGK research the revised information to ensure compliance, and in 2011, we created a mechanism for sharing information on the latest revisions and awareness of each other's compliance status. Each month, a special information exchange sheet is prepared and information on revisions researched by NGK is sent to all domestic Group companies where it is distributed internally. Their response to NGK regarding measures related to information on revisions enables us to confirm the efficacy and problematic points of each company's response to revised laws and regulations. This mechanism provided us with a quantitative understanding of domestic Group company responses to Water Pollution Control Law revisions announced in 2012. We will continue these measures in fiscal 2013, identifying issues and implementing improvements.

We also made efforts to identify issues and conduct factual investigations at overseas Group companies to create a mechanism for understanding and sharing information on trends in overseas environmental regulation creation and revision. In fiscal 2013, we will focus on China, where laws and regulations are frequently revised, as the next location for the creation of a mechanism for sharing information.

Coordination with Local Communities and Promotion of Contribution to the Society

We will actively commit ourselves to contributing to society, satisfying the needs of local communities with our interest in social tasks required by the countries and local communities, centered on people and education, environmental preservation, and community involvement with the objective of becoming a corporate citizen that can be trusted by local communities.

CSR Objectives

Provision of Scholarships and Living Assistance to Foreign Students

Continued Support for Housing and Scholarships

NGK continued its support activities for foreign students with the aim of contributing to human resource cultivation that fosters the development of an international community. In fiscal 2012, we provided housing for 40 students from five countries and scholarships to 20 students from nine countries.

Supporting Foreign Students and Cross-Cultural Exchange

Since fiscal 2000, we have conducted language classes taught by foreign students, and held cross-cultural exchange meetings where foreign students introduce their native countries, with the aim of facilitating grassroots international relations among supported students, the regional community and employees.

There is no charge to attend language classes created and taught by foreign students. In fiscal 2012, Chinese and Korean language classes were held 20 times between August and December. Cross-cultural exchange meetings introducing a total of nine countries, including Vietnam, Laos, Turkey, were held ten times. Local residents who participated commented "I couldn't wait for the class each week, it was such a fun way to learn" (female/40s/Korean language) and "it was great to meet such talented students and taste delicious food from different countries" (female/50s/cross-cultural exchange meeting). As of fiscal 2012, about 680 people had participated in language classes and cross-cultural exchange meetings.



Vietnam cross-cultural exchange meeting

We also held exchanges with employees at our head office and Komaki Site four times, where 133 employees mingled with foreign students from South Korea, Switzerland and Poland.

Efforts to Maintain Trusting Relationships Even After Support Ends

Not only does NGK want to build relationships with supported foreign students, we want to maintain them even after support

ends. Accordingly, each year, we send out a New Year's greeting that includes a company status report to former participants and supported students. We will continue our efforts to distribute information that will heighten the relationship of trust between NGK and foreign students even after participation ends.

CSR Objectives

Support for Volunteer Activities by Employees

Nearly 40,000 School Meals Donated to Africa

NGK makes an effort to provide opportunities and information enabling employees to easily volunteer.

We have participated in the Table for Two (TFT) program since September 2010. For every meal purchased from the healthy TFT menu in our employee cafeterias, ¥20 for one school meal is donated to children in Africa. In addition to the head offices (Atsuta, Mizuho) and the Chita and Komaki Sites, this program has also been in operation at Ishikawa Site cafeterias since in fiscal 2012.

In fiscal 2012, for the second year in a row, we conducted a tasting of the African food "posho," served for school meals, at our head office cafeteria in an attempt to further expand these activities. Also, to increase the number of employees using the TFT menu, we upgraded the Healthy Lunch Box set meal at Mizuho, Chita and Komaki. As a result of these initiatives, in fiscal 2012, 9,000 more meals were purchased for a total of approximately 41,000 meals donated at eight cafeterias.



The all-new "Healthy Lunch Box"

Furthermore, to create opportunities for employees to volunteer outside work, we provide information on our intranet pertaining to calls for volunteers and information about events related to tree-planting and environmental conservation initiatives in Japan and overseas conducted by the public interest incorporated foundation OISCA International. In fiscal 2012, we provided information, including that from OISCA, four times; 12 employees volunteered for tree-planting activities promoted by OISCA.

CSR Objectives

Cooperation with Local Communities, Labor Unions, and NPOs in Social Contribution Activities

Employee Volunteers Play An active Role in Regional Activities

The NGK Group is involved in activities that contribute to society, making an effort to provide information on our intranet enabling employees to easily participate in volunteer activities.

There have been many instances where this information has led to employees joining people in local communities to engage in various environmental conservation and regional development activities.

Participation in Event Supporting People with Disabilities

— NGK EUROPE GMBH (Frankfurt, Germany)

30 NGK employees participated in a jogging event held June 2012 in Frankfurt. 69,000 runners from 2,700 companies came together to raise donations for an organization supporting people with disabilities. This was the sixth year NGK Europe participated in this event.



Weeding and Collecting Garbage Around Town

— NGK FINE MOLDS, LTD. (Handa, Aichi Prefecture)

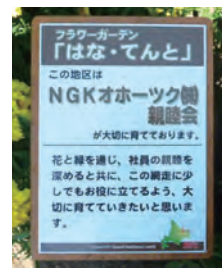
Twice each year since 2001, NGK employees have participated in the Handa City Green Volunteers to conduct cleanup activities around the city. In fiscal 2012, 120 employees participated in weeding and collecting garbage.



Caring for a Tourist Spot Flower Garden

— NGK OKHOTSK, LTD. (Abashiri, Hokkaido Prefecture)

Since 2011, NGK employees have participated in the cultivation of a flower garden at tourist spot Tenzotan in Abashiri City. Between July and September 2012, a total of 37 employees worked with local residents to plant and weed in a marigold field.



Cooperation with the Akechi Mitsuhide Festival

— AKECHI INSULATORS, LTD. (Ena, Gifu Prefecture)

Three newly hired employees participated in the warrior precession as shrine maidens at the Mitsuhide Matsuri, a festival remembering Akechi Mitsuhide, held May 2012 in Akechi-cho, located in Ena, Gifu Prefecture. The procession marched festively for nearly one kilometer, collecting donations to help conserve cultural assets from tourists and local residents lining the roadside.



Bicycle School for Children

— ENERGY SUPPORT CORPORATION (Inuyama, Aichi Prefecture)

In October 2012, a bicycle school was held for neighborhood children (in conjunction with neighboring companies). The 30 children who participated experienced a bicycle simulator and learned how to make turns at intersections when on a bicycle.



Experiment Booth at Science Events

— NGK (Nagoya, Aichi Prefecture)

We conducted science experiments in booths at science events held at science museums in Mizunami, Gifu Prefecture (July 2012) and Nagoya, Aichi Prefecture (October 2012). Each year, experiments are chosen from the NGK Science Site on our corporate website and conducted with imagination and enthusiasm by employee volunteers.





As a Member
of Society

Communications with Stakeholders

Through various opportunities, the NGK Group makes an attempt to communicate with customers, suppliers, regional citizens and a variety of stakeholders in an effort to build and maintain a trusting relationship.

Fiscal 2012 Highlights

CSR Objectives

Interaction with Local Communities via Plant Tours and Open House Events

Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities

We held a dialog on NGK Group environmental activities, inviting a wide range of regional stakeholders, including environmental issues researchers and environmental engineering specialists, government officials, business group executives, staff from NPOs supporting corporate CSR and university students to NGK's head office.

Before the dialog, we conducted a plant tour where ceramic products that purify exhaust are manufactured, and made a presentation on the results of our environmental activities and products. The participants freely discussed these activities, providing a variety of perspectives.

Dialog Theme 1

Initiatives to Reduce CO₂ from the Manufacturing Process

● Taking on Further Challenges as the World's Role Model!

Regarding the reduction of CO₂ in manufacturing processes, we were evaluated as "making various efforts, including switching from heavy oil to natural gas, efficient use of heat energy using regenerative burners and improved kiln heat insulation properties." At the same time, we have also received critical opinions, such as "the basic form of NGK kilns and the essence of the firing process have not changed for decades. As a leading company serving as a role model for the rest of the world, NGK also needs to tackle the challenge of shifting from manufacturing basics to new technological developments." We also received advice suggesting that "if NGK can support environmental technology for ceramics and other industries in Aichi Prefecture, a bond will be created with the region."

● Introduction of Steady Efforts in On-Site Routines

The presentation also included suggestions, such as "NGK can communicate its stance more effectively by introducing not only improvements via large-scale investment, but also your environmental management of each process, in-house proposal system and other steady efforts on the worksite."

In regards to "basic unit per net sales" as a CO₂ reduction indicator, we received the professional opinion that "NGK should make visible exactly how much improvement has been made to the manufacturing process since each plant makes different products."

Other Conversations

Q: The absolute amount of CO₂ reduction changes according to the production volume, so I can understand the "basic unit" indicator, but why did you base it on "net sales" rather than "production volume?"

A: NGK has a large variety of products, and it is difficult to measure production volume using a single unit, such as weight, so we went with the highly transparent "net sales." However, we are also aware that there are some issues with this indicator when there are sudden and dramatic changes in exchange rates, such as rapid appreciation of the yen, resulting in production volume and net sales changes becoming unlinked.



Participating Stakeholders



Noriyuki Kobayashi

Associate Professor,
Department of Chemical Engineering,
Nagoya University



Ryota Kondo

Senior Coordinator
for Environmental Conservation,
Chubu Regional Environmental Office,
Ministry of the Environment



Yoshinobu Kono

General Manager,
Industrial Promotion Division,
Chubu Economic Federation



Soichiro Abe

Cooperation Coordinator,
Partnership Support Center,
Specified Non-Profit Organization

Dialog Theme 2

Products that Contribute to Reduced Environmental Impact

● Not Only the Good: Introducing Areas for Improvement

Regarding our environmental products, it was pointed out that “NGK focuses on only the good, like HONEYCERAM is highly functional, long-lasting and can be used in cars until they are scrapped—but if this product is ‘complete,’ it doesn’t feel like there are any future possibilities” and “by introducing areas in need of improvement, there is a goal for the next generation to strive for and be proactive about.”

We also received words of encouragement. “Although hybrid and electric vehicles are making progress in Japan, gasoline and diesel vehicles are still on the rise in developing countries. NGK should make an all-out effort to emphasize that introducing HONEYCERAM can reliably contribute to the sustainable development of these countries.”

● Can You Convey Your Degree of Environmental Contribution in an Easier to Understand Manner?

In terms of how we convey the environmental function of our products, it was indicated that “the explanation regarding how many millions of tons of NOx were eliminated from exhaust

gas worldwide was not easy for the layperson to follow” and “if you don’t make the explanation regarding your degree of environmental contribution easier to understand, such as NOx emission equivalency to a certain number of automobiles, or why eliminating NOx is a good thing, you can’t convey the efforts you have engaged in so earnestly.”

We also received suggestions on how to make the best use of our own improved technological capabilities. “Separate from the CSR Report, you should regularly publish a technology report focused on technical topics. Invigorate internal research and development by conveying the current status of technological innovations within and outside the company.”

Other Conversations

Q: If electric cars become the norm in the future, what will become of products like HONEYCERAM?

A: If there were only electric cars, there would be no need for today’s HONEYCERAM. It makes one wonder how these technologies will be used in other areas in the future. Catalyst technologies in themselves, for example, applications enabling the production of hydrogen for a hydrogen society, must be included in the focus of research over the medium- to long-term.

Dialog Theme 3

NGK Sustainable Business Development

● Presenting Interesting Products and Technologies to Children

With regard to the impression of NGK and our environmental and CSR activities, we had a lot of feedback along the lines of “a typical Aichi Prefecture company, doing a thankless job” and “many of their products are low-profile and plain, but they are a serious and hard-working company.”

Other comments indicated the importance of communicating technologies and products to children, leaders of the next generation: “Watching the HONEYCERAM process during a plant tour made me think this was something junior high students would be interested in;” “if you disseminate this information more widely, children of employees will be proud to know the company where their parent works is trying its best;” and “if you provide more plant tours for children, there will be more kids who will want to join NGK in the future to do a job that contributes to society.”

● I Want NGK to Continue Listening to All Kinds of Regional Voices

We also received comments regarding improvements to our environmental and CSR communications: “The CSR Report layout follows the ISO 26000 Seven Core Subjects and is easy to understand,” and “writing honestly about strengths and weaknesses in each subject reaches younger generations.”

Finally, we received words of anticipation for the future: “It’s great that average citizens like us have a place where we are able to speak freely about corporations. I want NGK to continue listening to all kinds of regional voices,” and “I want these initiatives linked to invigoration of internal company activities.”

Overall, this dialog provided us with suggestions for improvements and helped identify issues that are difficult to see from inside the company. Going forward, we will make improvements in each area and continue to keep our ears turned to the voices of our stakeholders.



Facilitator



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International Welfare Development
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“We Chubu: Toward a Sustainable Tomorrow”
Japan Economics Team Leader
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Second-year student at Nanzan Junior College

NGK Participants

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Vice President,
Environmental Management Department
(at time of dialog)

Haruo Fukui

Vice President,
Construction and
Maintenance Department,
Corporate Manufacturing Engineering

Hiroto Matsuda

General Manager,
Manufacturing Division,
Ceramic Products Business Group

CSR Objectives

Communication with Customers and Procurement Partners

Earnings Results Presentations for Major Suppliers

To deepen understanding of business and CSR activities, each year NGK holds earnings results presentations for major suppliers. In fiscal 2012, the presentation was held in June and was attended by 220 people from 126 companies. In addition to expressing our gratitude to those in attendance, we gave a progress report on the NAS Battery accident, an overview of the past year's fiscal performance and our outlook for the future and explained the status of our Green Procurement and CSR Procurement initiatives. We also held friendship meetings where guests freely exchange opinions with NGK directors and the heads of various business divisions.



Earnings results presentation for major suppliers (held in June 2012)

Ongoing Operation of Supplier Helpline

In 2008, NGK established the supplier helpline. Receiving consultation via email, fax and telephone, we make an effort to respond with solutions quickly.

In fiscal 2013, we will continue to operate the supplier helpline and provide unerring supports for important inquiries and make an effort to build and maintain fair supplier relationships.

Conducting Supplier Visitation Activities in Japan and Overseas

NGK visits individual suppliers around the world with the aim of promoting green supplier certification and employing suppliers with superior quality, cost and delivery (QCD).

In fiscal 2012, we visited nine new suppliers to conduct evaluation and selection inspections and to facilitate understanding of our Green Procurement and CSR Procurement Guidelines overview. We also visited 64 companies to conduct QCD audits. In addition to explaining audit results, we provided guidance and training on items with low evaluations to ensure fairness and honesty in the evaluation of our procurement partners.

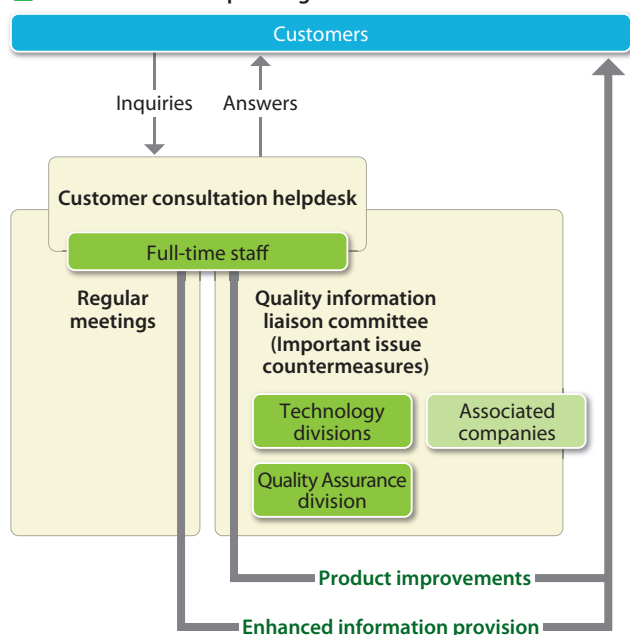
In fiscal 2013, we will continue to visit new and major suppliers to conduct evaluations.

Promoting the Creation of a Mechanism for Responding to Customer Voices

As the leading industrial ceramics manufacturer, NGK develops a wide range of ceramics products mainly for corporations in the automotive and electronics industries and for power companies. We also make use of our ceramics technologies to develop and sell home-use water purifiers that thoroughly filter out bacteria and microbes while maintaining the water's mineral composition.

In terms of products for companies, we develop and improve products in response to customer needs through direct meetings

▶ Mechanism for Responding to Customer Voices



and negotiations with individual customers. However, since home-use water purifiers are general-purpose products for ordinary consumers, we established a customer consultation helpdesk to create a mechanism for reflecting the customer's voice in our products and services.

The helpdesk is staffed by full-time employees who respond to customer inquiries by telephone or email. Most inquiries are about product features or official sales locations, but we also receive many requests and opinions pertaining to our products. These requests and opinions are shared among staff at regular meetings, while important issues are shared, discussed and incorporated into product improvements at monthly quality information liaison meetings with associated plants, quality assurance and technology divisions.

For example, we heard it is bothersome to bleed the air out of cartridges, so we made an improvement: cartridges that bleed air naturally when used. There was also a request for new products with spouts, which our technology divisions are currently developing.

Going forward, we will look for opportunities to solicit opinions directly from customers at water taste tests held at department stores and other locations, while enhancing communication on the product pages of our corporate website. To make our supporting information even easier to understand, we convey the appeal of water purifiers by calling for the submission of recipes using filtered water in an attempt to invigorate communications with customers.

Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake

We were approached by a customer in Higashi-Matsushima, Miyagi Prefecture, who has used our home-use water purifiers for many years and asked "my water purifier was swept away by the tsunami generated after the Great East Japan Earthquake. Is there anything NGK can do for the people living in my temporary housing facility so that we can drink delicious water with peace of mind?"

An NGK staff member went directly to the stricken area to confirm the situation. After consulting with city hall, we provided 10 water purifiers as monitors in the shared spaces at temporary housing facilities in the city, where they continue to be used today. In recognition of our efforts, we received a letter of gratitude from the customer.

CSR Objectives

Interaction with Local Communities via Plant Tours and Open House Events

Direct Interaction with Children and Local Residents on Plant Tours

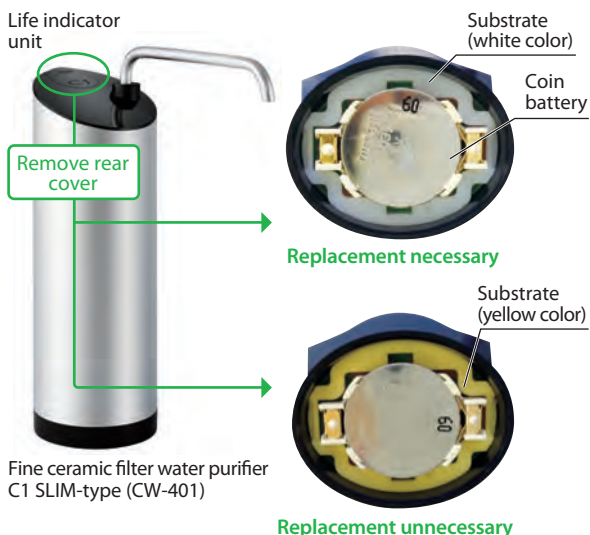
NGK attempts to interact with regional communities through plant tours and other activities. To deepen interest and understanding in NGK and manufacturing, in fiscal 2012 we conducted 10 plant tours for a total of 289 participants consisting of elementary school students and local residents at Nagoya, Komaki and two other sites. On August 22nd and 29th, we conducted a plant tour via a Mizuho ward industrial culture bus tour, held in conjunction with the City of Nagoya Mizuho Ward Office. This tour was created for fifth and sixth grade elementary students living in Mizuho ward, and touched on



Mizuho Ward industrial culture bus tour (August 2012)

Free Replacements for the Life Indicator Units on Fine Ceramic Filter Water Purifier C1 SLIM Announced on Our Corporate Website

Currently, we are offering free replacements for the life indicator units on the C1 SLIM-type (CW-401) water purifiers that went on sale in January 2011. We identified that the LED lamp on the life indicator unit on the top of the filter does not flash when battery power is insufficient. This is because the microcomputer used by the life indicator unit consumes more power than initially assumed. The life indicator units on applicable products can be replaced with a lower power consuming unit free of charge; just contact the customer consultation helpdesk. Customers can confirm whether their product is applicable for a free replacement or not simply by visiting our corporate website. We are deeply sorry for any inconvenience experienced by our customers.



the industrial culture of Mizuho ward and Nagoya City with the aim of heightening children's passion for manufacturing and industrial culture. A total of 38 children participated in the tour.

CSR Objectives

CSR Talk Live (Discussions on Implementing CSR with Every Employee Class)

Distributing Information about the Latest CSR Activities on the Company Intranet

In December 2010, we launched the CSR-Web on our company intranet to promote CSR-related initiatives with the aim of instilling CSR in all NGK domestic Group company employees. We make an effort to provide exclusive and detailed information, including CSR Committee deliberations and Q&A from CSR Talk Live session dialogs between top management and employees, as well as CSR topics and area-based targets we want employees to share, in addition to distributing new and updated information when necessary.

In fiscal 2012, we posted all the Q&A content from each CSR Talk Live session held in 2012 and added the "Stakeholder Dialog" article (below). We also posted 59 examples of social contribution activities, including activities at Group companies, in an attempt to provide as much information as possible.

Stakeholder Dialog

Held in November 2011 and January 2013 as an opportunity for invited guests representing regional industry and government to exchange opinions with NGK directors and employees on a variety of themes including saving electricity, preventing disasters and conserving the environment. Details regarding dialog sessions held in 2013 were also posted on the CSR-Web.



CSR Committee Activities

As necessary, we provide updates on the status of CSR Committee efforts to promote Group CSR activities.

In fiscal 2012, we raised awareness about these activities by posting details regarding the deliberations and activities of the CSR Committee, which meets three times each year.



Employees and Management Discuss CSR

To deepen employee understanding of CSR and related initiatives, NGK conducts “CSR Talk Live,” an event facilitating direct discussion with management held at all domestic sites since fiscal 2009.

Beginning at the Nagoya Site on September 25, this event was held nine times in five locations, including the NGK CERAMIC DEVICE Yamanashi Plant, during fiscal 2012. 405 employees attended, nearly 10% of our entire domestic Group company workforce. The participation of only a few dozen people at each event resulted in spirited discussions.

At each venue, Executive Vice President Fujito and CSR Committee Chairman Ibuki emphasized the importance of CSR initiatives to those in attendance, while the Environmental Management Department and CSR Office used specific examples to explain CSR Report 2012 details. Afterward, a Q&A session with employees was conducted on topics including environmental conservation, workplace safety, disaster countermeasures, business continuity planning (BCP) and public relations activities.



Nagoya Site (September 25)



Hiroshi Fujito,
Executive Vice President



Mitsuo Ibuki,
Director and Senior Vice President,
CSR Committee Chairman
(at time of event)

Company Responses to Participant Proposals (Excerpts)

Environmental: Reduction of Paper Resources

Proposal What about transitioning to a paperless workplace?

To reduce the amount of paper used, it is not enough to just call for the reduction of waste paper. Please consider the digitalization of proposed improvement activities by introducing tablet devices and creating a mechanism for storing information in PDF files rather than paper print-outs.

Response First, we need to establish committees and create rules.

We are currently considering the introduction of tablet devices. However, issues involving the inability to view digital documents in their entirety, loss of concentration at meetings, security and costs involved in the introduction of tablet devices must

also be considered. For this reason, I think we need to start with the creation of some rules, such as using projectors to share meeting materials and compiling materials into a single A4 sheet of paper. Digital documents can be stored and shared on division servers, and we have already digitally converted some of our proposal documentation. Going forward, please be sure you make use of these.

Environmental: Product Recycling

Proposal Have you considered collecting used products?

All of our products become waste material at some point. Since some of our products can be recycled, are you considering collecting used products?

Response We are collecting products that can be recycled, but we need to consider expanding these efforts.

Some Group companies already recycle fireproof and metallic materials. We also collect used cartridges from C1 home-use water purifiers and recycle fireproof materials from ceramic filters, plastic product materials used for cases and activated charcoal deodorizers. Although our current situation makes further recycling efforts difficult, we must nevertheless consider additional efforts for the future.

Safety and Health: Education

Proposal What about increasing opportunities for safety education?

I think safety knowledge and experience differs by division and employee. What about increasing safety training and educational opportunities?

Response We strive to provide education commensurate with each workplace.

Since duties vary by workplace, we strive to devise safety education corresponding to the particulars of each work duty. At the same time, in terms of company-wide training, we offer various opportunities for contract employees and safety-related education for employees in addition to education for the newly hired or promoted.

Compliance: Observance of Competition and Subcontract Act

Proposal Should overseas Group company staff training and Subcontract Act education be enhanced?

I hope staff at the head office, as well as at overseas Group companies, are made aware of efforts to create rules regarding legal compliance. In all interactions with suppliers, I want head office employees to know more about Subcontract Act and carefully consider whether their activities are in violation of these laws.



Chita Site (November 3)

Response We have begun conducting seminars on competition laws and provide opportunities for education and awareness about Subcontract Act as necessary.

Regarding compliance education at overseas Group companies, differences in legal systems between countries makes it difficult to implement unified education and awareness activities. However, we have begun conducting seminars and other initiatives with respect to competition laws. As for Subcontract Act, up to now we have conducted individual briefings on these matters, but in the future, we will make a place for education and awareness activities as necessary. (See details on pages 23-24.)

Company Responses to Participant Questions (Excerpts)

Environmental: CO₂ Emissions Volume

Question What about the importance of using basic unit per production output, which is unaffected by exchange rate fluctuations, for managing CO₂ emissions?

You cited yen rate fluctuations as the reason for the 6% increase in fiscal 2011 overseas basic unit per net sales compared to fiscal 2010, but could the targets have been met with fiscal 2010 rates? Going forward, if exchange rates do not change, wouldn't it be easier to understand the degree of achievement if performance was also included? Please explain why you use basic unit per net sales rather than basic unit per production output.

Response This metric is expressed in net sales because the definition of production output varies by product line. If fiscal 2011 overseas basic unit per net sales figures were calculated using fiscal 2010 exchange rates, the increase compared to fiscal 2012 would be 4.5%, falling short of actual achievement even when allowing for the stronger yen. In addition to yen appreciation, discounts and costs associated with the introduction of new equipment were also factors contributing to the declining numbers. In the event there is no currency fluctuation, we will consider including performance.

We do not express this metric in terms of production output because the definition of production output varies by product line. However, we do confirm basic unit per production output for each division and Group company and report these figures to the NGK Environmental Protection Committee. On the other hand, we use net sales because they are integrable, transparent and easily understood by third-parties.

Assignments: Support for Working Overseas

Question Do you provide support for employees assigned to posts in dangerous regions?

What kind of support do you provide to ensure the safety of employees assigned to posts at plants located in regions with unstable social or political conditions?

Response We implement various risk management measures. We formulate countermeasures based on overseas safety advisories posted on the Ministry of Foreign Affairs website, gather information locally and work with consultants well-versed in overseas risk management who frequently provide us with local information and advice. In addition, we conduct plant and employee residence safety inspections in certain regions. We also offer on-site inspections by travelling industrial physicians.

Welfare: Childcare Support

Question Of employees who use the childcare leave system, what percentage are men?

If six men used the childcare leave system in fiscal 2011, what percentage of employees with children do they represent? In the event an employee wants to use the system but can't, is there some kind of alternative compensation?

Response Men continue to account for 4% of all users.

The six people who used the system represent nearly 4% of the 138 men who declared the birth of a child. Employees can take advantage of the childcare leave system until their child is one year old (or 18 months old, in some cases), but there is no financial compensation involved in being able or unable to use the system. Furthermore, in some cases this system may not apply to fixed-term contract employees.

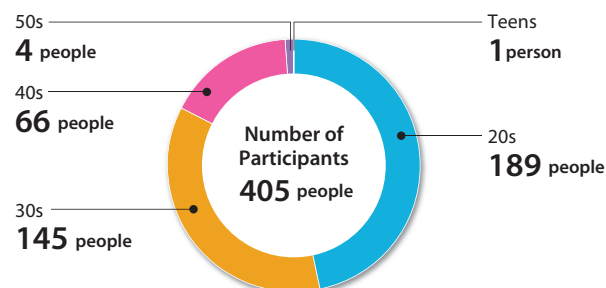


NGK CERAMIC DEVICE Yamanashi Plant (October 16)

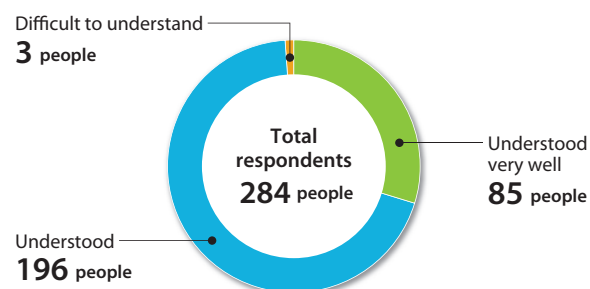
CSR Talk Live Event Schedule and Number of Participants

Nagoya Site (Aichi Prefecture)		Komaki Site (Aichi Prefecture)	
September 25	46 people	November 7	51 people
September 26	52 people	Ishikawa Plant (Ishikawa Prefecture)	
September 28	47 people	November 2	23 people
October 24	50 people	NGK CERAMIC DEVICE Yamanashi Plant (Yamanashi Prefecture)	
October 25	55 people	October 16	30 people
Chita Site (Aichi Prefecture)			
October 3	51 people		

Participants by Age Group



CSR Talk Live Evaluation (Regarding NGK Group CSR initiatives)



Note: The number of people is the total number of responses from each event.

Third-Party Opinion



Mr. Koichi Ikeda

Visiting Professor,
Ritsumeikan University
Management School

The history of the development of modern science is also the history of subspecialties; the same is true of management activities within corporations. Corporate management has raised productivity by differentiating between function and organization. At the same time, “integration” is the corporate behavior keyword for CSR and other demands within the current management environment. Put another way, they are “bound and connected.” The frequent occurrences of hugely influential uncertainties are conditions that create both risks and a new era. We are approaching an era when binding and connecting internally differentiated functions with organizations, as well as binding and connecting internal decisions and behaviors with societal behaviors, will be indispensable for the pursuit of sustainable corporate management.

The NGK Group CSR Report 2013 provides an image of a company solidly and steadily promoting CSR activities that are bound and connected.

Amid the backdrop of NGK’s bound and connected Corporate Philosophy, Group Guidelines for Corporate Behavior and eight environmental conservation and other actions for promoting CSR, as indicated in the candid and clear-cut “Management’s Commitment” section, NGK develops consistent initiatives, from Corporate Philosophy to specific operations and product development. The report conveys a sense of the conditions in which various products play a significant role in resolving critical issues faced by society, such as the diesel particulate filter (DPF), which contributes to limiting particulate matter (PM) and other air pollutant emissions.

NGK also develops a wide range of activities that bind and connect society, consisting of a variety of stakeholders as well as internal personnel. There is a sense of the existence and fruition of NGK’s strong intention to invigorate communication with stakeholders by engaging regional communities through dialogs between external experts and stakeholders, CSR Talk Live discussions on CSR between employees and management, earnings results presentations for suppliers and plant tours.

Particularly noteworthy is the ubiquitous embodiment of NGK’s basic position on conveying activity details to the public that are easily understandable. For example, within environmental conservation, as shown on the NGK Input/Output chart, specific figures are provided for a wide range of business conditions and advanced technologies, equipment and systems, while introducing the use of concise graphics that are easy to visualize and understand. The special features on initiatives aimed at creating new products such as subnano-ceramic membranes heighten expectations for the realization of product development conducive to better society.

Going forward, it is my heartfelt hope that all NGK Group divisions and workplaces, as well as directors and employees, become even more bound and connected to create a virtuous cycle of CSR activities.

Response from NGK

This year’s report introduces highlights for each item under CSR Objectives and Achievements in an aim to deepen the understanding of NGK CSR initiatives among all our stakeholders.

The special features in this year’s report cover the creation of new products that will become drivers of future business.

In pursuit of further technological advances going forward, NGK aims to realize sustainable growth and enhance corporate value through products and services that embody our Corporate Philosophy, deliver new value and create a better social environment.

Furthermore, as a member of the global business community, the NGK Group and each of our employees will maintain a firm awareness of our connection to society. We will meet expectations and earn the trust of society through self-determination and sincere behavior.



Eiji Hamamoto

Executive Vice President
CSR Committee Chairman



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NGK has changed from using petroleum solvents to 100% use of mainly soy-based vegetable solvents. Inks used contain 1% or less volatile organic compounds (VOC).

Design:

We have taken care to select an easily readable font-size and attractive color layout, and to employ diagrams and tables to express information clearly.

