

CSR Report 2013

Corporate Social Responsibility Report

Web Version Full Report



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



Taro Kato
President



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 I assumed the position of President remain unchanged.

In addition to this basic policy, I called upon employees 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



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 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.

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.

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 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.

Ultra-High Brightness LED Application Examples



Automobile headlights

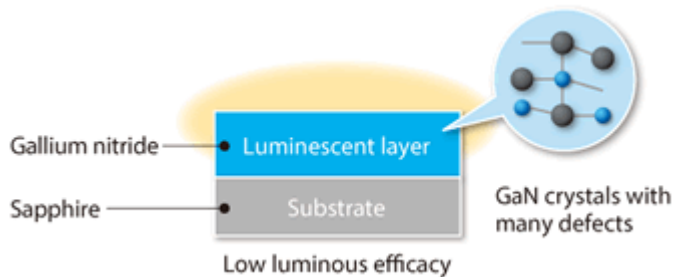


Streetlights

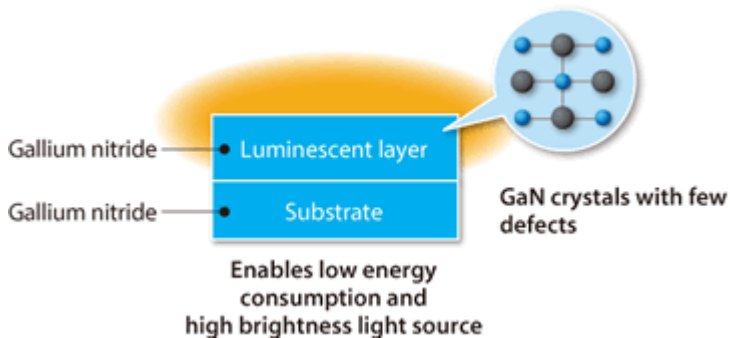


Factory lighting

Commercial LEDs



Ultra-High Brightness LED Using NGK GaN Wafers

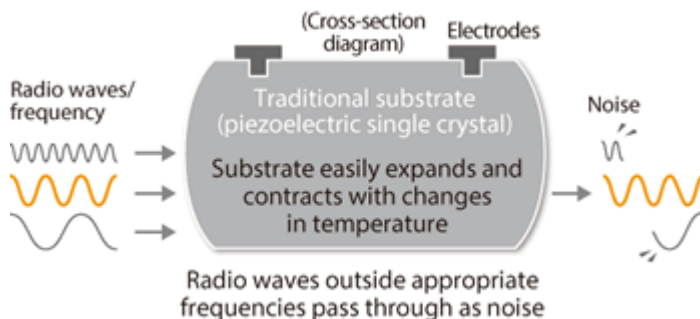


Realizing High Telecommunications Quality at a Low Cost

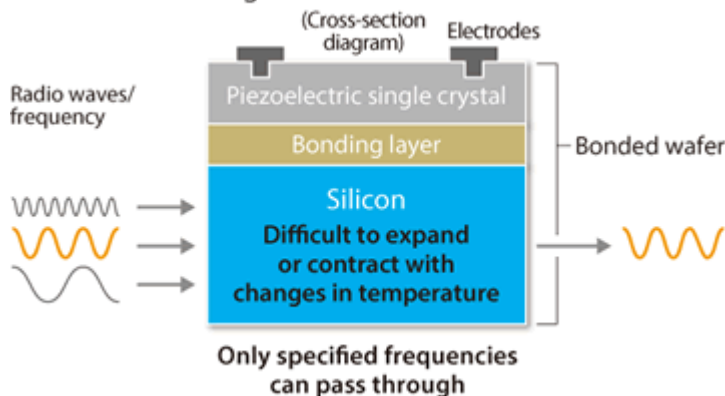
SAW filters are used primarily in wireless communication devices such as smartphones and tablets. They serve as a type of frequency filter that has a large bearing on communications quality. However, traditional SAW filters have one weakness: the substrate used consists of a piezoelectric single crystal 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



Masahiro Sakai
Corporate R&D, NGK

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

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.



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.

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

Separating Various Liquid and Gas Molecules with Ceramics

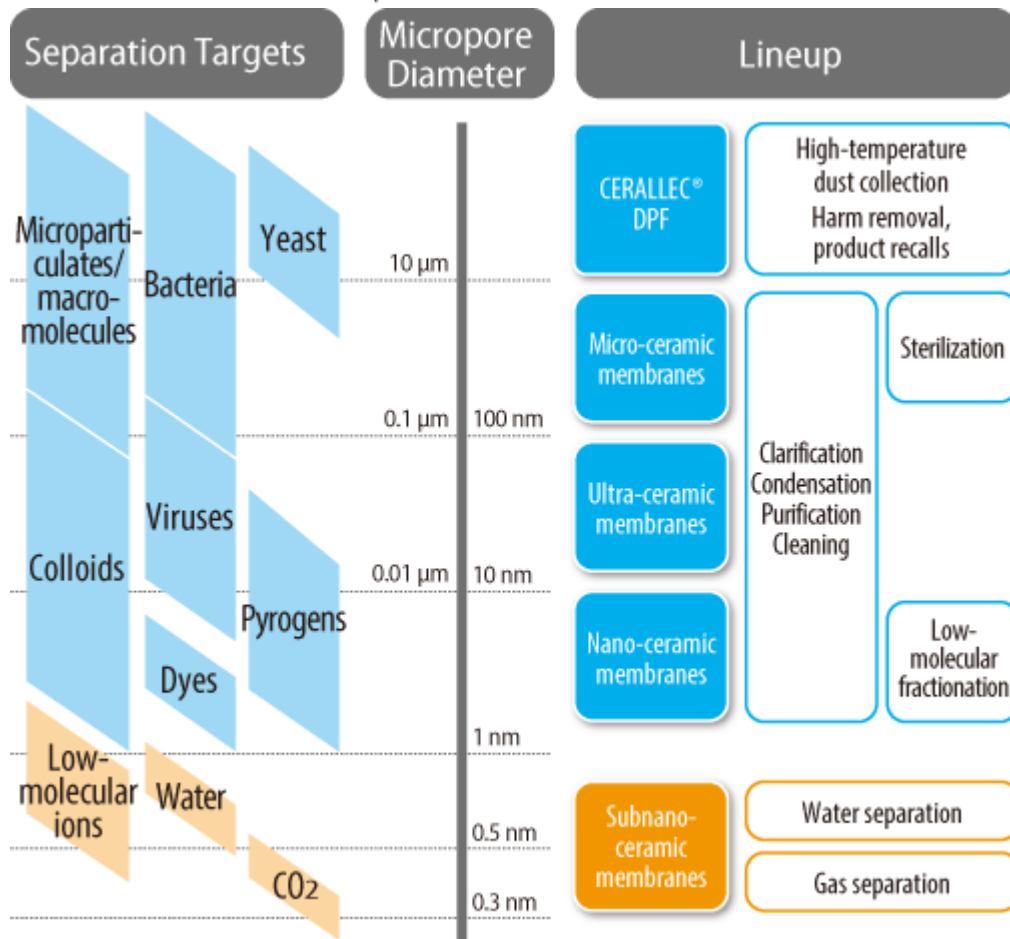
NGK, first to begin mass production of ceramic filters in Japan in the 1980s, is now a comprehensive manufacturer of ceramic filters with a global top class product lineup.

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.

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

■ 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, agrichemical ingredients, etc.
Isopropyl alcohol (IPA)	Acetone, glycerin, fuel water draining agent, etc.
Phenols	Phenol resin (plastic), pharmaceutical compounds, dye ingredients, etc.



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



Makiko Niino
Corporate R&D, NGK

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

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.

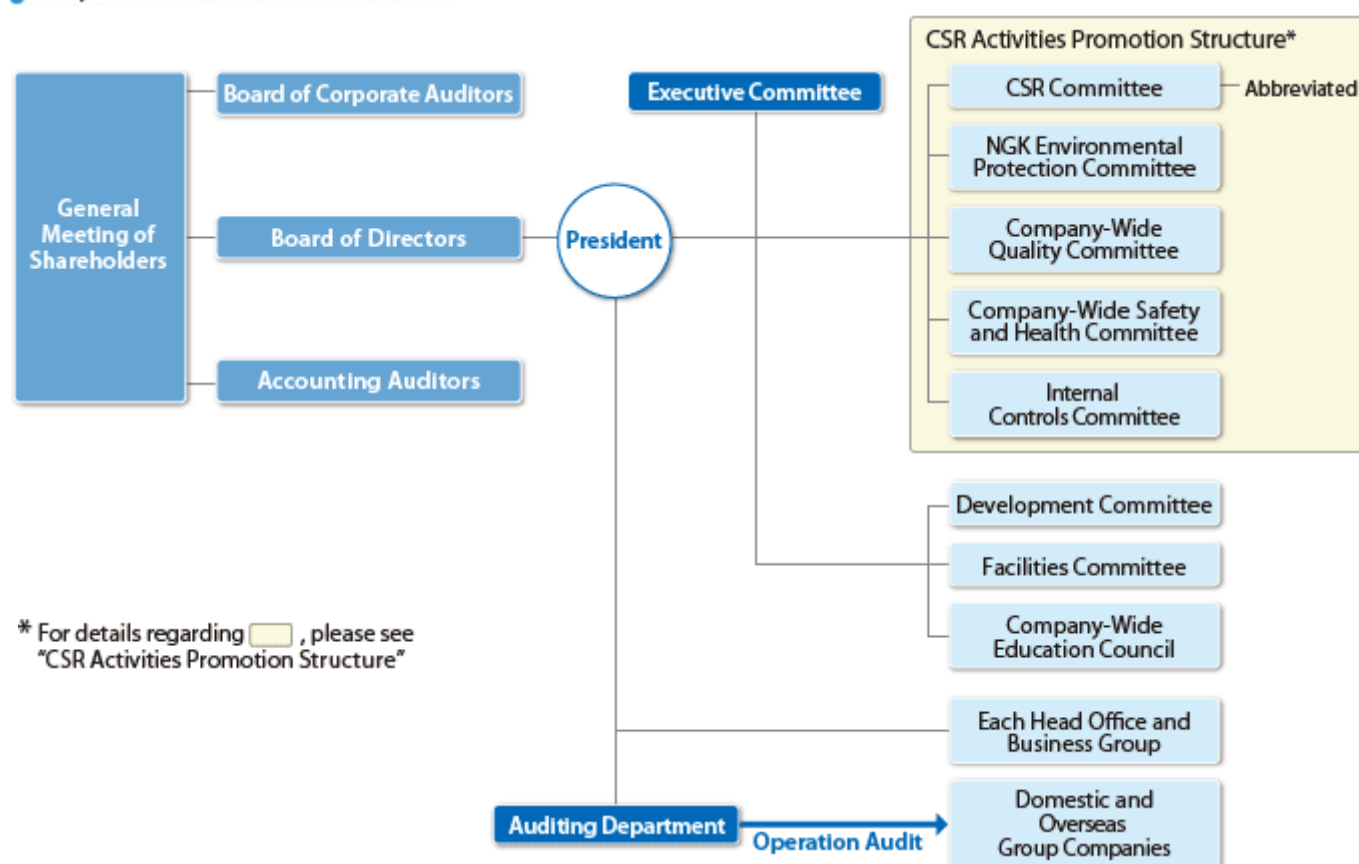
Basic Approach to Corporate Governance and Status Initiatives

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

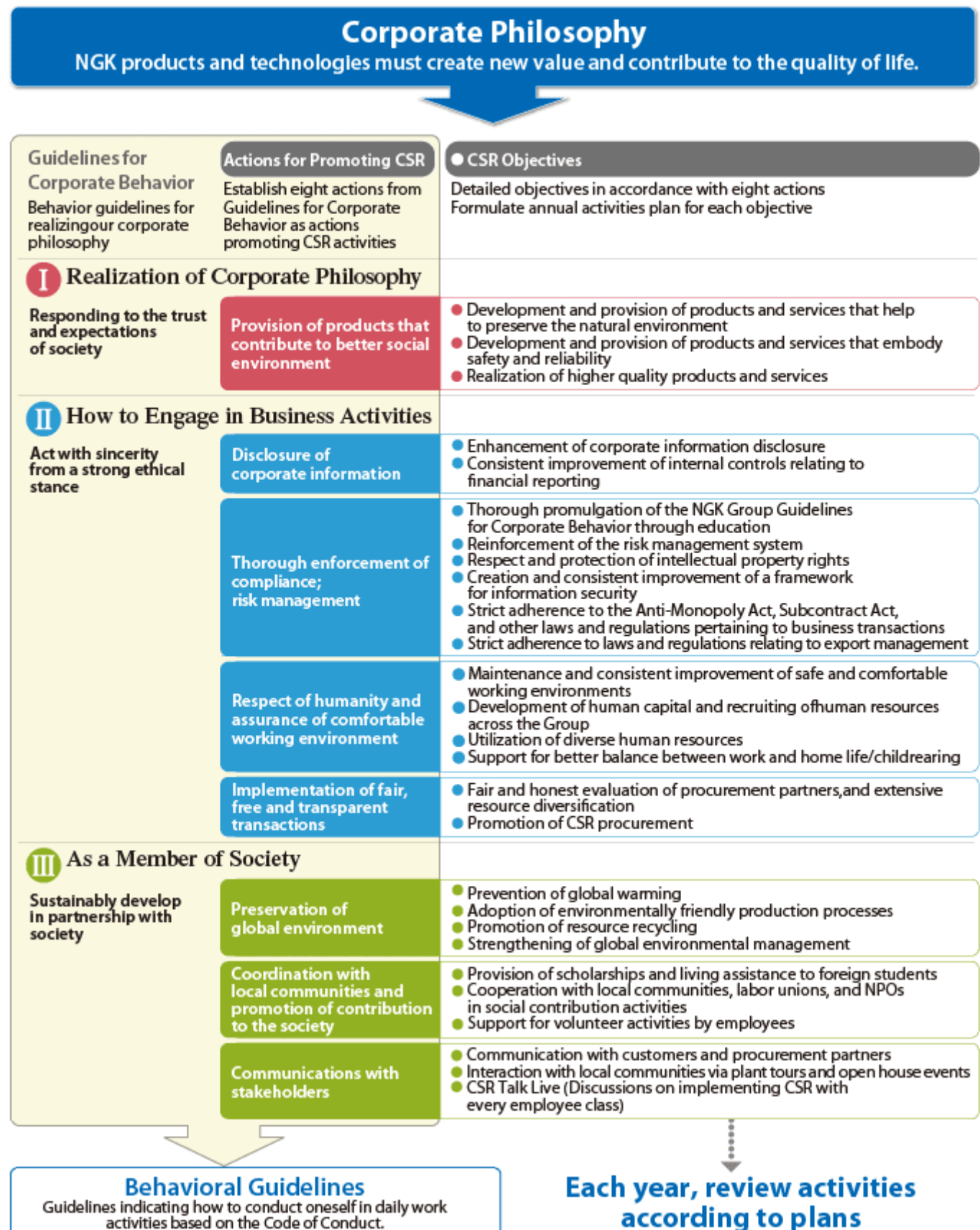
The Board of Directors and the executive bodies overseen by the president are responsible for establishing and operating NGK's internal control system. The Auditing Department, a specialized internal audit body, is responsible for monitoring the status of business execution at each operating division. 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.

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.

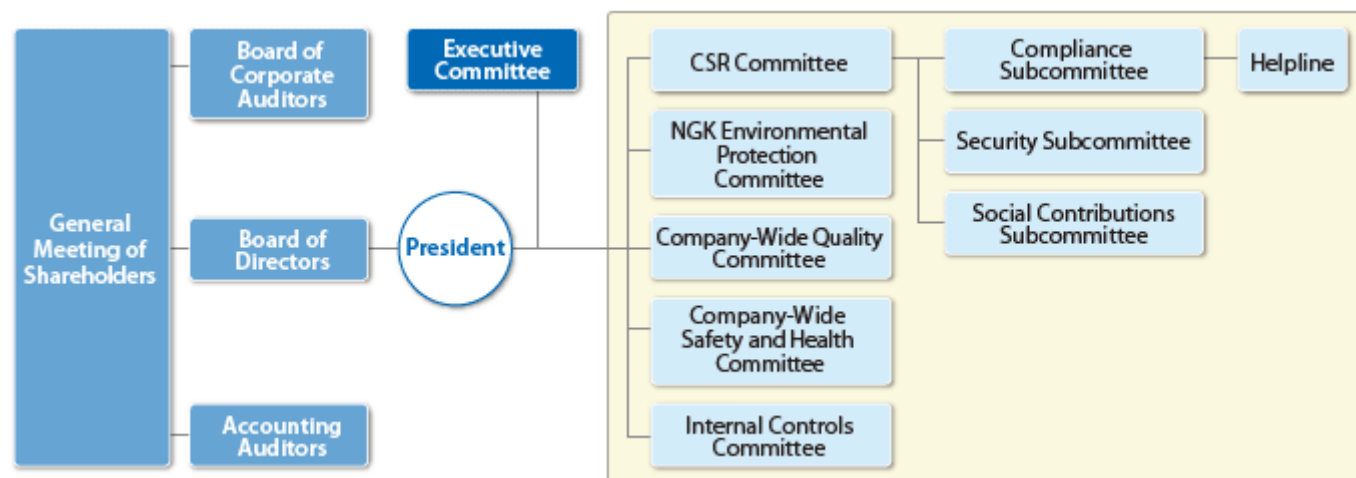
By putting these activities into practice, we are working together with our customers, employees and business partners to fulfill our social responsibility as a company in every respect, an act essential to meeting the public's expectations and earning its trust.



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)

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

Provision of products that contribute to better social environment

Develop and provide products and services that help to preserve the natural environment

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Allocate capital expenditure for increased production of ceramic products to purify automotive exhaust and high-precision in-vehicle nitrogen oxide (NOx) sensors in accordance with plans, strengthen global production capacity in response to increased demand. (NGK Group)	Strengthened global production system in response to expanding demand for automotive-related products.	○	<ul style="list-style-type: none"> Strengthen global production system in response to market trends for automotive-related products.

Development and Provision of Products and Services That Embody Safety and Reliability

Restart NAS battery operations, diligently conduct safety enhancement measures and make efforts toward thorough quality assurance to restore confidence. (NGK)	Conducted NAS battery safety enhancement measures, strict quality management and the resumption of factory operations.	○	<ul style="list-style-type: none"> Make an effort to restore confidence, and continuously receive orders.
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Realization of Higher Quality Products and Services

In order to eradicate serious quality issues, we will clarify intentional changes and unintentional changes and evaluate their impacts on customer use, product design, manufacturing processes, material procurement, etc. (NGK Group)	Established clarification of intentional changes and unintentional changes and evaluation of their impacts of changes.	○	<ul style="list-style-type: none"> Thoroughly eliminate quality risk by reinforcing design reliability and aim for further improvement of production quality.
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Disclosure of Corporate Information

Enhancement of Corporate Information Disclosure

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue to provide fair and honest information disclosure in a timely and appropriate manner. (NGK Group)	Conducted ongoing fair and honest information disclosure in a timely and appropriate manner.	○	<ul style="list-style-type: none"> Continue to provide fair and honest information disclosure in a timely and appropriate manner.

Consistent Improvement of Internal Controls Relating to Financial Reporting

Work to enhance the management level in each division and to reduce the number of issues identified by audits. (NGK Group)	Issues identified by audits have been reduced through self-evaluations in each division and the monitoring of progress by the Internal Controls Committee.	○	<ul style="list-style-type: none"> Reduce the number of issues identified by audits.
Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year. (NGK Group)	Raised efficiency in assessment and audit of processes that were rated favorably.	○	<ul style="list-style-type: none"> Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year.

Thorough Enforcement of Compliance; Risk Management

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

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Reinforce education aiming to inculcate thorough awareness of revised NGK Group Guidelines for Corporate Behavior and newly formulated behavioral guidelines. (NGK Group)	Distributed materials during career education to inform and enlighten.	○	<ul style="list-style-type: none"> Raising Awareness of NGK Group Guidelines for Corporate Behavior and Behavioral Guidelines.

Reinforcement of the Risk Management System

Continue to have the CSR Committee periodically confirm and follow up on the status of Company-wide risk countermeasures based on the Control Self Assessment (CSA) questionnaire. (NGK Group)	CSR Committee met three times, followed up on status of risk countermeasures.	○	<ul style="list-style-type: none"> The CSR Committee will regularly follow-up on the status of Company-wide risk countermeasures.
	Conducted third CSA questionnaire targeting domestic group companies in December.	○	<ul style="list-style-type: none"> Conduct fourth CSA questionnaire targeting all of NGK.

Respect and Protection of Intellectual Property Rights

Conduct training program for managers on Chinese intellectual property issues and case studies on intellectual property strategies of other companies. (NGK)	Conducted lecture presentations for managers on Chinese intellectual property issues and case studies on the intellectual property strategies of another company.	○	<ul style="list-style-type: none"> Enhance awareness-raising programs for managers.
Continue to conduct dialog-style small group seminars for young engineers in R&D and business divisions. (NGK)	Patent Map Usage explanatory meetings were held three times and small group discussion-based seminars were held 10 times for young engineers.	○	<ul style="list-style-type: none"> Continue to conduct small group discussion-based seminars for young engineers.

Creation and Consistent Improvement of a Framework for Information Security

To complete priority countermeasures at all Group companies, NGK will continue to enhance IT security education and strengthen measures to prevent leakage of confidential information. (NGK Group)	Completed by approximately 90% of all Group companies.	△	<ul style="list-style-type: none"> 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

Further enhance compliance with the Anti-Monopoly Act and the Subcontract Act by strengthening education to officers and employees. (Overseas group companies)	Created and distributed the "Competition Law Compliance Handbook" summarizing action guidelines to be followed by all officers and employees.	○	<ul style="list-style-type: none"> Make employees fully aware of and observe the Competition Law Compliance Handbook.
Regularly conduct competition law related seminars led by lawyers at group companies in the U.S. and Europe. (NGK Group)	Conducted seminars on competition laws at group companies in South Korea, the United States and Europe.	○	<ul style="list-style-type: none"> Continue holding seminars on a regular basis.

Strict Adherence to Laws and Regulations Relating to Export Management

Make system improvements on the security export control database introduced in April 2012 in light of actual operations. (NGK)	Improved database system.	○	<ul style="list-style-type: none"> Raise divisions to a higher level by supporting their educational and other activities.
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Respect of Humanity and Assurance of Comfortable Working Environment

Maintenance and Consistent Improvement of Safe and Comfortable Working Environments

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue comprehensive risk predictions and conduct measures focused on high-priority risk. (NGK)	Improved risk identification, but serious accident occurred.	×	<ul style="list-style-type: none"> Follow up at Company-wide level to ensure all risks are identified and countermeasures formulated.
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)	Company-wide 5S activities including engineering and administration.	○	<ul style="list-style-type: none"> Extend Company-wide activities to get approval as a 5S workplace.
Continue health management (consultations with industrial physicians and health checks) for regular employees and key personnel who routinely work long hours. (NGK)	Continued health checks and interviews with industrial doctors for employees working long hours.	○	<ul style="list-style-type: none"> Ongoing implementation.

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

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

Utilization of Diverse Human Resources

Achieve the legally mandated ratio of employees with disabilities during fiscal 2013 in an attempt to halve the number of deficient staff. (NGK)	Achieved the 1.8% legally mandated ratio (1.91%).	○	<ul style="list-style-type: none"> Raise to 2.0% in accordance with revised legally mandated ratio requirement.
Invite employees that have transferred to career-track positions to lecture at a roundtable career plan discussion for general employment. (NGK)	13 employees participated in career plan roundtable discussions.	○	<ul style="list-style-type: none"> Continue to promote use of system for transferring to general employment jobs.

Support for Better Balance between Work and Home Life/Childrearing

Thorough observance of working hours rules in an attempt to prevent health issues and promote work-life balance. (NGK)	Rules for managers were thoroughly observed.	○	<ul style="list-style-type: none"> Thorough observance of rules regarding working hours.
Establish for handling inquiries on system utilization in an attempt to inculcate awareness of work-life balance support system. (NGK)	Expanded and increased use of systems offering shorter working hours for employees raising children.	○	<ul style="list-style-type: none"> Increase use of expanded childrearing support measures.

Implementation of Fair, Free and Transparent Transactions

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

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Select/maintain suppliers based on fair and honest evaluation. (NGK Group)	Conducted visits/evaluations at major supplier facilities.	○	<ul style="list-style-type: none"> Conduct evaluations on 10% of all suppliers.
Ensure multiple suppliers for important materials. (NGK Group)	Promoted multiple suppliers, secured stock of items supplied by a single source.	○	<ul style="list-style-type: none"> Ongoing promotion.

Promotion of CSR Procurement

Group-wide CSR Procurement In light of the results of a CSR procurement survey, we will revise our CSR procurement questionnaire. We will also change which suppliers are to be included.	In light of the results of a CSR procurement survey, we confirmed the efforts of unsatisfactory suppliers.	○	<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.
NGK Green Procurement Target all suppliers for certification and expand purchases from certified suppliers to 95%.	97% of purchases were from certified suppliers.	○	
Group Company Green Procurement Expand purchases from certified suppliers to 60%.	61% of purchases were from green certified suppliers.	○	

Preservation of Global Environment

Prevention of Global Warming

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Curb CO₂ 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)	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)	×	<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

* 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.

Adoption of Environmentally Friendly Production Processes

Attempt to develop global standards for CO ₂ reduction measures and promote the introduction of eco-processes. (NGK)	Process improvements implemented in Japan developed overseas.	○	<ul style="list-style-type: none"> Promote the development of innovative process technologies for overseas locations.
Implement energy conservation measures for boilers. Also, conduct energy conservation diagnostics by creating an air conditioning equipment energy conservation checklist to be used for inspections in each division. (NGK Group)	Thoroughly implemented boiler and compressor energy conservation measures and improved operation of air conditioning and lighting.	○	<ul style="list-style-type: none"> Develop NGK energy-efficiency measures for general-purpose equipment at Group companies.

Promotion of Resource Recycling

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)	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)	×	<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
Recycling rate improvement: Conduct detailed analysis of overseas Group companies with low recycling rates. (NGK)	Improved recycling rate. Inspected progress and issues at North American production bases.	○	<ul style="list-style-type: none"> Conduct detailed analysis of Group companies in Indonesia, Poland and Mexico.

*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.

Strengthening of Global Environmental Management

Continue horizontal rollout at overseas Group companies, create collection of examples of discarded materials reductions and expand domestic CO ₂ reduction examples. (NGK Group)	Introduced 35 additional CO ₂ reduction examples to overseas production bases.	○	<ul style="list-style-type: none"> Conduct ongoing publication example enhancements.
Create and test mechanism for sharing information on amendments to overseas laws. (NGK Group)	Conducted factual investigations and identified issues at overseas Group companies.	△	<ul style="list-style-type: none"> Began creation of a mechanism for sharing information in China, where laws and regulations change frequently.

Coordination with Local Communities and Promotion of Contribution to the Society

Provision of Scholarships and Living Assistance to Foreign Students

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue to provide assistance to foreign students. (NGK)	Provided housing for 40 students from five countries and scholarships for 20 students from nine countries.	○	<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 and contribute to international exchange between foreign students, regional communities and employees. (NGK)	Held 40 language classes and 14 cross-cultural exchange meetings.	○	<ul style="list-style-type: none"> ▪ Continue to hold language classes and cross-cultural exchange meetings led by foreign students conducted within and outside the company.
Continue to investigate responses of other organizations. Consider incorporating findings in future measures. (NGK)	Distributed information after support ended.	△	<ul style="list-style-type: none"> ▪ Distribute information after support ends.

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

Continue making efforts to understand Group company activities with initiatives for information transmission and sharing to link activities of each company. (NGK Group)	Shared the status of activities at each company.	○	<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

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)	Donated approximately 40,000 school meals to Africa through Table for Two (TFT).	○	<ul style="list-style-type: none"> ▪ Create environment enabling employees to easily participate in volunteer activities.
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Communications with Stakeholders

Communication with Customers and Procurement Partners

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Hold earnings results presentations for major suppliers. (NGK)	Held earnings results presentations for approximately 120 major suppliers.	○	<ul style="list-style-type: none"> Hold earnings results presentations for major suppliers.
Continue to operate the supplier helpline so as not to miss an important inquiry and strive to maintain fair and honest business relationships. (NGK)	Continued to operate the supplier helpline.	○	<ul style="list-style-type: none"> Continue to operate the supplier helpline.
Employ most appropriate suppliers through supplier visitation activities, including new suppliers, in an attempt to step up supplier quality. (NGK)	Visited suppliers and important material suppliers.	○	<ul style="list-style-type: none"> Employ most appropriate suppliers and continue supplier visitation activities to step up supplier quality.

Interaction with Local Communities via Plant Tours and Open House Events

Consider conducting dialog with expert panel or NPO. (NGK)	Held CSR Dialog with experts regarding NGK Group environmental activities.	○	<ul style="list-style-type: none"> Conduct dialog with external stakeholders.
Give priority to responding to plant tours for elementary and junior high students to encourage greater understanding of and interest in NGK and manufacturing, and continue striving for more dynamic interaction with local communities. (NGK)	Conducted 10 plant tours at 4 sites.	○	<ul style="list-style-type: none"> Conduct ongoing exchanges with regional communities through plant tours and other activities.

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

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

Provision of Products That Contribute to Better Social Environment

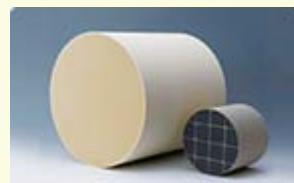
Guided by a corporate quality policy that puts customers first, the NGK Group considers the provision of products and services that contribute to a better social environment to be one of its most important missions in an effort to create quality from the customer's perspective.

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

The NGK Group Produces and sells HONEYCERAM honeycomb ceramic substrates containing catalysts that render nitrogen oxides (NOx), carbon monoxide (CO), hydrocarbons (HC), and other potentially harmful substances found in gasoline vehicle exhaust harmless, as well as large size HONEYCERAM and diesel particulate filters (DPF) that capture over 90% of the particulate matter (PM) found in diesel exhaust and nitrogen oxides (NOx) sensors.

Fiscal 2012 Highlights

- ① [Contribute to Limiting Emissions of Particulate Matter \(PM\)](#)



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Allocate capital expenditure for increased production of ceramic products to purify automotive exhaust and high-precision in-vehicle nitrogen oxide (NOx) sensors in accordance with plans, strengthen global production capacity in response to increased demand. (NGK Group)	Strengthened global production system in response to expanding demand for automotive-related products. 1 Augmenting Our Manufacturing System for Automobile Exhaust Countermeasure Products Around the Globe	○	Strengthen global production system in response to market trends for automotive-related products.

▼ Initiatives Other Than Above

- a** [Contribute to Limiting Emissions of Particulate Matter \(PM\)](#) (NGK)

Fiscal 2012 Highlights

a Contribute to Limiting Emissions of Particulate Matter (PM)

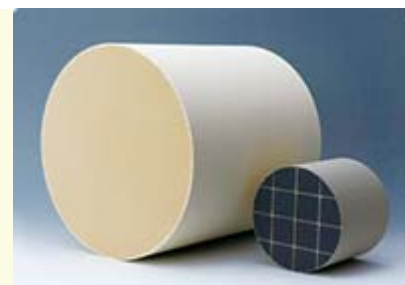
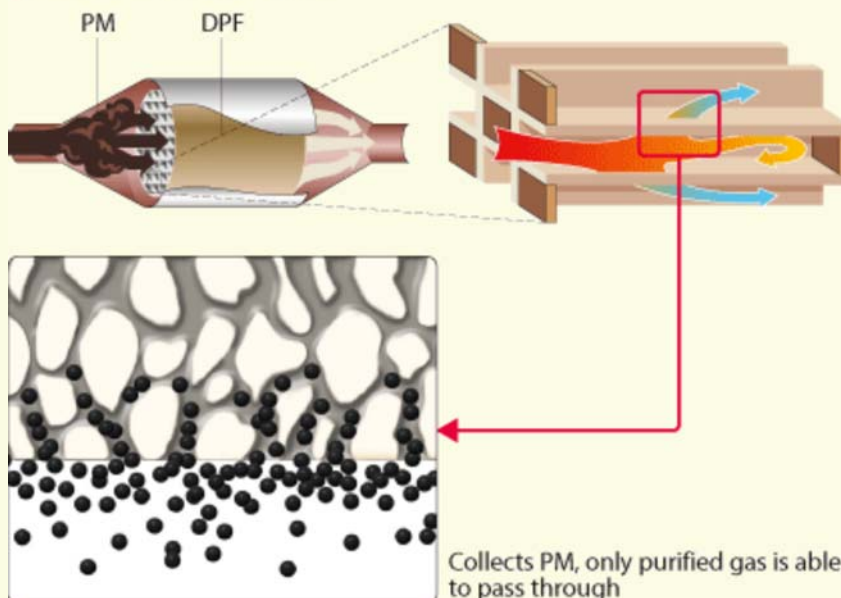
Diesel Particulate Filter (DPF), Large Size HONEYCERAM to Purify Diesel Automobile Exhaust

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 lightweight automobiles.

On the other hand, large size HONEYCERAM, is a honeycomb ceramic substrate containing catalysts that render harmless PM and nitrogen oxide (NOx) 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



Cordierite (left) and silicon carbide (right) DPFs



Large size HONEYCERAM

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

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

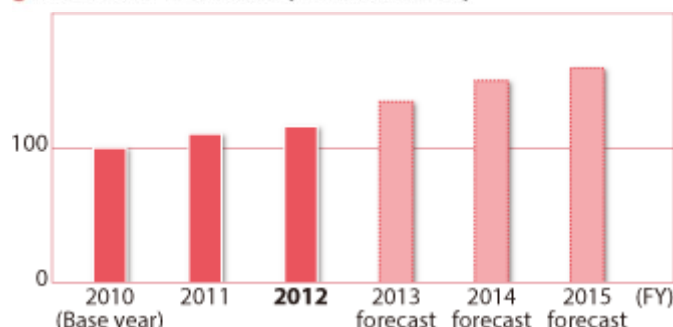
NGK focuses efforts on the development and production of exhaust emissions control products such as HONEYCERAM, DPF and NOx concentration measurement sensors for automobiles. Furthermore in recent years, we have been expanding and upgrading our global manufacturing system in response to increasing demand 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.

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



* Fiscal 2010 net sales value set at 100

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 Begins incrementally in January 2014
	Expansion of silicon carbide DPF manufacturing facility	
	New NOx sensor assembly facility	
NGK Ceramics USA	Expansion of HONEYCERAM manufacturing facilities	Begins in January 2014

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.



Provision of Products That Contribute to Better Social Environment

Guided by a corporate 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.

Development and Provision of Products and Services That Embody Safety and Reliability

NGK was first in the world to commercialize the mega watt-class NAS battery energy storage system. The large-capacity, high-energy density and long-lasting NAS battery is roughly 1/3 the size of a lead-acid battery, able to provide high output for long periods of time. They help with load leveling at times of peak demand, stabilize intermittent renewable energy and contribute to power-saving measures and reduced energy costs.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Restart NAS battery operations, diligently conduct safety enhancement measures and make efforts toward thorough quality assurance to restore confidence. (NGK)	Conducted NAS battery safety enhancement measures, strict quality management and the resumption of factory operations. 1 Providing High-Safety NAS Batteries	○	Make an effort to restore confidence, and continuously receive orders.

1 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.

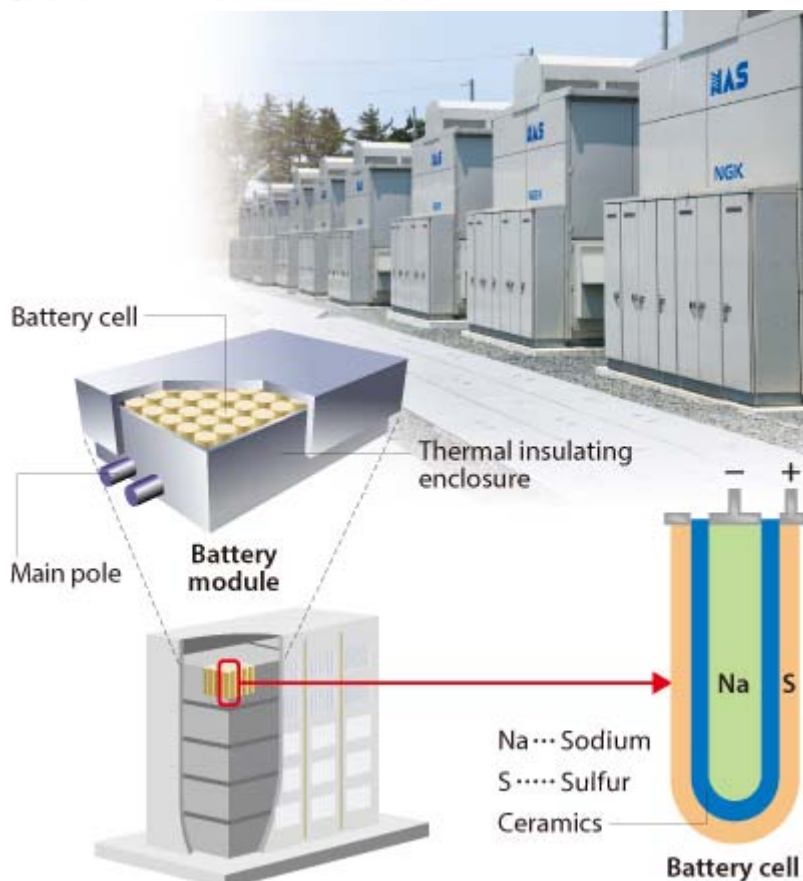
• Stabilizing Intermittent Renewable Energy

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.

Structure of NAS Battery System



- **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.

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.

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.

<Realization of Corporate Philosophy>

Provision of Products That Contribute to Better Social Environment

Guided by a corporate 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.

Realization of Higher Quality Products and Services

In accordance with the corporate quality policy of striving with customers to provide reliable and useful products and services to the public, each year the NGK Group determines targets for the entire company and engages in the creation of quality from the customer's perspective.

To thoroughly eliminate the risk of quality defects for customers, since fiscal 2010 NGK has promoted the restructuring of quality activities with the aim of developing these activities for the entire NGK Group in fiscal 2011.

In fiscal 2012, NGK aimed to eradicate serious quality issues by strengthening design review (DR) and clarifying intentional changes and unintentional changes and evaluating their impacts on customer use, product design, manufacturing processes, material procurement, etc.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
In order to eradicate serious quality issues, we will clarify intentional changes and unintentional changes and evaluate their impacts on customer use, product design, manufacturing processes, material procurement, etc. (NGK Group)	Established clarification of intentional changes and unintentional changes and evaluation of their impacts of changes. 1 Strengthening the Elimination of Quality Risks Company-Wide	○	Thoroughly eliminate quality risk by reinforcing design reliability and aim for further improvement of production quality.

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.

▼ Initiatives Other Than Above

a [Total Employee Participation in Development of QuiC Activities to Improve Quality](#) (NGK Group)

b [Strengthening Product Quality Education, Including Training to Prevent Quality Defect Risks, and Training to Raise the Level of DR](#) (NGK Group)

1 Strengthening the Elimination of Quality Risks Company-Wide

Formulating Corporate Rules for Company-Wide Quality Activities 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.

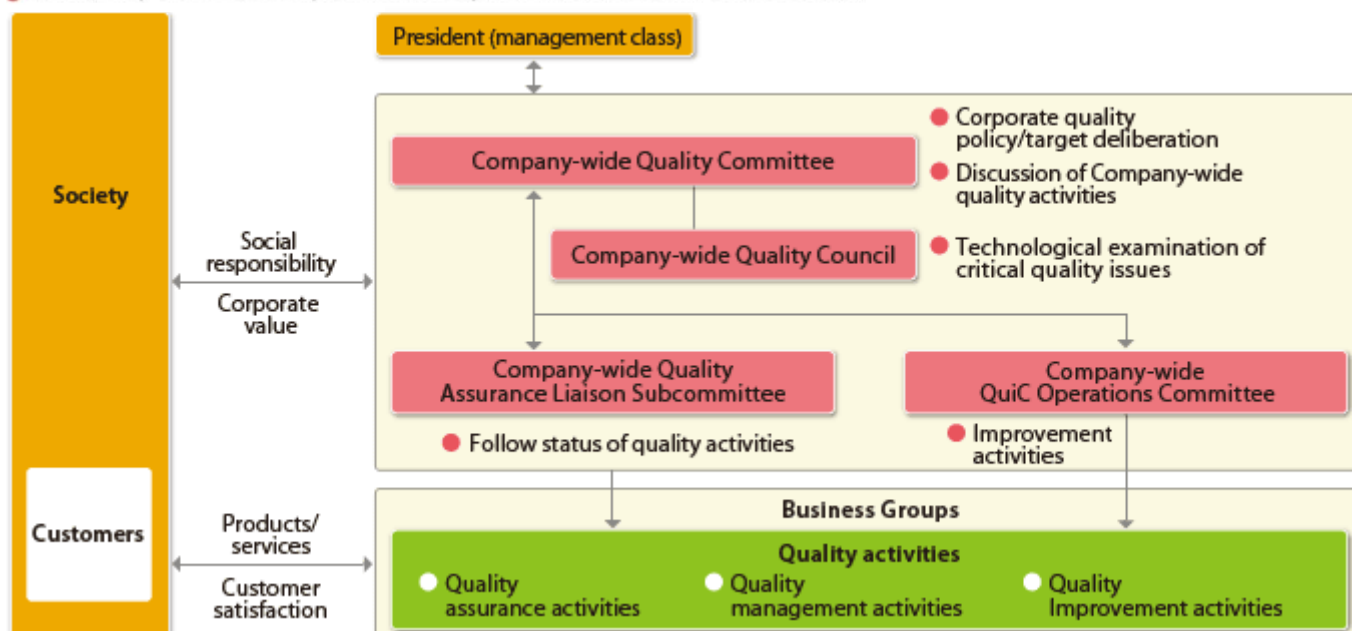
In fiscal 2012, NGK engaged in initiatives to establish and improve the efficacy of Corporate Rules for Company-Wide Quality Activities by focusing efforts on intentional and unintentional changes and evaluating their impacts on customer use, product design, manufacturing processes, material procurement,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

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



a Total Employee Participation in Development of QuiC Activities to Improve Quality

The NGK Group develops QuiC (Quality up innovation Challenge) quality improvement activities that all employees have participated in since 2003. These activities attempt to enhance product and work quality, in particular, quality improvement activities conducted by small groups, which results in suggestions for improvement, with the best improvements shared as an example across the entire NGK Group.

Participation in NGK improvement suggestion activities was about 100% for the manufacturing divisions and around 82% for the non-manufacturing divisions in fiscal 2012, with approximately 48,000 suggestions submitted in all. Each year in July, NGK holds a Company-wide contest at headquarters to showcase examples of outstanding improvement activities intended for deployment. In fiscal 2012, the contest was held again on July 13 with 15 presentations from groups across NGK, including overseas group companies, with approximately 400 people in attendance. Productivity improvements for large size HONEYCERAM products and temporary operational breakdowns (equipment stoppage), increased working rates among back-office departments and other improvement activities were announced. These improvement examples were also shared on the activities bulletin board on the Company intranet.

Going forward, NGK aims to invigorate the activities of all employees by strengthening improvement activities focused on back-office and other non-manufacturing divisions.



b Strengthening Product Quality Education, Including Training to Prevent Quality Defect Risks, and Training to Raise the Level of DR

Traditionally, quality education at the NGK Group has focused on manufacturing site improvement methods such as the QC approach and QC tools.

Furthermore, from fiscal 2009, to strengthen practical education preventing quality defects, NGK added practical risk prevention training for young design engineers and their supervisors. Practical risk prevention training was conducted on the subject of practical themes in design and development eight times in fiscal 2012. To strengthen organizational development, NGK conducted risk prevention II and reliability management training for newly appointed managers.

With regard to the DR for eliminating quality risks, in fiscal 2011 NGK began reviewer practical education to enable reviewers to lead to effective DR. In fiscal 2012, NGK conducted training six times for designers and DR participants aimed at raising the level of DR.

In the four years since NGK began practical risk prevention training, NGK have eliminated risks and improved awareness focused on points of intentional and unintentional changes. Going forward, NGK will promote training on the effective use of risk prevention tools with an emphasis on durability and safety within reliability design. In terms of the training content, NGK will also consider flexible responses to divisional issues to be reflected in the organizational activities of each division.

In the two years since NGK began practical education for reviewers and training to raise the level of DR, recognition of divisional DR issues have improved awareness. Making use of guidelines created to indicate the DR ideal the NGK Group should be striving for, NGK plans on conducting awareness training for designers and DR participants.

Main Quality Training Conducted in Fiscal 2012

Training name	Participating Divisions	Times held	Participants
Practical risk prevention training	8 divisions including design, development, quality assurance, etc.	8	27
Risk prevention II and reliability management training	15 main product divisions	1	50
Training to raise the level of DR	Reviewers and main product divisions	6	200

<How to Engage in Business Activities> Disclosure of Corporate Information

To enhance management transparency, the NGK Group makes an effort to disclose information demanded by wider society in a timely and appropriate manner, including management, financial, product and service information, in order to earn society's trust.

Enhancement of Corporate Information Disclosure

The NGK Group promotes shareholder-oriented management that emphasizes capital efficiency across the entire Group, and strives to improve corporate value with the goal of realizing sustainable growth. Furthermore, along with timely and accurate disclosure of corporate data through a variety of mediums, including via the corporate website, business reports and annual reports, the NGK Group strives for two-way communication that allows it to gain invaluable input from its shareholders and investors.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue to provide fair and honest information disclosure in a timely and appropriate manner. (NGK Group)	Conducted ongoing fair and honest information disclosure in a timely and appropriate manner. 1 Continue to Provide Fair and Honest Information Disclosure in a Timely and Appropriate Manner	○	Continue to provide fair and honest information disclosure in a timely and appropriate manner.

▼ Initiatives Other Than Above

- a** [Aiming for More Open Shareholder Meetings](#) (NGK)
- b** [Investor Presentations and Individual Visits](#) (NGK)
- c** [Measures for Returning Profits to Shareholders](#) (NGK)
- d** [Shareholders Information](#) (NGK)

1 Continue to Provide Fair and Honest Information Disclosure in a Timely and Appropriate Manner

In addition to the timely and appropriate disclosure of management and financial information on our website, NGK is making efforts to disclose accurate management information through the publication of business and annual reports. In an effort to offer more robust IR information, in February 2012 NGK updated the layout of the IR section of its corporate website, adding a Financial Highlights (consolidated) and General Meeting of Shareholders sections (only in Japanese).

Regarding the NAS Battery accidental fire that occurred at a customer's location in September 2011 and NGK's response to it, we are focusing efforts to provide the latest information as quickly as possible. We added a link to a special section on our website that includes a list of disclosed information and accident related details in a Q&A format to ensure that we answer every stakeholder concern and doubt in an easy to understand fashion.

a Aiming for More Open Shareholder Meetings

NGK endeavors to hold open shareholder meetings that its shareholders will feel welcome in attending.

Since fiscal 2011, NGK is expanding the disclosure of information related to shareholder meetings, such as publishing shareholder meeting convocation notices, results of exercising voting rights and notices of resolution on the IR section of our corporate website (only in Japanese). Also, every year we introduce NGK corporate activities at the shareholder meeting with booths inside the venue displaying product exhibits explained by NGK staff. At the fiscal 2012 NAS Battery booth, we increased the number of staff able to explain the NAS Battery accidental fire that occurred in the previous fiscal year, among other enhanced shareholder support.

b Investor Presentations and Individual Visits

NGK continues to directly disclose information to institutional investors and engage them in two-way communications. Investor briefings by senior management on financial results are held in Japan twice each year for institutional investors and analysts. In addition to receiving individual visits, NGK also supports the collecting of data during visits.

In addition to this, in fiscal 2012, senior management participated in one-on-one meetings with institutional investors from Japan and overseas.

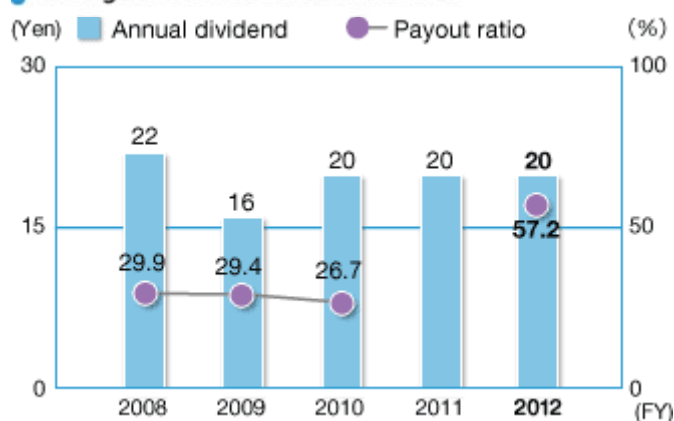
Going forward, by maintaining and expanding these initiatives, we will increase opportunities to connect with our investors.

c Measures for Returning Profits to Shareholders

NGK views the return of profits to shareholders as one of its most important management policies.

As a basic policy, we strive for shareholder-oriented management that emphasizes return on equity (ROE), and distribute the benefits of successful management after consideration of a comprehensive range of factors, including business performance and financial position, and future business development. The full-year dividend in fiscal 2012 was ¥20, with a consolidated payout ratio of 57.2%

Change in Shareholder Dividends



d Shareholders Information

Shares Information (as of March 31, 2013)

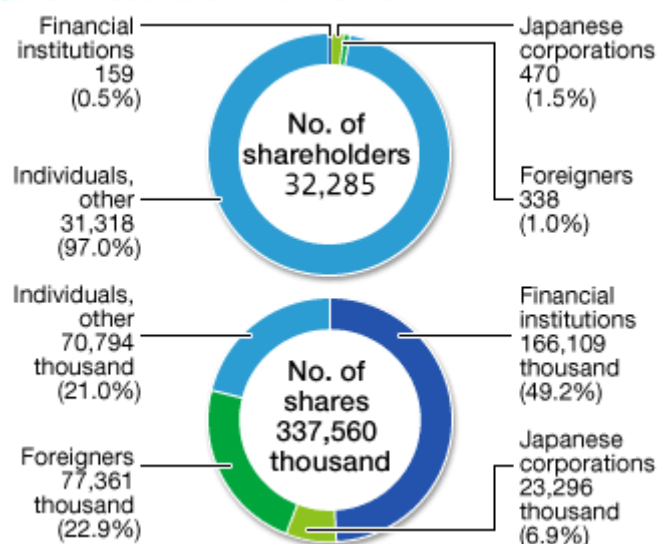
Total number of Shares authorized	735,030,000 thousand
Total number of shares issued	337,560,196 thousand
Number of shareholders	32,285

In recent years, we have upgraded and expanded the IR information available on our website in response to requests by shareholders and investors.

■ Related information

▶ [IR information](#)

Share Distribution (as of March 31, 2013)



<How to Engage in Business Activities> Disclosure of Corporate Information

To enhance management transparency, the NGK Group makes an effort to disclose information demanded by wider society in a timely and appropriate manner, including management, financial, product and service information, in order to earn society's trust.

Consistent Improvement of Internal Controls Relating to Financial Reporting

The NGK Group builds an internal control system based on directors' resolutions.

The creation and management of an Internal Controls System is facilitated by the business duty execution mechanism of the Board of Directors and President on down. The execution and status of business duties in each division is monitored by a special internal monitoring department and efforts are made to enhance the level of accuracy in assessments of efficacy, efficiency and reliability of duties performed. The Internal Controls Committee promotes an internal control reporting system based on the Financial Instruments and Exchange Act.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Work to enhance the management level in each division and to reduce the number of issues identified by audits. (NGK Group)	Issues identified by audits have been reduced through self-evaluations in each division and the monitoring of progress by the Internal Controls Committee. 1 Ongoing Reduction of Issues Identified by Internal Audits and Internal Controls	○	Reduce the number of issues identified by audits.
Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year. (NGK Group)	Raised efficiency in assessment and audit of processes that were rated favorably. 2 Raise Efficiency in Assessment and Audit of Processes	○	Raise efficiency in assessment and audit of processes that were rated favorably in the previous fiscal year.

1 Ongoing Reduction of Issues Identified by Internal Audits and Internal Controls

Each division and business unit self-evaluates its operations, with internal audits and the Internal Controls Committee verifying progress via internal control audits in an attempt to improve the level of internal controls management. These ongoing initiatives have resulted in a yearly decline in items identified by audits.

In fiscal 2012, as in the previous year, internal audits and internal controls monitoring were conducted 32 times at NGK Group companies. As a result, items not discovered at the self-evaluation stage, but that were identified by internal audits and other checks, totaled 28 items across 27 categories, a major improvement compared to 35 items in 33 categories in the previous fiscal year.

2 Raise Efficiency in Assessment and Audit of Processes

Regarding self-evaluation, internal monitoring and other processes that were rated favorably in the previous fiscal year, NGK is engaged in the reduction of operational burdens from evaluations.

In fiscal 2012, we continued our attempt to make evaluations and audits more efficient by condensing control details and conducting rotating audits as necessary.

<How to Engage in Business Activities>

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 make every effort to strengthen information security and minimize risks in business activities.

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

To realize and protect the NGK Group corporate philosophy of creating new value by providing products and technologies that contribute to a better social environment, we established the NGK Group Guidelines for Corporate Behavior and thoroughly promote awareness.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Reinforce education aiming to inculcate thorough awareness of revised NGK Group Guidelines for Corporate Behavior and newly formulated behavioral guidelines. (NGK Group)	Distributed materials during career education to inform and enlighten. 1 Making Efforts Toward Thorough Awareness of Guidelines for Corporate Behavior and Behavioral Guidelines	○	Raising Awareness of NGK Group Guidelines for Corporate Behavior and Behavioral Guidelines.

▼ Initiatives Other Than Above

a [Conducting Compliance Education in Japan and Overseas](#) (NGK Group)

1 Making Efforts Toward Thorough Awareness of Guidelines for Corporate Behavior and Behavioral Guidelines

Employees are engaged in the strict observance of Corporate Behavior Guidelines and Behavioral Guidelines for individual initiatives. In fiscal 2011, we created an awareness handbook that was distributed to all employees, including contract manufacturing employees and temporary employees, at NGK and all domestic Group companies.

In fiscal 2012, we once again distributed awareness handbooks and created an awareness worksheet summarizing the Corporate Behavioral Guidelines incorporated into the internal report distributed to all employees. We also conducted training for newly hired NGK employees to facilitate understanding of our policies and guidelines. In CSR Talk Live*, targeting Group company employees, the purpose and meaning of policies and guidelines was explained.

In overseas Group companies, we instituted regulations considering the Corporate Behavioral Guidelines in light of the special characteristics of each company and the country or region where they operate.

Going forward, we will make training easier to understand for newly hired employees and make use of opportunities to train the newly promoted in an attempt to further inculcate awareness of these policies and guidelines.

Note: For details, please see [Communication with Stakeholders](#).

a Conducting Compliance Education in Japan and Overseas

Positioning compliance as the most important initiative for enhancing reliability, the NGK Group makes an effort to educate and spread awareness with the Compliance Subcommittee under the auspices of the CSR Committee.

In fiscal 2012, as in the previous year, Legal Compliance Liaison Meetings were held six times to introduce case studies, explain legal statutes and provide career and overseas post education. This fiscal year in particular, we will increase educational opportunities and strengthen training with regard to competition laws.

At overseas Group companies, we held seminars to deepen understanding of competition laws, but we need to establish compliance education that reflects the individual needs of each company and region.

From now, we will incorporate consideration for compliance training into the planning of global business development conducted by the Group.

Compliance Education Conducted in Fiscal 2012

Name	Main Targets	Details	No. of times (Participants)
Career education	Newly hired employees	Basic CSR and compliance	1
	Mid-career hires	Basic CSR and compliance	2
	Regularly assigned employees	Basic CSR and compliance	1
	Q, R category promotion/transfers	Basic compliance	2
	Newly appointed S category	Compliance, export security management, competition law	1
	Newly appointed key personnel	Compliance, export security management, competition law	1
	Level 2 key personnel appointees	CSR and compliance	1
Overseas assignment training (Global training)	Overseas post appointees	Export security management, competition law	1
Legal/Compliance liaison meetings	Other key personnel	Nondisclosure agreement basics, latest Antimonopoly Act trends, insider trading updates, crime information and status of antisocial forces, Competition Law handbook explanation, foreign government employee bribery regulation updates	6 (approx. 1,670 people)
Competition law compliance seminar	Directors, key personnel, sales staff	Lecture by lawyers on Competition Law trends and compliance	1 (380 people) (Same theme, three venues)
Overseas Group company competition law seminar	Overseas Group companies (South Korea, United States, Europe) directors, key personnel and sales staff	Explanation by lawyers on Competition Law trends and compliance	4 (100 people)
Competition law education for sales	Sales staff	Explanation legal details and specific behavior for Competition Law compliance	11 (220 people)

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 make every effort to strengthen information security and minimize risks in business activities.

Reinforcement of the Risk Management System

The NGK Group works to enhance the level of risk management in an effort to minimize globalizing and diversifying risks in accordance with business expansion.

Potential risks associated with business operations including overseas group companies are comprehensively examined and analyzed in the course of deliberations on budgets, plans and approval for implementation by the Strategy Committee, Executive Committee and other bodies, with an eye to avoiding or preventing risks. The Central Disaster Prevention and Control Headquarters and CSR Committee are charged with responding to emergency situations arising from wind and flood damage, earthquakes, or large scale transportation-related disasters.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue to have the CSR Committee periodically confirm and follow up on the status of Company-wide risk countermeasures based on the Control Self Assessment (CSA) questionnaire. (NGK Group)	<ul style="list-style-type: none"> CSR Committee met three times, followed up on status of risk countermeasures. Conducted third CSA questionnaire targeting domestic group companies in December. <p>1 Risk Countermeasures Based on CSA Questionnaire</p>	<p>○</p> <p>○</p>	<ul style="list-style-type: none"> The CSR Committee will regularly follow-up on the status of Company-wide risk countermeasures. Conduct fourth CSA questionnaire targeting all of NGK.

▼ Initiatives Other Than Above

- a** [Strengthening Understanding of Overseas Group Company Legal Risk Management Status](#) (NGK overseas Group companies)

1 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.

a Strengthening Understanding of Overseas Group Company Legal Risk Management Status

The NGK Group is engaged in strengthening its ascertainment of legal risk management status in overseas business to minimize the globalizing and diversifying of risks associated with business expansion.

Twice a year, we ask all overseas group companies to report information pertaining to the status of lawsuits, legal affairs and consultation with lawyers, helpline usage, export controls and access to legal-related information. Major issues are reported to the Compliance Subcommittee and CSR Committee to share information.

We will continue our efforts to ascertain risk management status and check report content.

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 make every effort to strengthen information security and minimize risks in business activities.

Respect and Protection of Intellectual Property Rights

The NGK Group encourages the creation of intellectual property rights with an employee invention incentive system and intellectual property education, and works to ensure its proper acquisition and use of intellectual property rights based on a policy of respect for the intellectual property rights of others and ourselves. Our business, research and development, and intellectual property divisions collaborate closely with the goal of building a competitive patent network for the Company.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Conduct training program for managers on Chinese intellectual property issues and case studies on intellectual property strategies of other companies. (NGK)	Conducted lecture presentations for managers on Chinese intellectual property issues and case studies on the intellectual property strategies of another company. 1 Awareness Programs for Managers	○	Enhance awareness-raising programs for managers.
Continue to conduct dialog-style small group seminars for young engineers in R&D and business divisions. (NGK)	Patent Map Usage explanatory meetings were held three times and small group discussion-based seminars were held 10 times for young engineers. 2 Young Engineer Training	○	Continue to conduct small group discussion-based seminars for young engineers.

▼ Initiatives Other Than Above

a [Establishing an Employee Invention Incentive System, Encouraging Employee Inventions](#) (NGK)

1 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 Arbitrator, Shanghai Arbitration 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

2 Young Engineer Training

NGK continuously conducts presentations on patent map utilization and uses educational graphs and charts for the visualization of intellectual property information targeting mainly young engineers in research and development divisions. Since fiscal 2010, e-learning has been used Company-wide for basic education.

In fiscal 2012, presentations on patent map utilization were held three times, with a total of 11 employees taking part. 76 employees in total participated in e-learning. Furthermore, interactive -style small group seminars were held 10 times primarily for young engineers in the research and development and business divisions. This seminar was attended by 95 employees in total, who exchanged ideas on themes including patent fundamentals, how to write invention idea memos and proposal papers.

Intellectual Property Education for Young Engineers Conducted in Fiscal 2012

Name	Held	Participants	Details
Patent Map Usage Briefing	3 times	11 people	<ul style="list-style-type: none"> ▪ Instruction and practice with map-making software
Small group discussion seminar	10 times	95 people	<ul style="list-style-type: none"> ▪ Patent fundamentals ▪ Prosecution of Japanese patents ▪ How to write invention memo ▪ How to write invention proposal papers ▪ How to fill in a judgment/decision statement
e-learning	Once	76 people	<ul style="list-style-type: none"> ▪ Meaning of patent rights for company activities; What are patent rights? Requirements of patent rights.

a Establishing an Employee Invention Incentive System, Encouraging Employee Inventions.

We established an employee invention compensation system comprised of application incentives, registration incentives and performance incentives to encourage employee inventions. Performance incentives are made up of usage at NGK, licensing, transfer and cross-licensing; usage at NGK is for patents used for profitable products, with a portion of that profit distributed to the inventor.

Patents and the amount of performance incentives applicable under the performance incentive system are determined through deliberation by the Invention Incentive Committee.

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 make every effort to strengthen information security and minimize risks in business activities.

Creation and Consistent Improvement of a Framework for Information Security

To ensure the proper management and use of information assets, the NGK Group CSR Committee's Security Subcommittee takes responsibility for supervising overall information security, and supports the General Affairs and Information Systems divisions in their efforts regarding personal information and document security control, IT network security control, and other issues. The rapid evolution of information and communications technology and devices has made the quest for consistent IT security on a Group-wide level an urgent concern. In fiscal 2010, IT security was unified under a common standard within the Group. Since fiscal 2011, NGK has been advancing initiatives aimed at increasing the level of IT security.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
To complete priority countermeasures at all Group companies, NGK will continue to enhance IT security education and strengthen measures to prevent leakage of confidential information. (NGK Group)	Completed by approximately 90% of all Group companies. 1 Promoting Enhanced Group IT Security Levels	▲	Complete at all Group companies.

1 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.

Priority Countermeasures

Employee education

Encryption of emailed important file attachments

Encryption of important files managed and saved on computers and removable storage media

<How to Engage in Business Activities>

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 make every effort to strengthen information security and minimize risks in business activities.

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

The NGK Group is, as part of its compliance enhancement activities, committed to strictly and thoroughly observe business related laws and regulations such as the Anti-Monopoly Law and the Subcontractor Protection Law.

The NGK Group endeavors to eliminate unfair trade practices and to establish and maintain a fair and equal relationship with its trading partners by enhancing employee education, both in Japan and overseas to familiarize employees with the Competition Laws Compliance Rules established in FY2011.

Fiscal 2012 Highlights

- ① [Reinforcing Efforts to Observe Competition-Related Laws](#)



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Further enhance compliance with the Anti-Monopoly Act and the Subcontract Act by strengthening education to officers and employees. (Overseas group companies)	<p>Created and distributed the "Competition Law Compliance Handbook" summarizing action guidelines to be followed by all officers and employees.</p> <p>1 Reinforcing Efforts to Observe Competition-Related Laws</p> <p>2 Individual Support to Business Groups and Group Companies</p>	○	Make employees fully aware of and observe the Competition Law Compliance Handbook.
Regularly conduct competition law related seminars led by lawyers at group companies in the U.S. and Europe. (NGK Group)	<p>Conducted seminars on competition laws at group companies in South Korea, the United States and Europe.</p> <p>1 Reinforcing Efforts to Observe Competition-Related Laws</p>	○	Continue holding seminars on a regular basis.

1 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 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.



Informative Meetings for Laws and Compliance (January 2013)

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.



Competition Law Compliance Handbook

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	
Conducted	Once (same theme at three different venues)
Participants (Divisions)	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 and Europe
Participants (Divisions)	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.

2 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.

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 make every effort to strengthen information security and minimize risks in business activities.

Strict Adherence to Laws and Regulations Relating to Export Management

As a global provider of goods and services, the NGK Group develops its business on the basis of complying with the Foreign Exchange and Foreign Trade Act and other export control-related laws and regulations. In addition to establishing internal systems, each year, we train members of each business division to deepen understanding of compliance with export control-related laws and regulations in order to realize strict compliance.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Make system improvements on the security export control database introduced in April 2012 in light of actual operations. (NGK)	Improved database system. 1 Strict Implementation of Secure Screening and Export/Import Procedures	○	Raise divisions to a higher level by supporting their educational and other activities.

1 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.



Export/Import Handbook

<How to Engage in Business 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.

Maintenance and Consistent Improvement of Safe and Comfortable Working Environments

Aiming for zero industrial accidents, NGK introduced Occupational Safety and Health Management System (OSHMS) in fiscal 2007 as a mechanism for the ongoing implementation of systematic and safety and health initiatives. Since then, we have made efforts to thoroughly embed and operate this system and strengthen risk assessment.

Also, we are proactively engaged in improving the health of our employees. In recent years, we have focused on reducing long work hours and health management for employees who work long hours.

Fiscal 2012 Highlights

① [Strengthen Occupational Safety and Health Management](#)



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue comprehensive risk predictions and conduct measures focused on high-priority risk. (NGK)	Improved risk identification, but serious accident occurred. 1 Learning From Serious Accidents to Prevent Recurrence	×	Follow up at Company-wide level to ensure all risks are identified and countermeasures formulated.
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)	Company-wide 5S activities including engineering and administration. 2 Company-wide 5S Activities That Include Administrative Divisions	○	Extend Company-wide activities to get approval as a 5S workplace.
Continue health management (consultations with industrial physicians and health checks) for regular employees and key personnel who routinely work long hours. (NGK)	Continued health checks and interviews with industrial doctors for employees working long hours. 3 Promoting Interviews and Health Checks for Employees Working Long Hours	○	Ongoing implementation.

▼ Initiatives Other Than Above

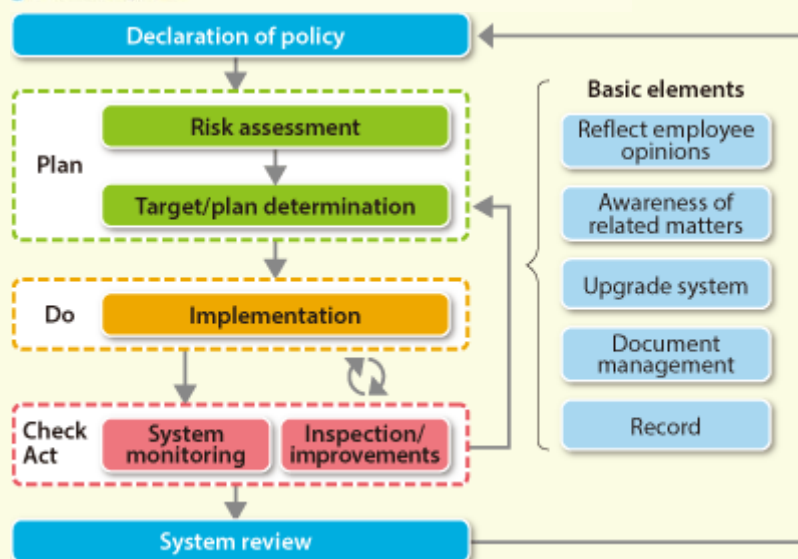
- a** [Strengthen Occupational Safety and Health Management](#) (NGK Group)
- b** [Safety and Health Education Targeting the Prevention of Workplace Accidents](#) (NGK)
- c** [Extension of Activities Supporting Mental and Physical Health](#) (NGK)
- d** [Respect for Human Rights and Thorough Prevention of Harassment](#) (NGK)
- e** [Proactive Exchange of Opinions Among Labor-Management Regarding Management Issues and Welfare](#) (NGK)

a 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.

PDCA Cycle



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.

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

1 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

2 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.

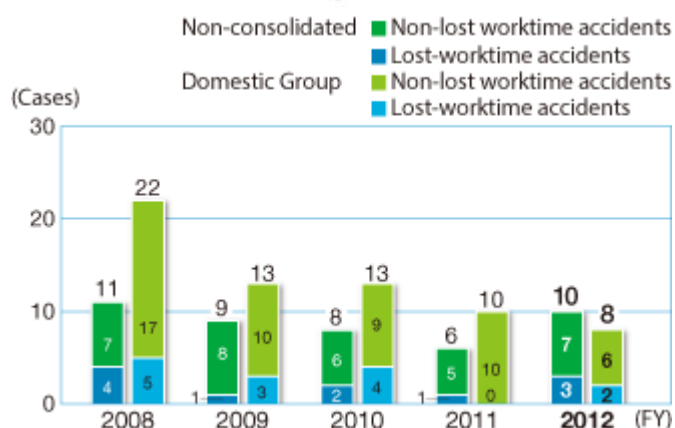
* Sort, Set in order, Shine, Standardize and Sustain the workplace.

3 Promoting Interviews and Health Checks for Employees Working Long Hours

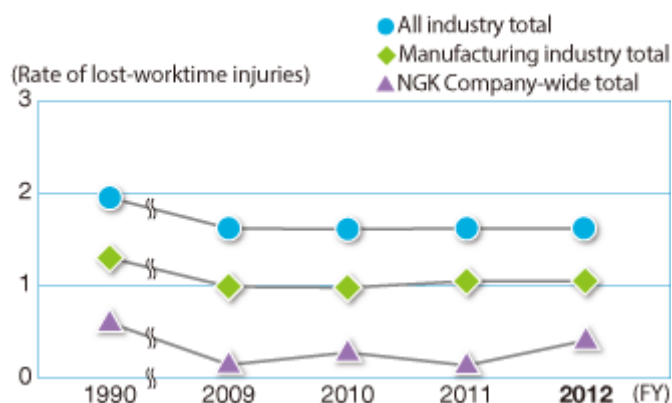
NGK regular employees working long hours are provided with health checks and interviews with an industrial doctor. Since April 2011, key personnel (management) have also been included in these initiatives.

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.

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.

$$\text{Rate of lost-worktime injuries} = \frac{\text{No. of lost-worktime injuries}}{\text{Total actual working hours}} \times 1,000,000 \text{ hours}$$

b Safety and Health Education Targeting the Prevention of Workplace Accidents

NGK is engaged in efforts to raise awareness of occupational safety and health among employees in a push to enhance levels of safety and health.

Once again in fiscal 2012, NGK conducted position-based Safety and Health Education, from regular employees to management staff, focusing on the prevention of occupational accidents, health maintenance and traffic safety. Since last fiscal year, we have continued to institute experiential safety education for new hires through an external training program. Attempting to improve awareness regarding the observance of rules and accident prevention, participants experience firsthand the importance of safety by envisioning workplace dangers such as getting caught in machinery, smashing fingers, falling from high places and electric shocks.

In fiscal 2013, we will continue these educational initiatives and place emphasis on residual risk education and operational level certification in an attempt to improve Company-wide safety and health awareness.

c Extention of Activities Supporting Mental and Physical Health

NGK has always emphasized the importance of promoting the health, both physical and mental, of its employees.

The medical status of employees working long hours and the condition of those who need medical treatment are reported at monthly Safety and Health Committee meetings held at each site in an effort to thoroughly promote the management of overtime work. We also conduct position-based education to enhance knowledge about mental healthcare. Again in fiscal 2012, we provided education for new hires, regular employees and key personnel totaling 478 people. The education of key personnel focused on practical study, including learning from traditional teaching materials, practicing mental responses in the workplace and practicing methods of listening closely and self-reliance.

To promote a smooth return to work, NGK gives consideration to employees on sick leave, providing systems such as starting back to work on a half-day basis, gradually increasing to regular work hours after consultation with an industrial physician, enabling employees to devote their full attention to recovery with peace of mind.

Also, in consideration of the various stress-inducing aspects of overseas postings, such as climates, cultures and environments that differ from Japan, NGK makes an effort to provide health consultations focused on mental healthcare. In fiscal 2012, medical exams and interviews were conducted mainly in China.

We also provide care for the minds and bodies of all our employees at Group companies in Japan and overseas, in accordance with policies recommended by the Ministry of Health, Labour and Welfare.

We will continue these activities in fiscal 2013.

Mental Healthcare in Fiscal 2012 (domestic, non-consolidated)

Target Divisions/Employees	Conducted (times)	Participants	Main Themes/Details
regular employees (among which are section chiefs)	4 2	218 67	Mental fundamentals (self) Self + line care
New hires	1	104	Mental fundamentals
Key personnel (among which are general managers)	2 1	63 26	General mental knowledge Overall mental education

d Respect for Human Rights and Thorough Prevention of Harassment

The NGK Group prohibits harassing behavior (for example, sexual harassment or power harassment) by employees, which is injurious to individual dignity and interferes with workplace order and business execution, and takes disciplinary action in response to any violations.

We conduct lectures and position-based training to prevent harassment. In terms of position-based training, general managers, newly appointed managers, newly appointed section heads and managers and other general positions received thorough awareness training corresponding to their position. In fiscal 2012, we conducted training for group managers and newly-appointed key personnel and section chiefs on the management of labor and workplace rules and systems.

We also provide a helpline for inquiries and reports about harassment in the workplace.

e Proactive Exchange of Opinions Among Labor-Management Regarding Management Issues and Welfare

NGK is building labor-management relations founded on mutual trust. Through communication with various consultative bodies, such as the Labor-Management Advisory Board, the Office Advisory Board and the Regular Labor-Management Council, both sides actively and constructively exchange opinions based on a mutual relationship of trust.

Opinions are exchanged among labor and management on corporate management issues by the Labor-Management Advisory Board, on production systems, working system and other shared labor-management issues by the Office Advisory Board, as well as on initiatives to address overall working hour issues and promote the utilization of paid leave by the Regular Labor-Management Council.



The Labor-Management Advisory Board
(February 2013)

Main Themes and Issues Opened Up For Discussion in Fiscal 2012

	Details
Labor-Management Advisory Board	(From company) business reports, performance explanations (Q&A) Future plans for each business, streamlining operations, company policies on overseas business and safety management
Office Advisory Board	Improving degree of satisfaction with welfare services, initiatives aimed at improving commutes and parking lots
Regular Labor-Management Council	Systems introduction and review, results of a union member awareness survey

<How to Engage in Business 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.

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

NGK considers people to be its most critical resource, and we devote our energies to developing the next generation of employees, while respecting their desire to improve and their motivation. In recent years, NGK has concentrated efforts on the enhancement of language training in line with globalization of the business environment, as well as the education of talented employees for management positions.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Consider and conduct detailed training programs as needed. (NGK)	Conducted systematic human resource development in four areas (management, manufacturing, global and business skills). 1 Systematic Cultivation of Management, Manufacturing and Global Human Resources	○	Optimize training by considering the needs of divisions and participants.
Support activities of employees who completed in-house instructor training. NGK will expand and continue the worksite leader training. (NGK Group)	Supported activities to complete training of 13 in-house instructors, conducted training for 26 newly appointed worksite leaders. 2 Strengthening the Training of Onsite Leaders	○	Systematic training aimed at strengthening on-site capabilities.
Continue to conduct language training for new employees, cultivate practical English abilities and attempt to bring TOEIC scores up to 600 points or higher. (NGK)	70% of new hires scored 600 or higher on the TOEIC. 3 70% of New Hires Score 600 or Higher on the TOEIC Within First Year of Employment	×	Ongoing language training (Goal: 80% of new hires score 600 or higher on the TOEIC).

▼ Initiatives Other Than Above

a [Cultivate Global Human Resources, Conduct Practical Overseas Training](#) (NGK)

1 Systematic Cultivation of Management, Manufacturing and Global Human Resources

NGK is engaged in systematic human resources training covering four areas (management training, manufacturing, global education and business skills) based on training conducted at each juncture of an employee's career, such as when joining the company or receiving a promotion. Other than compulsory level-based training, we conduct functional training, introducing selective education aimed at creating leaders and training subjects selected by participants based on title and position.

In fiscal 2012, we conducted management training for a total of more than 300 participants, focusing on training for Group managers and the supervisors of young employees.

In terms of manufacturing training, over 1,600 participants attended training aimed at strengthening on-site capabilities and supervisor education. Over 600 employees participated in global training, which included cross-cultural communication and business skills, in addition to foreign language study.

Also, with the aim of providing management training able to respond to an increasingly complex and fast-paced business environment, we introduced upper management training as selective training for key personnel (management staff) and innovation training for mid-level engineers and sales staff aimed at mastering idea-generating techniques as one fundamental skill for creating new products and businesses.

At present, since expanding position-based training across the board, we are planning to optimize training by considering not only the needs of the company, but also the needs of divisions and participants.



2 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.

3 70% of New Hires Score 600 or Higher on the TOEIC Within First Year of Employment

As part of NGK's global education efforts, since fiscal 2011 we have conducted English training for new employees with the goal of scoring 600 or higher on the TOEIC within the first year of employment after graduating university or graduate school.

In fiscal 2012, all 59 new hires graduated from university and graduate school were provided with two five-day intensive English language training sessions and seven full-day group training sessions held monthly, for a total of 17 days of language training. The practical sessions focused on fundamentals such as grammar and listening, English language manners in the workplace and English presentation and discussion skills. To make the training more effective, classes organized by level were conducted as needed, and were followed-up with weekly topics and monthly telephone practice. As of March 31, 2012, approximately 70% of new hires had scored 600 or higher on the TOEIC.

In fiscal 2013, we continued to provide English instruction to improve practical English ability, and will attempt to increase motivation by conducting awareness training at the beginning and middle of training.

a Cultivate Global Human Resources, Conduct Practical Overseas Training

Since fiscal 2012, we have conducted practical overseas internships (trainees) with the aim of cultivating human resources competent at global business.

In fiscal 2012, eight employees were nominated from divisions and sent to Group companies in the United States, Belgium, China and Mexico. For two months of their half-year stay, trainees underwent intensive language training, enhancing their language ability and business skills by progressing toward various goals established for practical training at each site.

Of the 32 employees who participated in training during fiscal 2012, 17 had already been posted overseas and were making use of language skills developed in training, the ability to communicate with different cultures and business skills. The remaining 15 employees made use of their preparation and training on daily overseas operations, overseas business trips and other practical skills.

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.

Utilization of Diverse Human Resources

It is NGK Group basic policy to recruit human resources and offer stable employment and equal opportunities regardless of race, nationality, belief, gender, or disability. Also, in an aim to promote autonomy and independence, NGK maintains the human resource systems necessary to provide employees with fair compensation commensurate with their degree of contribution to the company.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Achieve the legally mandated ratio of employees with disabilities during fiscal 2013 in an attempt to halve the number of deficient staff. (NGK)	Achieved the 1.8% legally mandated ratio (1.91%). 1 Employment of People With Disabilities Surpasses Legally Mandated Ratio	○	Raise to 2.0% in accordance with revised legally mandated ratio requirement.
Invite employees that have transferred to career-track positions to lecture at a roundtable career plan discussion for general employment. (NGK)	13 employees participated in career plan roundtable discussions. 2 Ongoing Promotion of Use of System for Transferring to General Employment Jobs	○	Continue to promote use of system for transferring to general employment jobs.

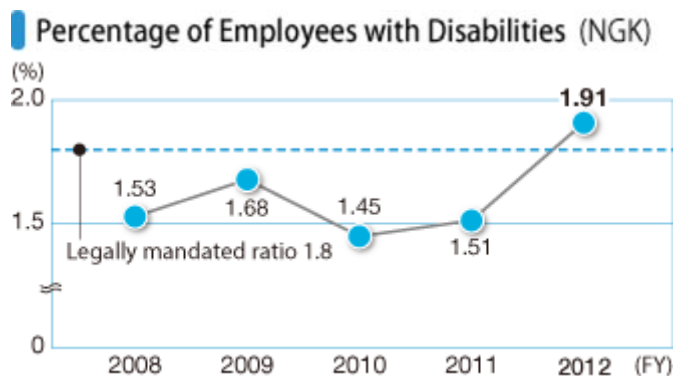
▼ Initiatives Other Than Above

- a** [Ongoing Expansion of Employment and Positions for Women as a Company Promoting Women's Activities](#) (NGK)
- b** [Two Systems for Making Use of Employee Individuality and Skills](#) (NGK)
- c** [Extending Transfers to Regular Employment and Double Promotions to Contract Manufacturing Employees](#) (NGK)
- d** [Management of Follow-up System to Fit Young Employees in the Workplace](#) (NGK)
- e** [Updating System for Rehiring Employees to Include Half-Time Employment Option](#) (NGK)

1 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.



2 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)

a 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.



City of Nagoya Women's Activities Promotion certification logo

b 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 career track 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 (People)	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

c 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.

Transfers from Contract Manufacturing Worker to Regular Employee

Fiscal year	2008	2009	2010	2011	2012
Transfers to regular employee	78	15	14	23	17

Double Promotions

Fiscal year	2008	2009	2010	2011	2012
Transfers to regular employee	-	-	11	11	11

d 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.

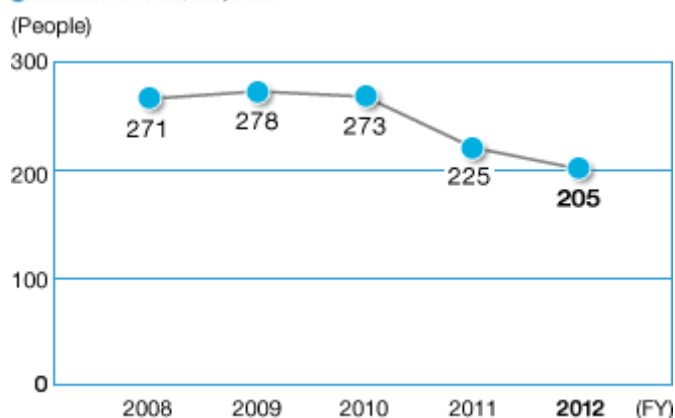
During fiscal 2012 interviews, we received various requests such as countermeasures against heat, building earthquake reinforcement and employee dormitory improvements, and we followed-up on these requests by asking each division to improve and explain countermeasures. For the past three years, the unemployment 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.

e 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.

Rehired Employees



<How to Engage in Business 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.

Support for Better Balance between Work and Home Life/Childrearing

NGK is engaged in the creation of an environment that supports employees at work and at home. With regard to childrearing in particular, we strengthened the pillar of our support measures, consideration for working hours and economic support, and strive to further expand these measures. We are also making efforts toward thorough awareness and compliance with the formulation of eight rules that should be followed, initiatives promoting a work-life balance and, through cooperation between labor and management, the curtailment of employees required to work long-hours.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Thorough observance of working hours rules in an attempt to prevent health issues and promote work-life balance. (NGK)	Rules for managers were thoroughly observed. 1 Promoting Work-Life Balance with Eight Rules Pertaining to Working Hours	○	Thorough observance of rules regarding working hours.
Establish for handling inquiries on system utilization in an attempt to inculcate awareness of work-life balance support system. (NGK)	Expanded and increased use of systems offering shorter working hours for employees raising children. 2 Increasing Use of Expanded Childrearing Support Measures	○	Increase use of expanded childrearing support measures.

▼ Initiatives Other Than Above

a [Certified by the Ministry of Health, Labour and Welfare as a Company Supporting Childcare](#) (NGK)

1 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.

2 Increasing Use of Expanded Childrearing Support Measures

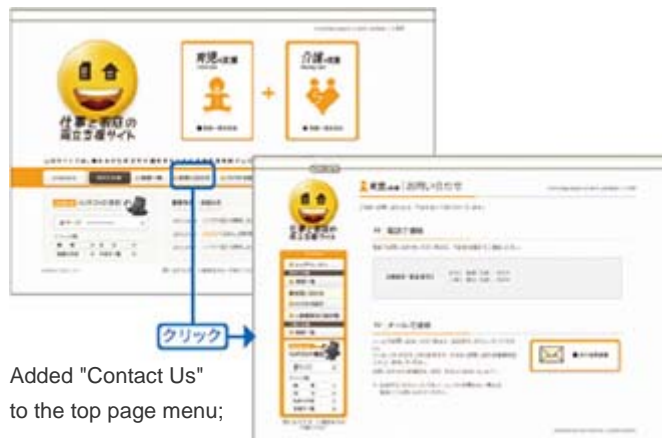
In 2010, NGK established new rules related to childrearing. We also expanded core measures supporting childcare from the perspective of contribution to working hours and expanded financial support. In terms of time, we established a half-day paid leave system and shortened working hours. From an economic 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.

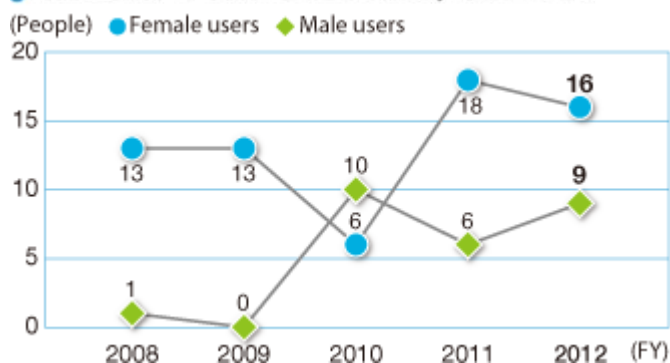
NGK works continuously to improve the workplace environment in support of work-life balance.



Added "Contact Us" to the top page menu;

Facilitating consultation by email or telephone

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)

System	Details	Number of Users (Fiscal 2012)
Leave before/after childbirth	Paid leave six weeks before childbirth, eight weeks after childbirth	14
Child care leave	Paid leave until the last day of the month in which the child turns one year old (Possible to extend if child does not go to preschool or daycare)	25 (of which nine were male)
Shortened working hours while raising children	Until April when the child begins fourth grade, employees can choose to work six or seven hour days.	33 (of which zero were male)
Half-day paid leave while raising children	Half-day paid leave, can be used 14 times (seven days total)	Total 6,632
Maternity gift payment	¥50,000 yen gift payment per child (from the Families Fund)	156
Gift payment at start of elementary school	¥50,000 yen gift payment per child (from the Families Fund)	106
Babysitter expense subsidy	Subsidy of up to ¥100,000 per year for babysitter expenses (including preschools, etc.) up to March 31 of third year in elementary school.	19
Priority parking spaces	Priority parking lot created in Nagoya for employees caring for small children (parking lot spaces are usually determined by lottery)	10

a 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.



Kurumin mark

Implementation of Fair, Free and Transparent Transactions

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.

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

The entire NGK Group promotes CSR procurement, which gives priority to employing suppliers with the same amount of consideration for the importance of CSR as the NGK Group, as well as green procurement, which gives priority to purchasing products and services with low environmental impact amid increasing societal demand for the realization of corporate CSR activities as overall supply chain activities.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Select/maintain suppliers based on fair and honest evaluation. (NGK Group)	Conducted visits/evaluations at major supplier facilities. 1 Selecting Suppliers Based on Fair and Honest Evaluation	○	Conduct evaluations on 10% of all suppliers.
Ensure multiple suppliers for important materials. (NGK Group)	Promoted multiple suppliers, secured stock of items supplied by a single source. 2 Promoting BCP Countermeasures Through the Multiple Procurement of Important Purchases	○	Ongoing promotion.

1 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.

2 Promoting BCP Countermeasures Through the Multiple Procurement of Important Purchases

After establishing transactions with a supplier, we regularly conduct buyer rotation with regard to procurement to avoid supplier immobilization and promote fluidization.

Furthermore, to ensure procurement continues even in the event of a natural disaster or other unforeseen circumstance, NGK promotes the search and purchase of materials, equipment, submaterials and other important items from multiple suppliers as a BCP countermeasure. We are securing stock of items supplied by a single source and considering relocating some storage facilities to safer locations in light of tsunami damage.

<How to Engage in Business Activities>

Implementation of Fair, Free and Transparent Transactions

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.

Promotion of CSR Procurement

The entire NGK Group promotes CSR procurement, which gives priority to employing suppliers with the same amount of consideration for the importance of CSR as the NGK Group, as well as green procurement, which gives priority to purchasing products and services with low environmental impact amid increasing societal demand for the realization of corporate CSR activities as overall supply chain activities.

Fiscal 2012 Highlights

1 In Response to Societal Demands on Procurement Activities



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Group-wide CSR Procurement In light of the results of a CSR procurement survey, we will revise our CSR procurement questionnaire. We will also change which suppliers are to be included.	In light of the results of a CSR procurement survey, we confirmed the efforts of unsatisfactory suppliers. 1 In Response to Societal Demands on Procurement Activities	○	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.
NGK Green Procurement Target all suppliers for certification and expand purchases from certified suppliers to 95%.	97% of purchases were from certified suppliers. 1 In Response to Societal Demands on Procurement Activities	○	
Group Company Green Procurement Expand purchases from certified suppliers to 60%.	61% of purchases were from green certified suppliers. 1 In Response to Societal Demands on Procurement Activities	○	

1 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

CSR Procurement Guidelines Diffusion/Expansion Roadmap From fiscal 2013 onward



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.

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.

[NGK Group's Supply-Chain CSR Guidelines \(Japanese\)](#)(PDF:371KB)

[NGK Group's Supply-Chain CSR Guidelines \(English\)](#)(PDF:162KB)

[NGK Group's Supply-Chain CSR Guidelines \(Chinese\)](#)(PDF:273KB)

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.

[NGK Group's Green Procurement Guideline \(Japanese\)](#)(PDF:672KB)

[NGK Group's Green Procurement Guideline \(English\)](#)(PDF:483KB)

[NGK Group's Green Procurement Guideline \(Chinese\)](#)(PDF:365KB)

Preservation of Global Environment

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.

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.

Environmental Philosophy

NGK's positive approach to the environment begins with its basic corporate philosophy: "NGK products and technologies must create new value and contribute to the quality of life." In particular, we focus on the "Triple-E" areas of Ecology, Electronics, and Energy. Through our work in these areas, we seek to develop solutions to some of the critical challenges facing the next generation.

Environmental Action Guidelines

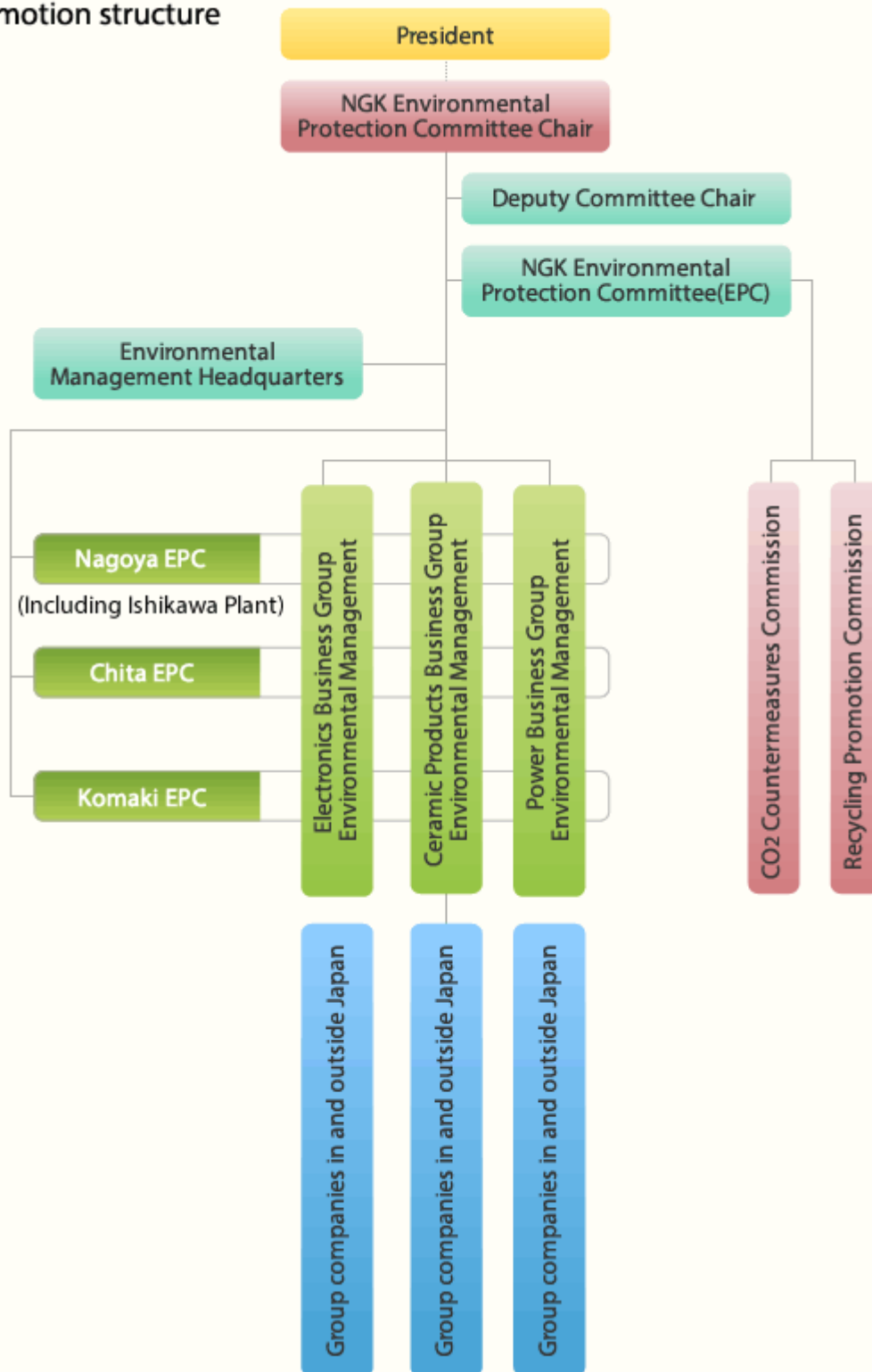
1. Strive toward the development, design, and manufacture of products that are environmentally friendly, and that have a low impact on the environment.
2. Work toward decreasing the environmental impact of our business activities.
3. Enhance environmental management systems from a global viewpoint, and implement continuous reforms in order to reduce the impact on the environment.
4. Strictly adhere to laws, regulations, and other requirements pertaining to the environment. Furthermore, establish voluntary standards, and work toward increased environmental conservation.
5. Disclose environmental information to outside the Company, and continue discussions with all interested parties. Actively develop community relations activities. Furthermore, carry out training and publicity activities in order to increase employee awareness of environmental issues.

Consolidated Environmental Management Promotion System

In addition to environmental management systems at NGK's Nagoya, Chita and Komaki sites, we promote consolidated environmental management through a consolidated management system that includes domestic and overseas Group company business divisions as activity leaders.

One feature of this business division-based environmental management system is that it enables the Groupwide promotion of environmental management initiatives regarding issues such as curbing CO₂ and by-product emissions and strengthening chemical substance management. Going forward, NGK plans further enhancements.

Promotion structure



History of NGK's Environmental Activities

April 1972	Environmental Protection Committee and Environmental Preservation Office (currently, Environmental & Quality Management Dept.) established
June 1992	Waste Countermeasures Commission established
March 1993	NGK's Voluntary Plan for Environmental Conservation established
December 1994	Chlorofluorocarbons (CFCs) and 1,1,1-trichloroethane abolished
February 1995	Internal environmental audit conducted
April 1996	NGK's Core Policy on the Environment established
December 1996	CO ₂ Countermeasures Commission established
March 1998	NGK's three production bases (Nagoya, Chita and Komaki) simultaneously received ISO 14001 certification
March 1999	Environmental Report published
April 1999	Environmental accounting introduced
October 1999	Green Purchasing Commission established
November 1999	Environmental surveys of domestic group companies started
February 2000	Environmental Partnership Organizing Club (EPOC) established and active participation therein begun
October 2000	Chemical Substances Safety Committee established; Chemical Substances Management System introduced
March 2001	First Five-year Environmental Action Plan established
April 2001	Compilation of environmental performance data for domestic Group companies started
October 2001	Operating of Recycling Yard begun
January 2002	Compilation of environmental performance data for overseas Group companies started
April 2002	New "Green Management" three-year management plan instituted
April 2003	Moves made toward a full business group environmental management system; "Waste Countermeasures Commission" renamed "Recycling Promotion Commission."
March 2004	Three-year and long-term plans for reduction of CO ₂ emissions instituted
March 2005	Company-wide medium-term plan for the reduction in by-products established
April 2005	Environmental Action Guidelines revised; Green Procurement Guidelines revised
October 2005	Third-party review of environmental performance begun
April 2006	Second Five-year Environmental Action Plan established
September 2006	Initiate an environmental audit of overseas group companies
May 2007	Introduction of a consolidated goal for CO ₂ and by-products for domestic Group companies
April 2008	Establishment of the Environmental Management Department
January 2009	Introduction of goals to reduce CO ₂ , by-products, and chemical substances for overseas Group companies
January 2010	Expanded scope of goals to reduce CO ₂ , by-products, and chemical substances for overseas Group companies
April 2011	Formulation of the third 5-year Environmental Action Plan
March 2012	Three NGK sites (Nagoya, Chita and Komaki) received integrated ISO 14001 certification
March 2013	The Ishikawa site received ISO 14001 certification (joint certification with three NGK sites)

Preservation of Global Environment

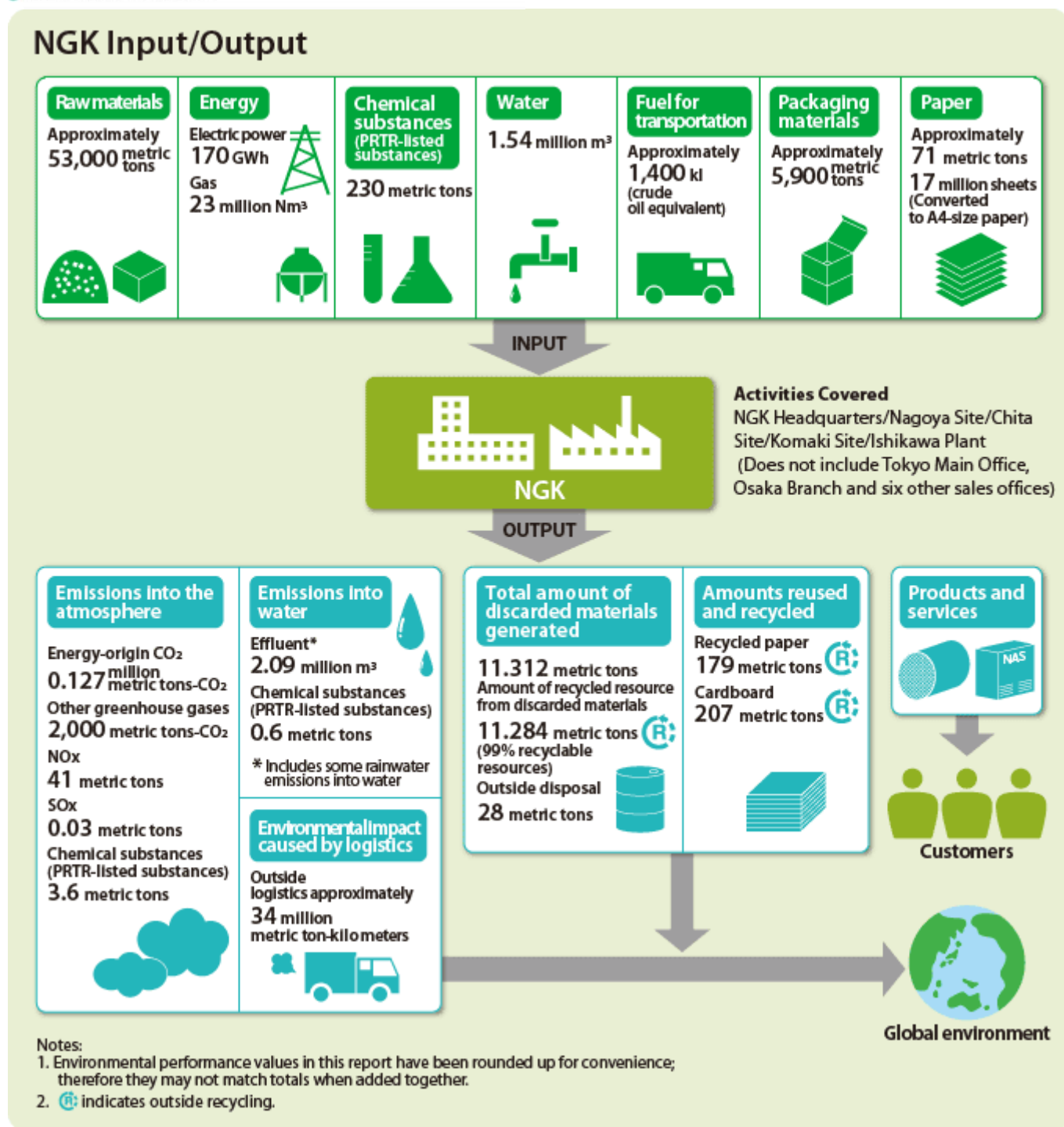
The NGK Group engaged in ongoing environmental conservation efforts by improving manufacturing processes through the development and introduction of innovative manufacturing technology that reduces environmental impact.

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



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 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	○	Create standards for efficient usage

				domestic Group company water 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.

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)
Non-consolidated	NGK
Domestic	NGK and Group companies (12 manufacturing-related consolidated subsidiaries)
Overseas	Overseas Group companies (17 manufacturing-related consolidated subsidiaries)

Preservation of Global Environment

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.

Environmental Management System Initiatives

The NGK Insulators Group promotes the acquisition of ISO 14001 certification or certification that conforms with ISO 14001 in order to continuously and systematically develop environmental conservation activities in accordance with its Core Policy on the Environment. In addition to NGK Insulators' three plants and the Ishikawa Plant, all 12 companies and 15 sites of the domestic Group companies and 16 sites among the 17 overseas Group companies had obtained certification. NGK plans on acquiring certification at NGK Ceramics Mexico, which began production in fiscal 2011, and making further effective use of these environmental management systems to enhance consolidated environmental management.

▶ [Click here for ISO 14001 Certification Status](#)

Environmental Audits

At NGK again in fiscal 2012, the Nagoya, Chita, and Komaki sites underwent internal environmental system audits and third party surveillance. No significant points of note were made. In addition, the accuracy of greenhouse gas (GHG) related data is being independently verified by the Deloitte Tohmatsu Evaluation and Certification Organization Co., Ltd. to increase the credibility of the report's data on greenhouse gas emissions.

We conduct internal audits and surveillance on environmental management systems at Group companies similar to what is conducted at NGK.

Environmental Risk Management

In accordance with the Core Policy on the Environment, in addition to working to prevent environmental pollution including air and water pollution, NGK Insulators periodically revises its environmental management system and strives to prevent accidents. The company is also conducting emergency response training and making every effort to prepare for the unlikely event of an accident.

Regulatory Compliance

In accordance with the Core Policy on the Environment, in addition to observing relevant regulations and agreements with control authorities, NGK Insulators has concluded pollution control agreements with the municipalities where its plants are located and is striving to prevent environmental pollution by voluntarily adhering to standards that are stricter than required by regulations. Also in FY2012, no significant regulatory transgressions occurred.

Emergency Response Training

NGK Insulators conducts training in accordance with its annual plan to anticipate possible emergencies and keep any resultant pollution to a minimum. Using NGK as an example, in fiscal 2012, the company conducted emergency response training in preparation for situations such as water and chemical treatment plant malfunctions and photochemical smog.

Education and Development

In order to protect the environment, it is crucial that each employee deepen their understanding of environmental issues and take conscious action toward its preservation. In line with the Core Policy on the Environment, which includes education and publicity activities to improve employees' environmental awareness in its Action Guidelines, NGK Insulators conducts various ongoing environmental education and development activities.

Environmental Education

In addition to environmental management system education to inculcate an understanding of the contents and goals of the NGK environmental policy, "Environment Cards" are distributed to all employees. The cards encourage environmental activities by providing space on the back for employees to write down their own environmental slogan and grade their own environmental activities. Furthermore, we hold seminars led by lecturers invited from companies conducting advanced initiatives in an effort to improve environmental awareness among employees.

NGK also conducts advanced environmental education targeting environmental management-related personnel. In fiscal 2012, we invited visiting lecturers to hold presentations in March. Attendees learned about the importance of risk management through a summary of environment-related laws and explanations of case studies on legal violations.

Promotion of Qualification Acquisition

In order to continuously improve environmental conservation activities in accordance with the Core Policy on the Environment, NGK Insulators is striving to train the qualified persons as required by law necessary for the operation of each plant, including pollution control managers, energy managers, and licensed environmental measurers.

Preservation of Global Environment

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.

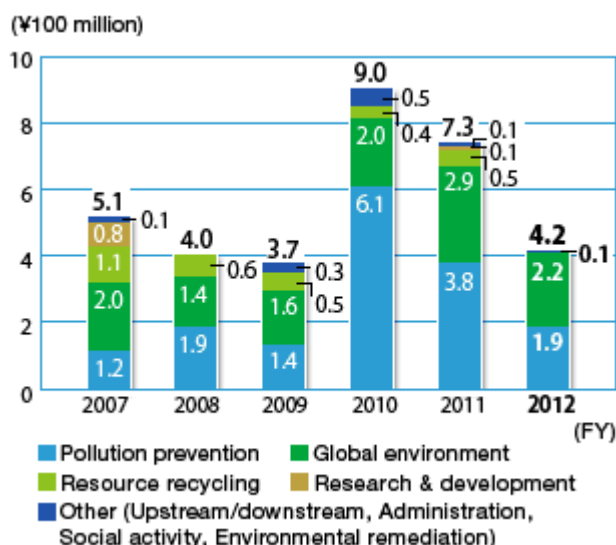
Environmental Accounting

As an important index of environmental management, NGK Insulators has begun conducting environmental accounting and announcing the results. In addition to announcing the costs of environmental conservation (capital investment + expenses), the economic benefits of environmental accounting, and the cost effectiveness of environmental accounting since FY2007, information on the eco-efficiency of CO₂ and discarded materials has been added.

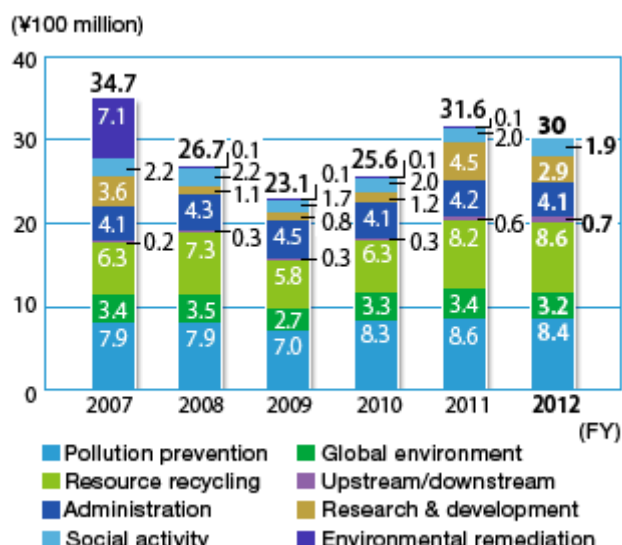
Moreover, figures in the graph below have been rounded up for convenience; therefore they may not match totals when added together.

Environmental accounting - Costs (domestic consolidated)

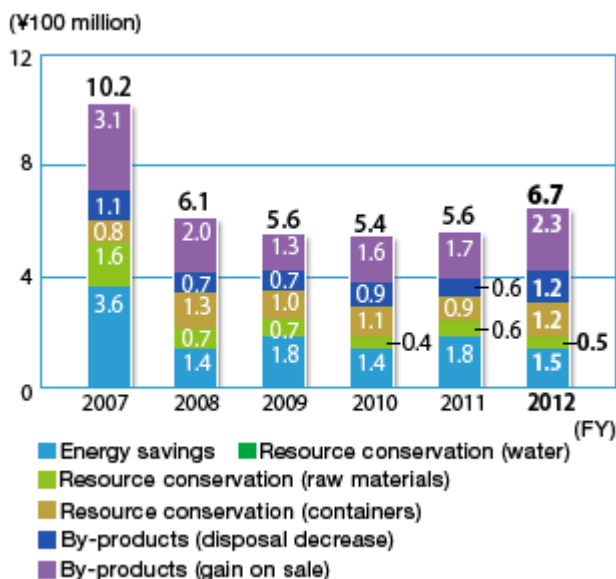
Capital Investment



Expenditures



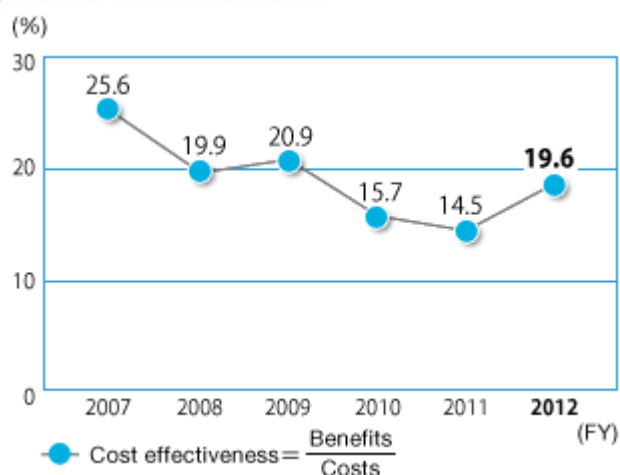
Environmental accounting - Economic benefits



* Unit costs for energy, water and discarded materials disposal use baseline figures from 2001.

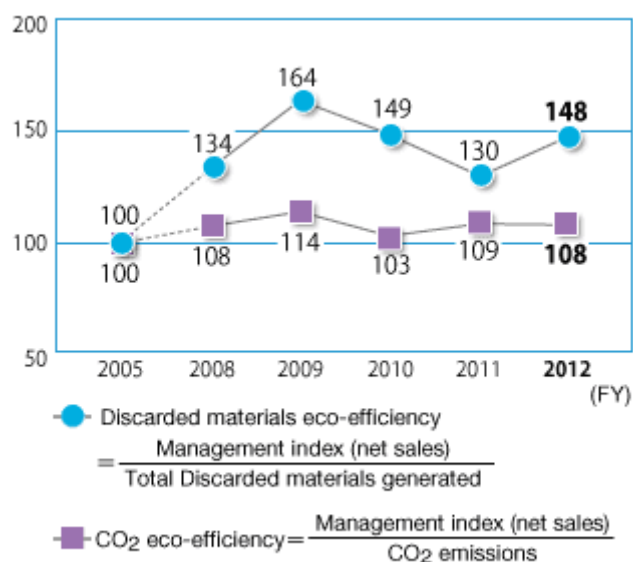
* Cost increases have not been offset.

Environmental accounting - Cost effectiveness (domestic consolidated)



* Due to errors in tabulation, data from FY2010 has been revised.

Eco-efficiency (domestic consolidated)



* Presented as an index with fiscal 2005 as 100

Aggregate Results

Environmental conservation costs on a domestic consolidated basis in FY2012 came to ¥420 million in capital investment and ¥3.00 billion in expenses for a total of ¥3.42 billion; a decrease of ¥470 million from FY2011. The direct economic benefits of environmental conservation measures on a domestic consolidated basis were ¥670 million, an increase of ¥110 million from FY2011. Cost effectiveness was 19.6%, up 5.1 points from FY2010.

CO₂ eco-efficiency on a domestic consolidated basis (net sales/CO₂ emissions) was 108, a decrease of 1 point from FY2011; discarded materials eco-efficiency (net sales/total discarded materials generated) was 148, an increase of 18 points from FY2011.

Preservation of Global Environment

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.

Prevention of Global Warming

From fiscal 2011, we established reduction targets for CO₂ emissions, one cause of global warming, in new overseas manufacturing activities. Overseas Group companies and all NGK Group companies promote initiatives to control and reduce CO₂ emissions.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Curb CO₂ 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)	Curbed CO₂ 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) 1 Domestic CO₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas	✕	Curb CO₂ emissions. 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

1 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 ^{*1} 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.

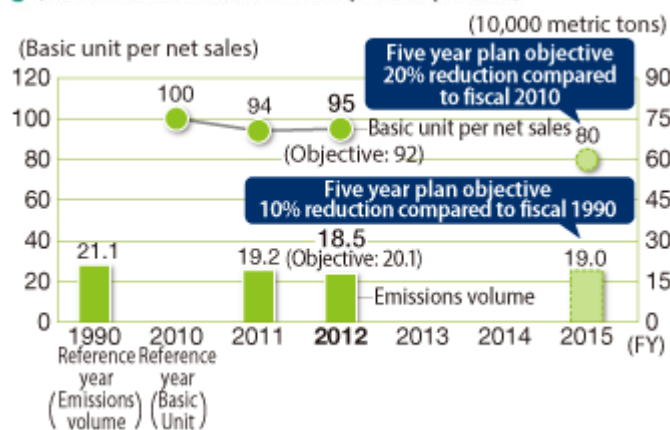
Although measures conducted overseas resulted in the reduction of 12,000 metric tons of CO₂, the basic unit per net sales increased 8% compared to fiscal 2010, falling short of its 2% reduction objective. The impact from increased production of ceramic products for large exhaust gas purifying equipment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

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

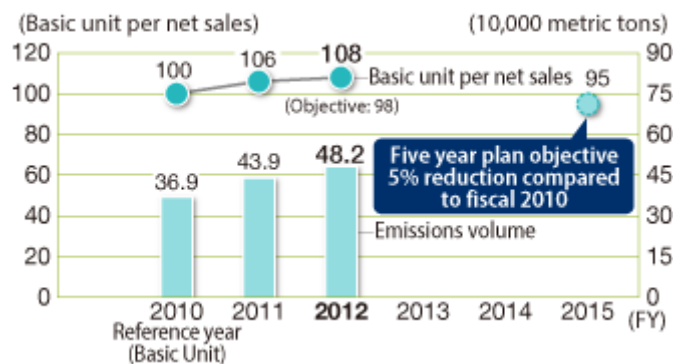
^{*1} CO₂ conversion factors (kg-CO₂/unit) used in calculating CO₂ emissions are as follows: Units are indicated in parentheses. Purchased electric power (kWh): 0.42 Fuel oil (L): 2.677 Diesel fuel (L): 2.64 Kerosene (L): 2.49 City gas (Nm³): 2.347 LPG (kg): 3.007 LNG (Kg), 2.70 Gasoline (L): 2.322

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).

CO2 Emissions/Basic Unit Per Net Sales*2 (NGK and Domestic Group Companies)



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



*2 Basic unit per net sales calculated as 100 in fiscal 2010

<As a Member of Society>

Preservation of Global Environment

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.

Adoption of Environmentally Friendly Production Processes

Through the introduction of highly-efficient equipment and the promotion of the collection and use of exhaust heat and improved production efficiency, NGK makes efforts to reduce environmental impact resulting from production. Also, our structural innovation in manufacturing aimed at enhancing competitiveness significantly contributes to the realization of eco-processes.

Fiscal 2012 Highlights

- ① [Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants \(UN CDM registered project\)](#)



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Attempt to develop global standards for CO ₂ reduction measures and promote the introduction of eco-processes. (NGK)	Process improvements implemented in Japan developed overseas. ① Manufacturing Efficiency to Realize Eco-Processes	○	Promote the development of innovative process technologies for overseas locations.
Implement energy conservation measures for boilers. Also, conduct energy conservation diagnostics by creating an air conditioning equipment energy conservation checklist to be used for inspections in each division. (NGK Group)	Thoroughly implemented boiler and compressor energy conservation measures and improved operation of air conditioning and lighting. ② Expanding Initiatives to Curb CO₂ Emissions	○	Develop NGK energy-efficiency measures for general-purpose equipment at Group companies.

▼ Initiatives Other Than Above

- a [Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants \(UN CDM Registered Project\)](#) (NGK Group)

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

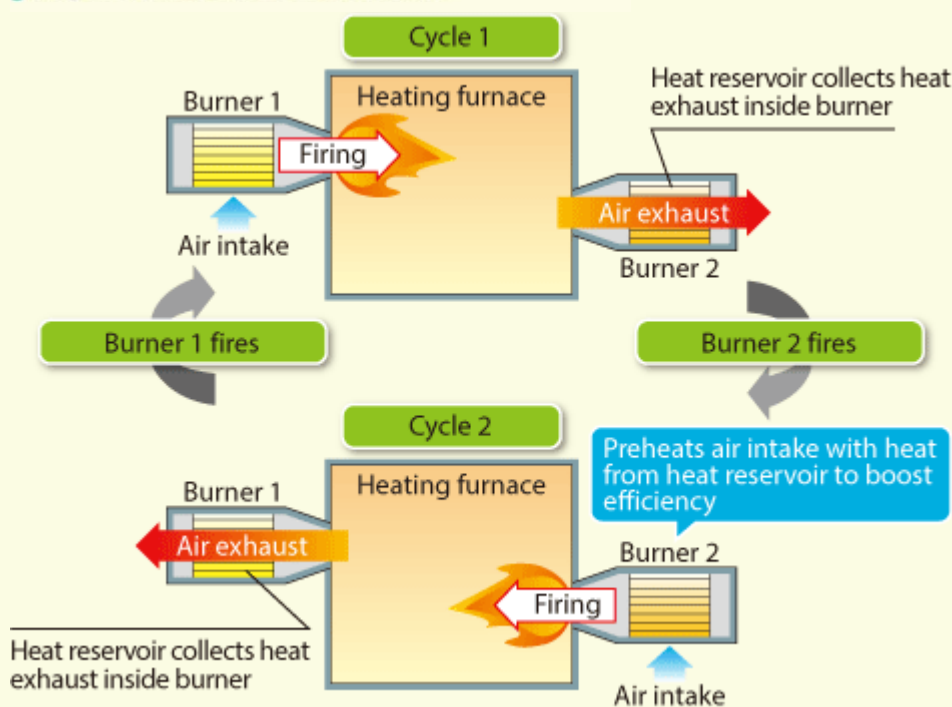
2012 Introduction of Regenerative Burners in Mexico Approved as CDM

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.

Regenerative Burner Mechanism



Traditional burners vent directly outside furnace, but regenerative burners collect exhaust heat with internal heat reservoirs, preheating the furnace air and enabling.

■ 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 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.

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



NGK CERAMICS MEXICO



NGK CERAMICS INDONESIA

1 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.

2 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* 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.

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

<As a Member of Society>

Preservation of Global Environment

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.

Promotion of Resource Recycling

To boost yield from manufacturing process improvements, NGK reuses in-process materials in an effort to curb discarded materials while focusing energy on reuse to promote resource recycling.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved × Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
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)	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) 1 Falling Short of Basic Unit Per Net Sales Targets for Discarded Materials	×	Curb amount of discarded materials generated. 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
Recycling rate improvement: Conduct detailed analysis of overseas Group companies with low recycling rates. (NGK)	Improved recycling rate. Inspected progress and issues at North American production bases. 2 Conducted Survey and Study Aimed at Improving Recycling Rates at Each Overseas Group Company	○	Conduct detailed analysis of Group companies in Indonesia, Poland and Mexico.

▼ Initiatives Other Than Above

a [Maintaining High Level Domestic Recycling Rates](#) (NGK and domestic Group companies)

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

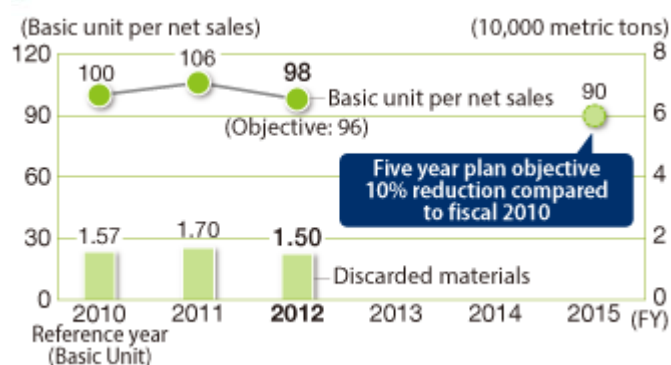
The NGK Group is engaged in curbing discarded materials globally and is focusing efforts on expanding the reuse of raw materials in domestic and overseas manufacturing processes.

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%.

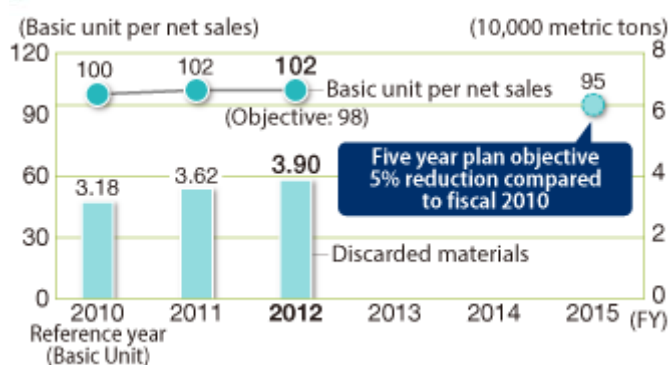
Overseas, despite the implementation of planned reductions of discarded materials, as with CO₂, the basic unit per net sales compared to the previous fiscal year was flat, falling short of the targeted 2% reduction compared to fiscal 2010.

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

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



Amount of Discarded Materials Generated^{*1}/ Basic Unit Per Net Sales^{*2} (Overseas Group companies)



* 1 From third year of plan, lumber and metal have been added to the tally.

* 2 Basic unit per net sales in fiscal 2010 calculated as 100.

2 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.

a Maintaining High Level Domestic Recycling Rates

Through systematic sorting and separating and the quest for new recycling methods, NGK focuses efforts on curbing discarded materials and promoting resource recycling. As a result, in fiscal 2012 the recycling rate increased to 99.8% from 99.5% in the previous fiscal year. ^{* 3}

The overall domestic Group recycling rate increased to 98.8% from 98.5% in the previous fiscal year. In fiscal 2012, we began the strict separation of discarded materials that are difficult to recycle, as well as the search for a disposal route. The results of these efforts will be reflected in our activities from fiscal 2013 forward.

* 3 Due to internal standards, non-recyclable discarded materials are excluded from these calculations.

Preservation of Global Environment

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.

Strengthening of Global Environmental Management

The NGK Group horizontally deploys domestic environmental impact reduction initiatives in overseas Group companies while creating mechanisms to strictly comply with amendments to environmental laws and regulations to propel our global environmental management to the next level.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue horizontal rollout at overseas Group companies, create collection of examples of discarded materials reductions and expand domestic CO ₂ reduction examples. (NGK Group)	Introduced 35 additional CO ₂ reduction examples to overseas production bases. 1 Horizontal Deployment of CO₂ Reduction Examples to Overseas Group Companies	○	Conduct ongoing publication example enhancements.
Create and test mechanism for sharing information on amendments to overseas laws. (NGK Group)	Conducted factual investigations and identified issues at overseas Group companies. 2 Promoting the Creation of a Mechanism for the Global Sharing of Information on Environmental Regulation Revisions and Compliance Status	△	Began creation of a mechanism for sharing information in China, where laws and regulations change frequently.

1 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.

2 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.

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.

Environmental Communication

While working to reduce environmental impacts and conducting environmental conservation activities associated with its business activities, NGK engages in the improvement of environmental awareness through the distribution of information, as well as the introduction of, and support for, environmental events targeting various stakeholders.

Initiatives Targeting Employees

NGK makes various attempts to encourage employees to improve their environmental awareness.

As part of a month-long series of initiatives (held every year in June), NGK Insulators implements "eco proposal" activities. Eco proposals are environmental conservation-themed improvements suggested by employees, such as lessening environmental burdens by reducing CO₂ and discarded materials or promoting environmental conservation through waste water management. In fiscal 2012, we received a total of 4,114 proposals, vigorously surpassing the 3,956 proposals submitted in fiscal 2011. There were 49 proposals dealing mainly with the reduction of CO₂, estimated to reduce CO₂ emissions by 296 metric tons per year (equivalent to the total amount of CO₂ emitted annually by approximately 55 average-size households).

We also provided support for those taking the Eco Test, with a total of 231 people or 7% of our employees already having passed.

Furthermore, in fiscal 2012, we began trials of the NGK Eco-Point System at the Chita site. Employees earn eco-points by engaging in environmental activities, a portion of which are donated to charity. Given the high rate of participation and positive feedback, we plan to ramp up this program at other sites.

Initiatives Targeting Employees and Their Families

NGK Insulators is promoting an initiative to cultivate environmental awareness in the home by having employees make a "household environmental account book" with their families. The company conducted the initiative 4 times in FY2012 in spring, summer, winter, and fall, with a total of 842 families participating. By understanding their families' energy use and CO₂ emissions, employees' environmental understanding was improved, leading to energy and resource conservation.

Also, to encourage employees and their families to participate in environmental events such as Candle Night and Green Curtain, we provide participants with candles and plant seeds and seedlings. Employee participation in both events continues to rise each year, with a total of 409 employees participating in these events during fiscal 2012.



Family participating in Candle Night



A Green Curtain nurtured by employees

Initiatives Targeting the Next-Generation

NGK participates in Environmental Partnership Organizing Club (EPOC) next-generation educational pursuits by conducting on-site lectures aimed mainly at elementary school students in Aichi Prefecture. On-site lectures use an original textbook created by NGK to explain the importance of water and stimulate an interest in water through experiments turning muddy or tainted water into a clear, colorless liquid.

These initiatives began with an Eco-Talk Session held at the Aichi World Expo in 2005, where former NGK president Shun Matsushita led a discussion and exchanged ideas on the topic of “people and water” with 50 elementary school students. In fiscal 2012, on-site lectures were held five times for a total of 180 students, bringing the total number of participants to nearly 1,200 students thus far. Hearing that students understood the importance of water and had fun during the lecture helps increase employee motivation. We intend to continue these initiatives in the future.



On-site lecture targeting elementary school students

Governmental Coordination

NGK Insulators participates in the Ministry of the Environment's "CO₂ Reduction/Lights Down Campaign" to prevent global warming. In fiscal 2012, we turned off lights in the garden near our head office at night in accordance with the Light Down Japan 2012 initiative, conducted from June 21 (Summer solstice) to July 7 (Tanabata Festival).

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.

Provision of Scholarships and Living Assistance to Foreign Students

With the aim of contributing to human resource development that contributes to the development of an international society, NGK continues support activities focusing on housing and scholarships for foreign students. We are also engaged in various events that create an opportunity for grassroots international relations among supported students, the regional community and employees.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue to provide assistance to foreign students. (NGK)	Provided housing for 40 students from five countries and scholarships for 20 students from nine countries. 1 Continued Support for Housing and Scholarships	○	Maintain support to foreign students.
Continue to hold language classes and cross-cultural exchange meetings led by foreign students and contribute to international exchange between foreign students, regional communities and employees. (NGK)	Held 40 language classes and 14 cross-cultural exchange meetings. 2 Supporting Foreign Students and Cross-Cultural Exchange	○	Continue to hold language classes and cross-cultural exchange meetings led by foreign students conducted within and outside the company.
Continue to investigate responses of other organizations. Consider incorporating findings in future measures. (NGK)	Distributed information after support ended. 3 Efforts to Maintain Trusting Relationships Even After Support Ends	△	Distribute information after support ends.

1 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.

2 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.

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.



Vietnam cross-cultural exchange meeting



Chinese language class

3 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.

<As a Member of Society>

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.

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

As a member of the regional communities where we operate, NGK engages in various social contribution activities in accordance with regional needs. Also, in an attempt to share Group company activity information, we promote the creation of opportunities for mutual understanding and new activities.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Continue making efforts to understand Group company activities with initiatives for information transmission and sharing to link activities of each company. (NGK Group)	Shared the status of activities at each company. 1 Employee Volunteers Play an Active Role in Regional Activities	○	Ascertain status of activities at each Group company, distribute information intended to foster subsequent company activities.

1 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 Tendozan 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.

Participation in Volunteer Tour Supporting Disaster-Stricken Areas

—NGK and NGK CHEM-TECH (Nagoya, Aichi Prefecture)



In November 2012, one NGK employee participated in the Otsuchi-cho, Iwate Prefecture volunteer tour, working with local residents affected by the Great East Japan Earthquake to create compost and build playgrounds for children. In August, one employee from NGK Chem-Tech participated in the Kizuna Japan hometown reconstruction support bus tour, volunteering for a fireworks festival held in Iwaki, Fukushima Prefecture.

Participating in Periodic Tree-Thinning Volunteer Activities for Five Years Straight

—NGK Komaki Site (Komaki, Aichi Prefecture)



As a member of NPO Mino Morizoutai, one employee volunteer from the Komaki Site participates in periodic tree-thinning a few days every month. This activity began five years ago from a desire to do something about the increasing devastation of planted forests.

<As a Member of Society>

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.

Support for Volunteer Activities by Employees

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

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
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)	Donated approximately 40,000 school meals to Africa through Table for Two (TFT). 1 Nearly 40,000 School Meals Donated to Africa	○	Create environment enabling employees to easily participate in volunteer activities.

1 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.

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.



The all-new "Healthy Lunch Box"

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.

Communication with Customers and Procurement Partners

The NGK Group is engaged in expanding two-way communication with suppliers indispensable to our provision of products and services, and of course, customers we provide with products and services, to enhance fairness and transparency in procurement.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Hold earnings results presentations for major suppliers. (NGK)	Held earnings results presentations for approximately 120 major suppliers. 1 Earnings Results Presentations for Major Suppliers	○	Hold earnings results presentations for major suppliers.
Continue to operate the supplier helpline so as not to miss an important inquiry and strive to maintain fair and honest business relationships. (NGK)	Continued to operate the supplier helpline. 2 Ongoing Operation of Supplier Helpline	○	Continue to operate the supplier helpline.
Employ most appropriate suppliers through supplier visitation activities, including new suppliers, in an attempt to step up supplier quality. (NGK)	Visited suppliers and important material suppliers. 3 Conducting Supplier Visitation Activities in Japan and Overseas	○	Employ most appropriate suppliers and continue supplier visitation activities to step up supplier quality.

▼ Initiatives Other Than Above

- a** [Promoting the Creation of a Mechanism for Responding to Customer Voices](#) (NGK)
- b** [Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake](#) (NGK)
- c** [Free Replacements for the Life Indicator Units on Fine Ceramic Filter Water Purifier C1 SLIM Announced on Our Corporate Website](#) (NGK)

1 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)

2 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.

3 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.

a Promoting the Creation of a Mechanism for Responding to Customer Voices

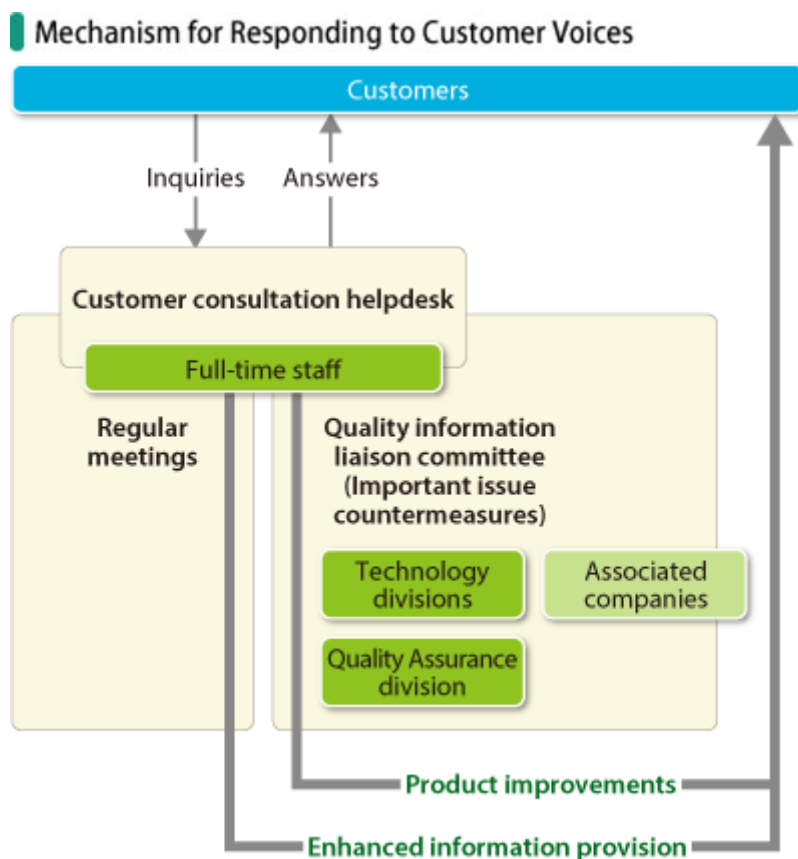
As the leading industrial ceramics manufacturer, NGK develops a wide range of ceramics products mainly for corporations in the automotive and electronics industries and for power companies. We also make use of our ceramics technologies to develop and sell home-use water purifiers that thoroughly filter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



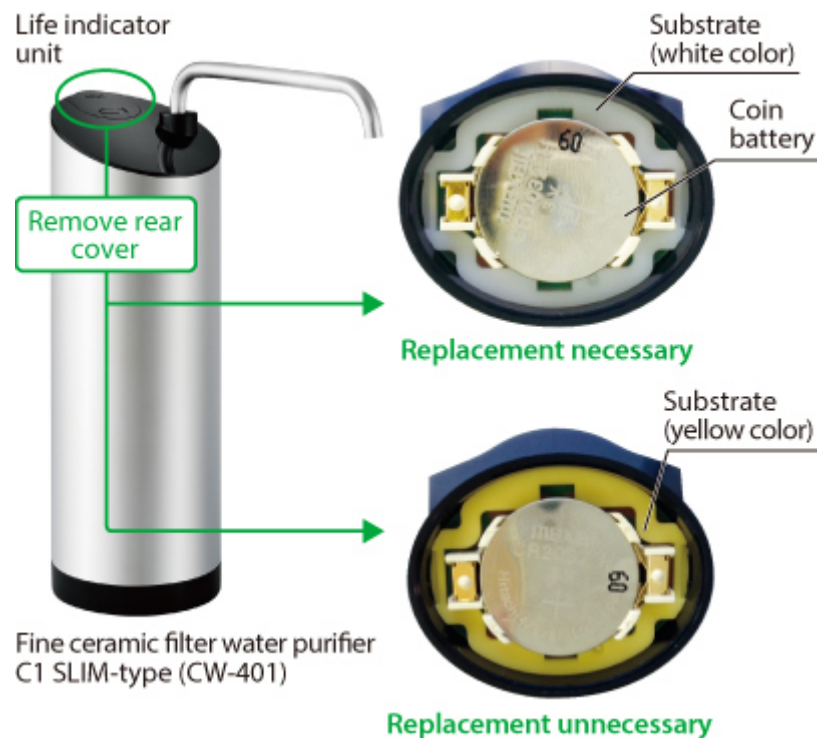
b Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake

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.

c 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.



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.

Interaction with Local Communities via Plant Tours and Open House Events

The NGK Group engages in dynamic interactions with local residents through opportunities such as plant tours and regional events, as well as through opportunities for direct dialogue, making an effort to incorporate the ideas and opinions received in Group business activities and CSR activities

Fiscal 2012 Highlights

- 1 [Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities](#)



CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved △ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
Consider conducting dialog with expert panel or NPO. (NGK)	Held CSR Dialog with experts regarding NGK Group environmental activities. 1 Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities	○	Conduct dialog with external stakeholders.
Give priority to responding to plant tours for elementary and junior high students to encourage greater understanding of and interest in NGK and manufacturing, and continue striving for more dynamic interaction with local communities. (NGK)	Conducted 10 plant tours at 4 sites. 2 Direct Interaction with Children and Local Residents on Plant Tours	○	Conduct ongoing exchanges with regional communities through plant tours and other activities.

1 Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities

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



Teru Kisuna

Group Leader, Global Warming Prevention Section, Department of the Environment, Aichi Prefectural Government



Yoshinobu Kono

General Manager, Industrial Promotion Division, Chubu Economic Federation



Soichiro Abe

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



Miki Enokuma

Student Group "We Chubu: Toward a Sustainable Tomorrow" Japan Economics Team Leader (Cabinet office, Aichi Prefecture/businesses supporting new public works), Second-year student at Nanzan Junior College

Facilitator



Satoshi Chikami

Professor, International Welfare Development Department, Nihon Fukushi University



Yoko Shinkai

Chief Producer, Environmental Partnership Office Chubu

NGK Participants

Hiroaki Sakai

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

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.

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 NO_x 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 NO_x emission equivalency to a certain number of automobiles, or why eliminating NO_x 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.

2 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 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.



Mizuho Ward industrial culture bus tour
(August 2012)

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.

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

To deepen every employee's understanding of CSR initiatives, in 2009 the NGK Group began holding CSR Talk Live, an event where employees and top management talk directly to each other held at all sites in Japan. NGK will continue to use direct dialogue to inculcate CSR.

CSR Objectives and Achievements

★ Evaluation standards: ○ Target achieved ▲ 80% or more of target achieved ✕ Less than 80% of target achieved

P FY2012 Targets	D FY2012 Activities Summary	C Evaluation★	A Improvement Plan
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)	Conducted CSR Talk Live 9 times, distributed a condensed version of the CSR Report. 1 Employees and Management Discuss CSR	○	Hold two-way communication events with NGK and domestic Group company employees.
Further enhance CSR-Web content. (NGK and domestic Group companies)	Distributed information related to CSR activities and CSR Committee proceedings on the online CSR Web. 2 Distributing Information about the Latest CSR Activities on the Company Intranet	○	Enhance CSR-Web content.

1 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?

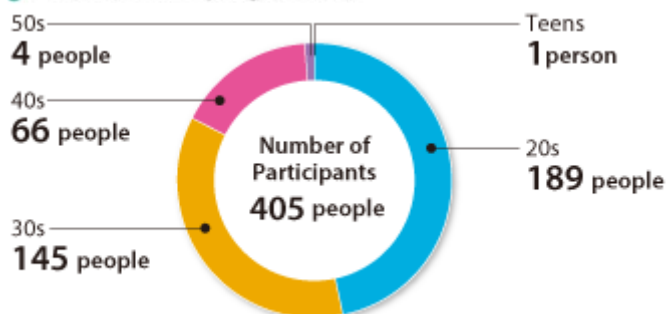
Response We are collecting products that can be recycled, but we need to consider expanding these efforts.

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.

CSR Talk Live Event Schedule and Number of Participants

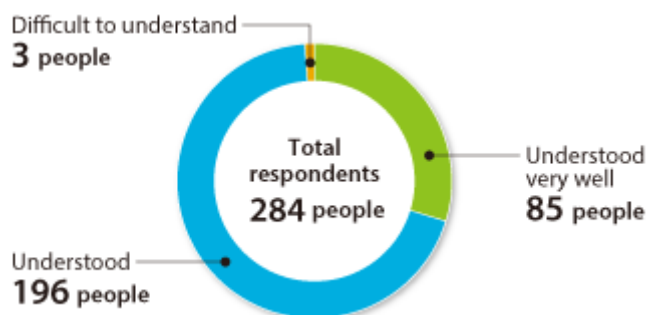
Nagoya Site (Aichi Prefecture)	
September 25	46 people
September 26	52 people
September 28	47 people
October 24	50 people
October 25	55 people
Chita Site (Aichi Prefecture)	
October 3	51 people
Komaki Site (Aichi Prefecture)	
November 7	51 people
Ishikawa Plant (Ishikawa Prefecture)	
November 2	23 people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

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.

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.

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.



Chita Site (November 3)



NGK CERAMIC DEVICE Yamanashi Plant (October 16)

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.

2 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.

GRI Guidelines ISO26000 Comparison Table

NGK CSR fiscal 2012 activities compared to Global Reporting Initiative (GRI) Sustainability Reporting Guidelines (G3.1) and ISO26000 Guidelines. Each index is link to the corresponding report page.

* Non-classifiable individual issues are listed under related core subjects.

GRI Guideline 3.1 Standard Disclosures			ISO26000 Issues *	Publication Location	
				Web Version Full Report	Print Version
Strategy and Analysis					
1.1		Statement from the most senior decision-maker of the organization (e.g., CEO, chair, or equivalent senior position) about the relevance of sustainability to the organization and its strategy.	-	▪ CSR > Web Version Full Report 2013 > Management's Commitment	P5-6 Management's Commitment
1.2		Description of key impacts, risks, and opportunities.	-	▪ CSR > Web Version Full Report 2013 > Management's Commitment ▪ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability > Providing High-Safety NAS Batteries ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Interaction with Local Communities via Plant Tours and Open House Events > Fiscal 2012 Hifhlights: Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities	P5-6 Management's Commitment P22 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability > Providing High-Safety NASR Batteries P37 III As a Member of Society > Communications with Stakeholders > Interaction with Local Communities via Plant Tours and Open House Events > Fiscal 2012 Highlights: Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities

Organizational Profile				
2.1		Name of the organization.	-	<ul style="list-style-type: none"> About NGK > Corporate Outline P2 Corporate Outline
2.2		Primary brands, products, and/or services.	-	<ul style="list-style-type: none"> Products CSR > Web Version Full Report 2013 > Special Feature: The Challenge of Creating New Products to Drive Future Business CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment > Fiscal 2012 Highlights: Contribute to Limiting Emissions of Particulate Matter (PM) CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > 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 CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment > Development and Production of Various Products That Contribute to the Environment CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability > Providing High-Safety NAS Batteries P2 Corporate Outline > Business Groups and Main Products P3 NGK Group Products P8-12 Special Feature: The Challenge of Creating New Products to Drive Future Business P19 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment > Fiscal 2012 Highlights: Contribute to limiting emissions of particulate matter (PM) P20 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > 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 P20 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment > Development and Production of Various Products That Contribute to the Environment P22 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment > Providing High-Safety NASR Batteries
2.3		Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	-	<ul style="list-style-type: none"> Investor Relations > IR Library > Annual Report > Annual Report > Subsidiaries and Affiliated Companies (P38-39) P2 Corporate Outline > Business Development by Region
2.4		Location of organization's headquarters.	-	<ul style="list-style-type: none"> About NGK > Corporate Outline Investor Relations > IR Library > Annual Report > Corporate Data (P40) P2 Corporate Outline
2.5		Number of countries where the organization operates, and names of countries with either major operations or that are specifically relevant to the sustainability issues covered in the report.	-	

2.6		Nature of ownership and legal form.	-	<ul style="list-style-type: none"> About NGK > Corporate Outline CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Disclosure of Corporate Information > Enhancement of Corporate Information Disclosure > Shareholders Information 	
2.7		Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	-	<ul style="list-style-type: none"> About NGK > Network 	P2 Corporate Outline > Business Fields and Segments P2 Corporate Outline > Business Development by Region
2.8		Scale of the reporting organization, including: <ul style="list-style-type: none"> Number of employees; Net sales (for private sector organizations) or net revenues (for public sector organizations); Total capitalization broken down in terms of debt and equity (for private sector organizations); and Quantity of products or services provided. 	-	<ul style="list-style-type: none"> Investor Relations > IR Library > Annual Report > Financial Highlights (P01) Investor Relations > IR Library > Annual Report > Consolidated Balance Sheet (P10-11) Investor Relations > IR Library > Annual Report > Consolidated Statement of Operations (P12), Consolidated Statement of Comprehensive Income (P13) 	P2 Corporate Outline > Business Groups and Main Products * Quantity of products or services provided P3 NGK Group Products * Quantity of products or services provided P2 Corporate Outline * Number of employees * Total capitalization * Net sales
2.9		Significant changes during the reporting period regarding size, structure, or ownership including: <ul style="list-style-type: none"> The location of, or changes in operations, including facility openings, closings, and expansions; and Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organizations). 	-	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > 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 CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Disclosure of Corporate Information > Enhancement of Corporate Information Disclosure > Shareholders Information 	P20 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > 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

Report Parameters					
Report Profile					
3.1		Reporting period (e.g., fiscal/calendar year) for information provided.	-	▪ CSR > CSR Report 2013 Editorial Policy > Target Period	P1 Editorial Policy > Target Period
3.2		Date of most recent previous report (if any).	-		
3.3		Reporting cycle (annual, biennial, etc.);	-	▪ CSR > CSR Report 2013 Editorial Policy > Target Period	P1 Editorial Policy > Target Period
3.4		Contact point for questions regarding the report or its contents.	-	▪ Contact	Back cover
Report Scope and Boundary					
3.5		Process for defining report content, including: <ul style="list-style-type: none">▪ Determining materiality;▪ Prioritizing topics within the report; and▪ Identifying stakeholders the organization expects to use the report.	-	<ul style="list-style-type: none">▪ CSR > CSR Report 2013 Editorial Policy▪ CSR > Web Version Full Report 2013 > CSR Objectives and Achievements▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Fiscal 2012 Initiatives Within the Third Five-Year Environmental Action Plan (2011-2015)	P1 Editorial Policy P15-18 CSR Objectives and Achievements P32 III As a Member of Society > Preservation of Global Environment > Fiscal 2012 Initiatives Within the Third Five-Year Environmental Action Plan (2011-2015)
3.6		Boundary of the report (e.g., countries, divisions, subsidiaries, leased facilities, joint ventures, suppliers). See GRI Boundary Protocol for further guidance.	-	<ul style="list-style-type: none">▪ CSR > CSR Report 2013 Editorial Policy▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > Activities Covered▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Third Five-Year Environmental Action Plan (2011-2015) Progress Report > Activities Covered	P1 Editorial Policy P31 Activities Covered * Environmental only
3.7		State any specific limitations on the scope or boundary of the report	-	* Listed as necessary;	* Listed as necessary
3.8		Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations, and other entities that can significantly affect comparability from period to period and/or between organizations.	-		
3.9		Data measurement techniques and the bases of calculations, including assumptions and techniques underlying estimations applied to the compilation of the Indicators and other information in the report.	-	<ul style="list-style-type: none">▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Prevention of Global Warming > Domestic CO2 Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas * Listed in notes	P32 III As a Member of Society > Preservation of Global Environment > Global warming prevention > Domestic CO2 Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas * Listed in notes

3.10		Explanation of the effect of any re-statements of information provided in earlier reports, and the reasons for such re-statement (e.g., mergers/acquisitions, change of base years/periods, nature of business, measurement methods).	-		
3.11		Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	-		
GRI Content Index					
3.12		Table identifying the location of the Standard Disclosures in the report.	-	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > CSR Objectives and Achievements > CSR Objectives and Achievements * Listed in reference 	P15-18 CSR Objectives and Achievements * Listed in reference
保証					
3.13		Policy and current practice with regard to seeking external assurance for the report. If not included in the assurance report accompanying the sustainability report, explain the scope and basis of any external assurance provided. Also explain the relationship between the reporting organization and the assurance provider(s).	-		
Governance, Commitments, and Engagement					
Governance					
4.1		Governance structure of the organization, including committees under the highest governance body responsible for specific tasks, such as setting strategy or organizational oversight.	6.2 Organizational governance	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > Corporate Governance 	P7 Corporate Governance
4.2		Indicate whether the Chair of the highest governance body is also an executive officer (and, if so, their function within the organization's management and the reasons for this arrangement).	6.2 Organizational governance	<ul style="list-style-type: none"> Investor Relations > IR Library > Annual Report > Board of Directors, Corporate Officers and Audit & Supervisory Board (P41) 	
4.3		For organizations that have a unitary board structure, state the number and gender of members of the highest governance body that are independent and/or non-executive members.	6.2 Organizational governance	<ul style="list-style-type: none"> Investor Relations > IR Library > Annual Report > Board of Directors, Corporate Officers and Audit & Supervisory Board (P41) 	

4.4		Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Management's Commitment > Together with Stakeholders ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Disclosure of Corporate Information > Enhancement of Corporate Information Disclosure > Continue to Provide Fair and Honest Information Disclosure in a Timely and Appropriate Manner ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Proactive Exchange of Opinions Among Labor-Management Regarding Management Issues and Welfare 	P6 Management's Commitment > Together with Stakeholders
4.5		Linkage between compensation for members of the highest governance body, senior managers, and executives (including departure arrangements), and the organization's performance (including social and environmental performance).	6.2 Organizational governance		
4.6		Processes in place for the highest governance body to ensure conflicts of interest are avoided.	6.2 Organizational governance		
4.7		Process for determining the composition, qualifications, and expertise of the members of the highest governance body and its committees, including any consideration of gender and other indicators of diversity.	6.2 Organizational governance		

4.8		Internally developed statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > CSR Management ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Thorough Promulgation of the NGK Group Guidelines for Corporate Behavior Through Education ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > NGK's Core Policy on the Environment/Promotion Structure ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > NGK's Core Policy on the Environment/Promotion Structure > Environmental Management System > Environmental Management System Initiatives ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > NGK's Core Policy on the Environment/Promotion Structure > Environmental Management System > Environmental Risk Management 	P13-14 CSR Management P31 III As a Member of Society > Preservation of Global Environment > NGK's Core Policy on the Environment
4.9		Procedures of the highest governance body for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Corporate Governance ▪ CSR > Web Version Full Report 2013 > CSR Management > CSR Activities Promotion Structure 	P7 Corporate Governance P14 CSR Management > CSR Activities Promotion Structure
4.10		Processes for evaluating the highest governance body's own performance, particularly with respect to economic, environmental, and social performance.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Corporate Governance > Basic Approach to Corporate Governance and Status Initiatives ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Management System > Environmental Audits * Environmental only 	
Commitments to External Initiatives					
4.11		Explanation of whether and how the precautionary approach or principle is addressed by the organization.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > NGK's Core Policy on the Environment/Promotion Structure 	P31 III As a Member of Society > Preservation of Global Environment > NGK's Core Policy on the Environment
4.12		Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	6.2 Organizational governance		

4.13		Memberships in associations (such as industry associations) and/or national/international advocacy organizations in which the organization: <ul style="list-style-type: none"> ▪ Has positions in governance bodies; ▪ Participates in projects or committees; ▪ Provides substantive funding beyond routine membership dues; or ▪ Views membership as strategic. 	6.2 Organizational governance		
Stakeholder Engagement					
4.14		List of stakeholder groups engaged by the organization.	6.2 Organizational governance		
4.15		Basis for identification and selection of stakeholders with whom to engage.	6.2 Organizational governance		
4.16		Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Management's Commitment > Together with Stakeholders ▪ How to Engage in Business Activities: Disclosure of Corporate Information > Enhancement of Corporate Information Disclosure ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Communication with Customers and Procurement Partners 	P6 Management's Commitment > Together with Stakeholders P37-42 III As a Member of Society > Communications with Stakeholders
4.17		Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	6.2 Organizational governance	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Interaction with Local Communities via Plant Tours and Open House Events > Fiscal 2012 Highlights: Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities ▪ CSR > Web Version Full Report 2013 > Third-Party Opinion 	P42 III As a Member of Society > Communications with Stakeholders > Interaction with Local Communities via Plant Tours and Open House Events > Fiscal 2012 Highlights: Invited Various Regional Stakeholders to Hold Dialog on Environmental Activities P43 Third-Party Opinion

* Non-classifiable individual issues are listed under related core subjects.

GRI Guideline 3.1 Standard Disclosures			ISO26000 Issues *	Publication Location	
				Web Version Full Report	Print Version
Economic					
		Management Approach			
Economic Performance					
EC1	C O R E	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	6.8.3 Community involvement 6.8.7 Wealth and income creation	<ul style="list-style-type: none"> Investor Relations > IR Library > Annual Report > Financial Highlights (P01) CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Disclosure of Corporate Information > Enhancement of Corporate Information Disclosure > Measures for Returning Profits to Shareholders 	P4 Business Overview (Consolidated)
EC2	C O R E	Financial implications and other risks and opportunities for the organization's activities due to climate change.	6.2 Organizational governance 6.5.5 Climate change mitigation and adaptation		
EC3	C O R E	Coverage of the organization's defined benefit plan obligations.	-		
EC4	C O R E	Significant financial assistance received from government.	6.6.4 Responsible political involvement		
Market Presence					
EC5	A D D	Range of ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation.	6.4.4 Conditions of work and social protection 6.8.7 Wealth and income creation		
EC6	C O R E	Policy, practices, and proportion of spending on locally-based suppliers at significant locations of operation.	6.6.6 Promoting social responsibility in the value chain 6.8.5 Employment creation and skills development	<ul style="list-style-type: none"> About NGK > Procurement Information CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Implementation of Fair, Free and Transparent Transactions > Fair and Honest Evaluation of Procurement Partners, and Extensive Resource Diversification <p>* Policy and practices</p>	P29 II How to Engage in Business Activities > Implementation of Fair, Free and Transparent Transactions * Policy and practices
EC7	C O R E	Procedures for local hiring and proportion of senior management hired from the local community at significant locations of operation.	6.8.5 Employment creation and skills development		P29 II How to Engage in Business Activities > Implementation of Fair, Free and Transparent Transactions * Policy and practices

Indirect Economic Impacts					
EC8	C O R E	Development and impact of infrastructure investments and services provided primarily for public benefit through commercial, in-kind, or pro bono engagement.	6.3.9 Economic, social and cultural rights 6.8.9 Social investment		
EC9	A D D	Understanding and describing significant indirect economic impacts, including the extent of impacts.	6.3.9 Economic, social and cultural rights 6.6 Fair operating practices 6.7 Consumer issues 6.8 Community involvement and development		

* Non-classifiable individual issues are listed under related core subjects.

GRI Guideline 3.1 Standard Disclosures			ISO26000 Issues *	Publication Location	
				Web Version Full Report	Print Version
Environmental					
		Management Approach	-		
Materials					
EN1	C O R E	Materials used by weight or volume.	6.5.4 Sustainable resource use	▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN2	C O R E	Percentage of materials used that are recycled input materials.	6.5.4 Sustainable resource use		
Energy					
EN3	C O R E	Direct energy consumption by primary energy source.	6.5.4 Sustainable resource use 6.5.5 Climate change mitigation and adaptation	▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN4	C O R E	Indirect energy consumption by primary source.	6.5.4 Sustainable resource use 6.5.5 Climate change mitigation and adaptation	▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN5	A D D	Energy saved due to conservation and efficiency improvements.	6.5.4 Sustainable resource use 6.5.5 Climate change mitigation and adaptation	▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Accounting ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO2 with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)	P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO2 with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)

EN6	A D D	Initiatives to provide energy-efficient or renewable energy-based products and services, and reductions in energy requirements as a result of these initiatives.	6.5.4 Sustainable resource use 6.5.5 Climate change mitigation and adaptation	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > Special Feature: The Challenge of Creating New Products to Drive Future Business ■ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project) 	P3 NGK Group Products > Ceramic Products Business > Industrial Processing Products P8-12 Special Feature: The Challenge of Creating New Products to Drive Future Business P22 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO ₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)
EN7	A D D	Initiatives to reduce indirect energy consumption and reductions achieved	6.5.4 Sustainable resource use 6.5.5 Climate change mitigation and adaptation	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project) 	P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO ₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)
Water					
EN8	C O R E	Total water withdrawal by source.	6.5.4 Sustainable resource use	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output 	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN9	A D D	Water sources significantly affected by withdrawal of water.	6.5.4 Sustainable resource use 6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
EN10	A D D	Percentage and total volume of water recycled and reused.	6.5.4 Sustainable resource use	<ul style="list-style-type: none"> ■ CCSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output 	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output

Biodiversity					
EN11	C O R E	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
EN12	C O R E	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
EN13	A D D	Habitats protected or restored.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
EN14	A D D	Strategies, current actions, and future plans for managing impacts on biodiversity.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
EN15	A D D	Number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		
Emissions, Effluents, and Waste					
EN16	C O R E	Total direct and indirect greenhouse gas emissions by weight.	6.5.5 Climate change mitigation and adaptation	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output 	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN17	C O R E	Other relevant indirect greenhouse gas emissions by weight.	6.5.5 Climate change mitigation and adaptation		

EN18	A D D	Initiatives to reduce greenhouse gas emissions and reductions achieved.	6.5.5 Climate change mitigation and adaptation	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Prevention of Global Warming > Domestic CO₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project) ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Manufacturing Efficiency to Realize Eco-Processes ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Expanding Initiatives to Curb CO₂ Emissions 	<p>P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Fiscal 2012 Highlights: Reducing CO₂ with the Introduction of Energy-Saving Manufacturing Equipment at Overseas Plants (UN CDM Registered Project)</p> <p>P33 III As a Member of Society > Preservation of Global Environment > Prevention of Global Warming > Domestic CO₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas</p> <p>P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Manufacturing Efficiency to Realize Eco-Processes</p> <p>P33 III As a Member of Society > Preservation of Global Environment > Adoption of Environmentally Friendly Production Processes > Expanding Initiatives to Curb CO₂ Emissions</p>
EN19	C O R E	Emissions of ozone-depleting substances by weight.	6.5.3 Prevention of pollution 6.5.5 Climate change mitigation and adaptation		
EN20	C O R E	NOx, SOx, and other significant air emissions by type and weight.	6.5.3 Prevention of pollution	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output 	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output
EN21	C O R E	Total water discharge by quality and destination.	6.5.3 Prevention of pollution	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output 	<p>P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output</p> <p>* Aggregate amount only</p>

EN22	C O R E	Total weight of waste by type and disposal method.	6.5.3 Prevention of pollution	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output * Total weight of waste by disposal method ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Promotion of Resource Recycling > Maintaining High Level Domestic Recycling Rates 	P31 III As a Member of Society > Preservation of Global Environment > Overall Perspective of Environmental Impact > NGK Input/Output * Total weight of waste by disposal method
EN23	C O R E	Total number and volume of significant spills.	6.5.3 Prevention of pollution	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Management System > Environmental Risk Management > Regulatory Compliance * No significant regulatory 	
EN24	A D D	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I , II , III , and VIII, and percentage of transported waste shipped internationally.	6.5.3 Prevention of pollution		
EN25	A D D	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the reporting organization's discharges of water and runoff.	6.5.6 Protection of the environment, biodiversity and restoration of natural habits		

Products and Services					
EN26	C O R E	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	6.5 the environment 6.6.6 Promoting social responsibility in the value chain 6.7.5 Sustainable consumption	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Special Feature: The Challenge of Creating New Products to Drive Future Business ▪ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment ▪ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Promotion of Resource Recycling ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Strengthening of Global Environmental Management ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Management System > Education and Development ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Communication ▪ Products > Ceramic Products Business > Automotive & Industrial Ceramics Business > Diesel Particulate Filters (DPFs) ▪ Products > Ceramic Products Business > Automotive & Industrial Ceramics Business > HONEYCERAM ▪ Products > Ceramic Products Business > Chemical Apparatus Business > High-Temperature Dust Collector (CERALLEC SYSTEM) ▪ Products > Ceramic Products Business > Energy & Nuclear Systems Business > Low-Level Radwaste Treatment System ▪ Products > Gas Analysis Products > Gas Analyzer 	P3 NGK Group Products > Ceramic Products Business > HONEYCERAMR Honeycomb Ceramics for Automotive Catalytic Converters to Purify Exhaust Gases P3 NGK Group Products > Ceramic Products Business > Diesel Particulate Filters (DPFs)/NOx Sensors P8-12 Special Feature: The Challenge of Creating New Products to Drive Future Business P19-20 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Help to Preserve the Natural Environment P22 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability P34 III As a Member of Society > Preservation of Global Environment > Promotion of Resource Recycling P34 III As a Member of Society > Preservation of Global Environment > Strengthening of Global Environmental Management
EN27	C O R E	Percentage of products sold and their packaging materials that are reclaimed by category.	6.5.4 Sustainable resource use 6.6.6 Promoting social responsibility in the value chain 6.7.5 Sustainable consumption		

Compliance					
EN28	C O R E	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	6.2 Organizational governance 6.5 the environment 6.6.3 Anti-corruption	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Management System > Environmental Risk Management > Regulatory Compliance * No significant regulatory 	
Transport					
EN29	A D D	Significant environmental impacts of transporting products and other goods and materials used for the organization's operations, and transporting members of the workforce.	6.5 the environment 6.6.6 Promoting social responsibility in the value chain	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Prevention of Global Warming > Domestic CO₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas 	P33 III As a Member of Society > Preservation of Global Environment > Prevention of Global Warming > Domestic CO ₂ Emissions Objectives Achieved, Fell Short of Basic Unit Per Net Sales Objectives in Japan, Overseas
Overall					
EN30	A D D	Total environmental protection expenditures and investments by type.	6.2 Organizational governance 6.5 the environment	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Accounting 	

* Non-classifiable individual issues are listed under related core subjects.

GRI Guideline 3.1 Standard Disclosures			ISO26000 Issues *	Publication Location	
				Web Version Full Report	Print Version
Social					
Labor Practices and Decent Work					
		Management Approach	-		
Employment					
LA1	C O R E	Total workforce by employment type, employment contract, and region, broken down by gender.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship		
LA2	C O R E	Total number and rate of new employee hires and employee turnover by age group, gender, and region.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship		
LA3	A D D	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation.	6.4.4 Conditions of work and social protection		
LA15	C O R E	Return to work and retention rates after parental leave, by gender.	6.4.4 Conditions of work and social protection		
Labor/ Management Relations					
LA4	C O R E	Percentage of employees covered by collective bargaining agreements.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship 6.4.5 Social Dialogue		
LA5	C O R E	Minimum notice period(s) regarding significant operational changes, including whether it is specified in collective agreements.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship 6.4.5 Social Dialogue		

Occupational Health and Safety					
LA6	A D D	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship 6.4.6 Health and safety at work		
LA7	C O R E	Rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender.	6.4.6 Health and safety at work	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Work-Related Accidents (NGK and 15 Group Companies Involved in Domestic Manufacturing) ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Rate of Lost-Worktime Injuries (NGK) 	<p>P26 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Work-Related Accidents (NGK and 15 Group Companies Involved in Domestic Manufacturing)</p> <p>P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Rate of Lost-Worktime Injuries (NGK)</p>

LA8	C O R E	Education, training, counseling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.	6.4.6 Health and safety at work 6.8.8 Health	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Fiscal 2012 Highlights: Strengthen Occupational Safety and Health Management ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Learning From Serious Accidents to Prevent Recurrence ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Promoting Interviews and Health Checks for Employees Working Long Hours ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Extention of Activities Supporting Mental and Physical Health 	<p>P25 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Fiscal 2012 Highlights: Strengthen Occupational Safety and Health Management</p> <p>P26 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Learning From Serious Accidents to Prevent Recurrence</p> <p>P26 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Promoting Interviews and Health Checks for Employees Working Long Hours</p>
LA9	A D D	Health and safety topics covered in formal agreements with trade unions.	6.4.6 Health and safety at work 6.4.5 Social Dialogue	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Safety and Health Education Targeting the Prevention of Workplace Accidents 	

Training and Education					
LA10	C O R E	Average hours of training per year per employee, by gender, and by employee category.	6.4.7 Human development and training in the workplace		
LA11	A D D	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings.	6.4.7 Human development and training in the workplace 6.8.5 Employment creation and skills development	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Development of Human Capital and Recruiting of Human Resources across the Group ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Ongoing Expansion of Employment and Positions for Women as a Company Promoting Women's Activities ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Extending Transfers to Regular Employment and Double Promotions to Contract Manufacturing Employees ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Updating System for Rehiring Employees to Include Half-Time Employment Option ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment>Support for Better Balance between Work and Home Life/Childrearing > Increasing Use of Expanded Childrearing Support Measures ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment>Support for Better Balance between Work and Home Life/Childrearing > Certified by the Ministry of Health, Labour and Welfare as a Company Supporting Childcare 	<p>P26 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Development of Human Capital and Recruiting of Human Resources across the Group</p> <p>P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Ongoing Expansion of Employment and Positions for Women as a Company Promoting Women's Activities</p> <p>P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Extending Transfers to Regular Employment and Double Promotions to Contract Manufacturing Employees</p> <p>P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Updating System for Rehiring Employees to Include Half-Time Employment Option</p> <p>P28 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Increasing Use of Expanded Childrearing Support Measures</p> <p>P28 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Certified by the Ministry of Health, Labour and Welfare as a Company Supporting Childcare</p>

LA12	A D D	Percentage of employees receiving regular performance and career development reviews, by gender.	6.4.7 Human development and training in the workplace	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Development of Human Capital and Recruiting of Human Resources across the Group > Cultivate Global Human Resources, Conduct Practical Overseas Training ■ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Ongoing Promotion of Use of System for Transferring to General Employment Jobs ■ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Two Systems for Making Use of Employee Individuality and Skills ■ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Management of Follow-up System to Fit Young Employees in the Workplace 	P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Ongoing Promotion of Use of System for Transferring to General Employment Jobs
Diversity and Equal Opportunity					
LA13	C O R E	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship	<ul style="list-style-type: none"> ■ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment>Utilization of Diverse Human Resources > Employment of People With Disabilities Surpasses Legally Mandated Ratio 	P27 II How to Engage in Business Activities > Respect of Humanity and Assurance of Comfortable Working Environment > Utilization of Diverse Human Resources > Employment of People With Disabilities Surpasses Legally Mandated Ratio
Equal Remuneration for Women and Men					
LA14	C O R E	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation.	6.3.10 Fundamental principles and rights at work 6.4.3 Employment and employment relationship		

Human Rights					
	-	Management Approach			
Investment and Procurement Practices					
HR1	C O R E	Percentage and total number of significant investment agreements and contracts that include clauses incorporating human rights concerns, or that have undergone human rights screening.	6.3 Human rights 6.6 Fair operating practices		
HR2	C O R E	Percentage of significant suppliers, contractors, and other business partners that have undergone human rights screening, and actions taken.	6.3 Human rights 6.6.6 Promoting social responsibility in the value chain		
HR3	C O R E	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.	6.3 Human rights 6.6.6 Promoting social responsibility in the value chain		
Non-discrimination					
HR4	C O R E	Total number of incidents of discrimination and corrective actions taken.	6.3.3 Due diligence 6.3.6 Resolving grievances 6.3.7 Discrimination and vulnerable groups	▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Respect of Humanity and Assurance of Comfortable Working Environment > Maintenance and Consistent Improvement of Safe and Comfortable Working Environments > Respect for Human Rights and Thorough Prevention of Harassment	
Freedom of Association and Collective Bargaining					
HR5	C O R E	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk, and actions taken to support these rights.	6.3.3 Due diligence 6.3.5 Avoidance of complicity 6.3.10 Fundamental principles and rights at work 6.4.5 Social Dialogue 6.6.6 Promoting social responsibility in the value chain	▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement	P29 II How to Engage in Business Activities > Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement
Child Labor					
HR6	C O R E	Operations and significant suppliers identified as having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor.	6.3.3 Due diligence 6.3.5 Avoidance of complicity 6.3.10 Fundamental principles and rights at work 6.6.6 Promoting social responsibility in the value chain	▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement	P29 II How to Engage in Business Activities > Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement

Forced and Compulsory Labor					
HR7	C O R E	Operations and significant suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor.	6.3.3 Due diligence 6.3.5 Avoidance of complicity 6.3.10 Fundamental principles and rights at work 6.6.6 Promoting social responsibility in the value chain	▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement	P29 II How to Engage in Business Activities > Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement
Security Practices					
HR8	A D D	Percentage of security personnel trained in the organization's policies or procedures concerning aspects of human rights that are relevant to operations.	6.3 Human rights 6.4.7 Human development and training in the workplace 6.6.6 Promoting social responsibility in the value chain	▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Implementation of Fair, Free and Transparent Transactions > Promotion of CSR Procurement > NGK Group's Supply-Chain CSR Guidelines	
Indigenous Rights					
HR9	A D D	Total number of incidents of violations involving rights of indigenous people and actions taken.	6.3.3 Due diligence 6.3.6 Resolving grievances 6.3.7 Discrimination and vulnerable groups 6.6.6 Promoting social responsibility in the value chain		
Assessment					
HR10	C O R E	Percentage and total number of operations that have been subject to human rights reviews and/or impact assessments.	6.3 Human rights 6.6 Fair operating practices		
Remediation					
HR11	C O R E	Number of grievances related to human rights filed, addressed, and resolved through formal grievance mechanisms.	6.3 Human rights	▪ About NGK > Corporate Philosophy, and NGK Group Guidelines for Corporate Behavior > Compliance > Helpline System	

Society					
		Management Approach			
Local Communities					
SO1	C O R E	Percentage of operations with implemented local community engagement, impact assessments, and development programs.	6.3.3 Due diligence 6.5 the environment 6.6 Fair operating practices 6.8 Community involvement and development	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Coordination with Local Communities and Promotion of Contribution to the Society CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Communication 	P35-36 III As a Member of Society > Coordination with Local Communities and Promotion of Contribution to the Society
SO9	C O R E	Operations with significant potential or actual negative impacts on local communities.	6.3.3 Due diligence 6.5 the environment 6.6 Fair operating practices 6.8 Community involvement and development		
SO10	C O R E	Prevention and mitigation measures implemented in operations with significant potential or actual negative impacts on local communities.	6.3.3 Due diligence 6.5 the environment 6.6 Fair operating practices 6.8 Community involvement and development	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > As a Member of Society: Preservation of Global Environment > Environmental Management System > Environmental Risk Management > Emergency Response Training 	
Corruption					
SO2	C O R E	Percentage and total number of business units analyzed for risks related to corruption.	6.2 Organizational governance 6.6 Fair operating practices	<ul style="list-style-type: none"> CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Reinforcement of the Risk Management System > Risk Countermeasures Based on CSA Questionnaire 	P24 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > Risk Countermeasures Based on CSA Questionnaire

SO3	C O R E	Percentage of employees trained in organization's anti-corruption policies and procedures.	6.2 Organizational governance 6.4.7 Human development and training in the workplace 6.6 Fair operating practices	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Respect and Protection of Intellectual Property Rights ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Creation and Consistent Improvement of a Framework for Information Security ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Strict Adherence to the Anti-Monopoly Act, Subcontract Act, and Other Laws and Regulations Pertaining to Business Transactions ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > 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 ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Thorough Enforcement of Compliance; Risk Management > Strict Adherence to Laws and Regulations Relating to Export Management 	<p>P24 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > Respect and Protection of Intellectual Property Rights</p> <p>P24 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > Strict Adherence to the Anti-Monopoly Act, Subcontract Act, and Other Laws and Regulations Pertaining to Business Transactions > Fiscal 2012 Highlights: Reinforcing Efforts to Observe Competition-Related Laws</p> <p>P23 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > Creation and Consistent Improvement of a Framework for Information Security</p> <p>P24 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > 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</p> <p>P24 II How to Engage in Business Activities > Thorough Enforcement of Compliance; Risk Management > Strict Adherence to Laws and Regulations Relating to Export Management</p>
SO4	C O R E	Actions taken in response to incidents of corruption.	6.2 Organizational governance 6.6 Fair operating practices	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > How to Engage in Business Activities: Disclosure of Corporate Information > Consistent Improvement of Internal Controls Relating to Financial Reporting <p>* Addresses future possible illegalities</p>	
Public Policy					
SO5	C O R E	Public policy positions and participation in public policy development and lobbying.	6.6 Fair operating practices 6.8 Community involvement and development		
SO6	A D D	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.	6.6 Fair operating practices 6.8.9 Social investment		

Anti-Competitive Behavior					
SO7	C O R E	Total number of legal actions for anticompetitive behavior, anti-trust, and monopoly practices and their outcomes.	6.6.3 Anti-corruption 6.6.5 Fair competition"		
Compliance					
SO8	C O R E	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations.	6.2 Organizational governance 6.6 Fair operating practices		
Product Responsibility					
		Management Approach			
Customer Health and Safety					
PR1	C O R E	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	6.3.3 Due diligence 6.6.6 Promoting social responsibility in the value chain 6.7.4 Protecting consumers' health and safety	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Realization of Higher Quality Products and Services ▪ CSR > Web Version Full Report 2013 > Realization of Corporate Philosophy: Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability 	<p>P21 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Realization of Higher Quality Products and Services</p> <p>P22 I Realization of Corporate Philosophy > Provision of Products That Contribute to Better Social Environment > Development and Provision of Products and Services That Embody Safety and Reliability</p>
PR2	A D D	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services, by type of outcomes.	6.2 Organizational governance 6.6.3 Anti-corruption 6.6.6 Promoting social responsibility in the value chain 6.7.4 Protecting consumers' health and safety		
Product and Service Labeling					
PR3	C O R E	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	6.7.6 Consumer service, support, and complaint and dispute resolution	<ul style="list-style-type: none"> ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Communication with Customers and Procurement Partners > Promoting the Creation of a Mechanism for Responding to Customer Voices ▪ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Communication with Customers and Procurement Partners > Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake 	<p>P39 III As a Member of Society > Communications with Stakeholders > Communication with Customers and Procurement Partners > Promoting the Creation of a Mechanism for Responding to Customer Voices</p> <p>P39 III As a Member of Society > Communications with Stakeholders > Communication with Customers and Procurement Partners > Provided Water Purifiers as Monitors to Customers Impacted by the Great East Japan Earthquake</p>
PR4	A D D	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labeling, by type of outcomes.	6.2 Organizational governance 6.7.3 Fair marketing, factual and unbiased information and fair contractual practices		

PR5	A D D	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	6.7.6 Consumer service, support, and complaint and dispute resolution	■ CSR > Web Version Full Report 2013 > As a Member of Society: Communications with Stakeholders > Communication with Customers and Procurement Partners > Free Replacements for the Life Indicator Units on Fine Ceramic Filter Water Purifier C1 SLIM Announced on Our Corporate Website	P40 III As a Member of Society > Communications with Stakeholders > Communication with Customers and Procurement Partners > Free Replacements for the Life Indicator Units on Fine Ceramic Filter Water Purifier C1 SLIM Announced on Our Corporate Website
Marketing Communications					
PR6	C O R E	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.	6.2 Organizational governance 6.7.3 Fair marketing, factual and unbiased information and fair contractual practices		
PR7	A D D	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes.	6.2 Organizational governance 6.7.3 Fair marketing, factual and unbiased information and fair contractual practices		
Customer Privacy					
PR8	A D D	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data.	6.3.6 Resolving grievances 6.7.6 Consumer service, support, and complaint and dispute resolution 6.7.7 Customer data protection and privacy		
Compliance					
PR9	C O R E	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	6.2 Organizational governance 6.7.3 Fair marketing, factual and unbiased information and fair contractual practices		

Third-Party Opinion

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 a 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.



Mr. Koichi Ikeda

Visiting Professor,
Ritsumeikan University Management School

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.



Eiichi Hamamoto

Executive Vice President
CSR Committee Chairman

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 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.

Web Version Full Report and Print Version

There are two versions of the CSR Report, the web version full report 2013 and the print/web version available for download in PDF format.

The web version includes all content found in this report.

The print version reports on issues that are highly important to society and the NGK Group.

