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NSG Group

NSG

GROUP





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The following environmental considerations were incorporated into the printing of this report.

We employed direct plate-making using the computer-to-plate (CTP) method, which does not require film. In an effort to curb air pollution, we used ink derived from soybean oil. We also used paper certified by the Forest Stewardship Council, which means the paper was made from trees grown in forests properly managed in accordance with strict standards that take into account all aspects of the environment, the economy and society.



# "The NSG Group CSR Report 2007"

Nippon Sheet Glass Co., Ltd. (NSG Group)\* has compiled this report for the purpose of enabling its stakeholders to better understand the NSG Group's management policies and overall business activities.

The NSG Group began issuing its Environmental Report in 2001, and has been enhancing the social aspects of the contents presented therein under the title Environmental Social Activity Report since 2004. Against this backdrop, the NSG Group decided to publish this CSR Report 2007 to promote a deeper and more comprehensive understanding of the Group's activities from the CSR perspective.

In this report, the NSG Group is highlighting what it considers to be priority topics, reflecting current societal concerns. The special feature sections, for example, address the NSG Group's approach to climate changerelated issues. The features highlight in particular the Group's flat glass business, supplying glass for construction and automotive use, in order to illustrate the Group's contributions to solving global environmental problems through business processes.

The NSG Group aims to be a company that is open to society through the promotion of dialogue with its stakeholders.

\* Following the acquisition of Pilkington, the Company has reviewed its branding strategy and has decided to adopt the brand 'NSG Group' to reflect the new structure and international scope of the enlarged busi-

### Scope of This Report

The term covered by this report is mainly fiscal 2007, specifically April 1, 2006 to March 31, 2007; however, some activities from outside of this period are reported on herein. For the purposes of this report, the scope of organization covered comprises the NSG Group, which encompasses Nippon Sheet Glass, its 237 consolidated subsidiaries and 30 equity-method affiliates. However, for those activities conducted by organizations outside this group, relevant information is provided.

The NSG Group plans to publish its CSR Report 2008 in Autumn 2008.

### **Reference Guidelines**

The NSG Group's CSR Report 2007 has been edited with reference to the Global Reporting Initiative (GRI)'s "Sustainability Reporting Guidelines 2006" and the Ministry of the Environment's "Environmental Report Guidelines 2007."

### Disclaimer

Corporate Social Responsibility Report

This report contains forward-looking statements based on the NSG Group's management policies and plans. These statements are based on information available at the time of the report's compilation: therefore, the Group's actual performance and results may vary substantially from projections due to various contributing factors in the future management environment.

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### Leveraging the Company Web Site

In addition to this report, the NSG Group makes full use of its Web site to report on its activities. The content of this report as well as more detailed information are provided on the Web site. Topics covered in this report for which related information is available online bear this mark.





Katsuji Fujimoto President & CEO

# A Global Glass Manufacturer

The NSG Group is one of the world's leading glass manufacturers. Over 85 percent of the Group's operations are in Flat Glass (Building Products and Automotive), making glass for the world's buildings and vehicles, with the balance in Specialty Glass (Information Technology and Glass Fiber).

Since its foundation in 1918, the NSG Group has based its manufacturing philosophy on the concept of *monozukuri* (a passion for manufacturing excellence). The Group's products make a positive contribution to people's lives and the environment, bringing light into buildings and vehicles, helping to conserve energy, offering protection and transmitting information.

In June 2006, the size and scope of the NSG Group was transformed with the acquisition of 100 percent of the issued shares of the leading UK-based glass manufacturer, Pilkington plc. Combining the strengths of both companies has firmly established the NSG Group as one of the world's leading glass manu-

facturers, with a network that includes production sites in 27 countries, sales bases in 130 countries and approximately 34,000 employees worldwide.

The business integration with Pilkington plc has not required significant changes in the Group's stance toward CSR, as the principles that had been followed by Pilkington were very similar to those already in operation in the NSG Group.

To meet its objectives as a global glass manufacturer, the NSG Group has established a long-term vision setting out its business goals for the next 10 years, with a Medium-Term Plan defining the strategy for the next four years. A global management structure was established in April 2007 and a new statement of "Values and Principles" was published, providing all Group employees with an ethical framework as we move forward into a new era.

# NSG Group's Commitment to CSR

In recent years, Corporate Social Responsibility has become an important management theme within all responsible companies worldwide, with corporations increasingly under pressure to demonstrate commitment to CSR by addressing such major issues as climate change. The NSG Group has diligently implemented strict corporate social responsibility policies since its foundation, and in August 2005, established a CSR Committee to accelerate the promotion of its activities in this important area.

The NSG Group defines CSR as "an activity that establishes a relationship of trust with all stakeholders in order for it to operate as a socially reliable company."

As a member of the Sumitomo Group, a consortium been made in the Float Process. Emissions have been of independent Japanese companies with well-estabreduced significantly and substantial reductions have lished records and histories reaching back more than been made in energy consumption. 400 years, NSG Group's management philosophy is based on the "Sumitomo Spirit" of "placing prime Despite this progress, the NSG Group continues to strive to improve overall energy consumption and CO<sub>2</sub> importance on trust," "not pursuing easy gains," and emissions in all our operations and through our prod-"contributing to society through business." Following uct range. Technologies for recycling glass and for the Pilkington acquisition, the NSG Group basic philosthe addressing the issue of End of Life Vehicles are a ophy that "people are the most important asset of our significant focus. As a responsible manufacturer, the company," was combined with Pilkington's policy, "to NSG Group is increasingly applying its technological achieve business success through professional, fair, skills to find solutions to the issue of climate change ethical, legal and sustainable business practices." In (for details, please refer to the "Special Features" this way, the Group has established a new management section of this report). policy that is more suited to the operations of a global company.

With the business integration as a turning point, the NSG Group intends steadily to realize the synergies, while establishing a corporate governance structure in order to conduct efficient business operations on a global scale.

# A Socially Responsible Glass Manufacturer

Over the past 20 years, glass demand has grown, driven not only by economic growth, but also by legislation and regulations concerning safety, noise attenuation and the response to the growing need for energy conservation. Architects and car designers are using increasingly more glass in buildings and vehicles.

Glass manufacturing is an energy-intensive process, but energy usage in manufacture is offset by the significant contribution that the Group's advanced glass products make to energy conservation and the sustainability of the business. Since its inception, major environmental improvements have been made in the Float Process. Emissions have been reduced significantly and substantial reductions have been made in energy consumption.



and supply of glass products, through the best use of our people and technology and the pursuit of innovation.

# First in Glass<sup>TM</sup>

## **OUR VALUES**

People are the most important asset of our company.

### We value:

- Trust and mutual respect
- Integrity and professionalism
- Team work and mutual support
- Open communication
- Initiative and creativity
- Passion and resilience
- Individual and social responsibility

### **OUR STAKEHOLDERS**

We aim to be judged as best in class by:

- OUR CUSTOMERS To be their preferred supplier for glass products and related services
- OUR EMPLOYEES To be their preferred place to work
- OUR SHAREHOLDERS To be their preferred long term investment

- Ensuring that all our decisions and actions add value to the company
- An obsession with safety, in belief that all accidents are preventable
- The development of the potential and motivation of all employees to enable the use of the right people in the right place
- The achievement of defined quality standards to satisfy internal and external customers
- The development and use of market-leading technologies for products and process
- Monozukuri: having a passion for manufacturing excellence-through benchmarking, best practice and standard operating procedures
- Genchi Genbutsu: making decisions after going to the source to understand conditions on the shop floor and in other workplaces
- Making decisions based on data, facts and analysis
- Seeking to continuously improve in all our activities, through the application of the PDCA (Plan, Do, Check, Act) methodology
- Efficiency in everything we do, exploiting synergies and achieving cost leadership throughout
- A commitment to high standards of social responsibility in the communities and environments in which we operate.

July 2006





# **Steadily Pursuing Innovation:** 'First in Glass'

Throughout its history, the NSG Group has focused on glass materials in its pursuit of innovation, driven by the Group's spirit of monozukuri. Today, the Group is a global leader in manufacturing excellence and innovation in glass, notably in glass melting, glass forming by the float process, on-line coating and complex shaping technology, especially for automotive windscreens and backlights.

The acquisition of Pilkington brought into the filed of Corporate Social Responsibility. While a number of issues needing resolution Group the company that invented the Float Glass process, the worldwide standard for the manufacture remain, the NSG Group intends to contribute to work of high quality glass. It also increased the number of toward the development of a sustainable company, float plants in which the Group has an interest or through our business activities and through dialogue directly operates to 51. This offers increased scope for with our stakeholders. the development of manufacturing excellence-through February 2008 benchmarking, best practices and standard operating procedures.

The Group's new organization, introduced during 2007, will facilitate adaptation to the acquisition, which has dramatically altered the Group's business focus and geographical spread. The new organization will also address issues such as increasingly intense global competition, a rapidly changing business environment and growing social responsibilities.

The Group's four-year Medium-Term Plan, launched in April 2007, will drive strategy for the near future. The main objective is to create a new entity, differentiating the NSG Group from its competitors, maximizing productivity and operational quality and re-establishing the Group's financial foundations. The overall aim is to realize the ambition embodied in the slogan adopted by the Group, which is to be 'First in Glass.'



# To Our Stakeholders

The publication of the NSG Group's first CSR Report represents an important development, reflecting both the organizational changes the Group has experienced over the past year and our determination to improve our CSR reporting. The new CSR Report replaces the Environmental Social Activity Report the Group has produced since 2004. This new format will enable us to provide more detail and data to enable our stakeholders to monitor our progress in all aspects of the

> Katsuji Fujimoto President and Chief Executive Officer

# As a global glass manufacturer, the NSG Group supports future lifestyles.

# VOICE

Share of Float Glass Production by region





Corporate Information: http://www.nsggroup.net/about/index.html



Having launched a new global management structure in April 2007, the NSG Group is moving forward into a new era. The physical scope of the Group's business operations has expanded worldwide, and now encompasses the core areas of Japan and Europe as well as North America and

Against a backdrop of growing expectations and increasing challenges, the NSG Group will work to ensure that the core value of "people are the most important asset of our company" is one that all its employees around the world share as they strive to meet stakeholders' expectations. The NSG Group will clarify the social value it offers and the challenges it faces in the flat







**Recycling Glass** 

R&D Structure: http://www.nsggroup.net/about/rd/index.html

The Group also strives to collect waste glass in order to help realize a recycling-oriented society.

tures.

**Utilizing Glass** 

other buildings and automobiles to optical lenses and glass for liquid crystal bases. In addition, the Group's glass fibers play a key role in the IT and high-technology sectors. Building on its technical advantages, the NSG Group will aim for both reduced power consumption and space saving fea-

# 'First in Glass' – Playing Our Part to Reduce Global CO<sub>2</sub> Emissions

The NSG Group is taking on the challenge of finding solutions to climate change issues by applying its expertise in core glass products.

# **Climate Change Problems Escalate**

The expansive impact of our changing climate raises serious issues for the world's economies and societies and will continue to be a priority issue for corporate management well into the future. According to a 2007 report published by the Intergovernmental Panel on Climate Change (IPCC), global warming and other climate issues are primarily attributable to an increase in greenhouse gases caused by advanced industrialization that in turn cause the earth's climate system to heat up. In addition to these significant findings, the report also predicts that if the world continues to depend on fossil fuels, average climate temperatures around the world will rise approximately 4°C by the end of this century, with detrimental effect on the planet.

While energy conservation measures taken up in the industrial arena have made significant progress, there are also calls to reduce CO<sub>2</sub> emissions through product technologies. As a global supplier of glass products for buildings, homes and cars around the world, the NSG Group is taking on the challenge of solving global climate change issues through its core glass business.



# **Reasons for the Current Global** Focus on Buildings

The energy consumption of buildings has significantly increased since 1990. Accordingly, the reduction of energy consumption is highlighted as one of the keys to achieving the goals stipulated in the Kyoto Protocol.





Note: Based on materials provided by the Stern Review

According to the Stern Review on the Economics of Climate Change published in October 2006 by the British government, 8 per cent of all greenhouse gas emissions worldwide come from buildings. This amounts to 3.4 billion tons on a CO2 equivalent.

In 2008, the first commitment period of the Kyoto Protocol will commence, marking the start of the 2008-2012 challenge by advanced nations to reduce average annual greenhouse gas emissions by a collective 5 per cent below 1990 levels at a minimum. Specifically, the European Union is targeting an 8 per cent reduction, the United States 7 per cent, and Japan 6 per cent.

However, current trends in energy consumption stemming from the use of electricity in private homes

and buildings, as people continue to seek greater comfort and convenience in their lives, have certainly shown an increase. In Japan, for example, energy consumption of homes and buildings in fiscal 2006 was shown to have increased by 40.8 per cent above consumption levels in fiscal 1991, marking a new record high. In European countries, 40-50 per cent of all energy consumption is accounted for by the electricity usage of buildings, demonstrating the urgency for reductions in the use of energy within homes and buildings.

It is for this reason that buildings are said to hold the key to achieving the commitments outlined by the Kyoto Protocol. Attention is therefore warranted, as the world takes on the challenge of reducing building and home energy consumption.

Greenhouse gas emissions produced by buildings worldwide

Building heating and cooling systems consume a substantial amount of energy. Clues to reducing such consumption can be found in glazing-the path through which heat enters and exits.



The windows of a house serve the vital purpose of shielding the interior from solar heat in the summer and preventing heat from escaping during the winter. According to our data, of the amount of heat that penetrates a home during the summer, 71 per cent of that warmth is let in through windows. Similarly, in the winter, windows are responsible for 48 per cent of the heat that escapes.

Although the energy-saving capabilities of heating and cooling equipment continue to improve, the fact is that one-third of a building's CO2 emissions are produced by the energy these systems consume. In Japan, where seasonal temperatures vary greatly, CO2 energy emissions from homes and buildings account for 34.2 per cent (fiscal 2006: 1,203 million tons) of the nation's total emissions.



Additionally, one-third of these emissions are the product of cooling and heating systems.

Regardless of how efficient a heating or cooling system might be, if a building or home unable to prevent heat from penetrating in the summer, or from escaping in the winter, then the efficiency of the equipment becomes irrelevant.

With this in mind, it is no wonder the world is focused on glass that curbs heat loss and contributes to heating or cooling efficiency.

# Aiming for Energy Efficiency with Double Glazing

Double glazing is twice or more as effective as single glazing in terms of heat insulation.



Source: NSG Group data

Double-paned glass, known as double glazing, is twice as effective as single-paned glass, or single glazing, in terms of heat insulation. The reason for this is due to the use of two panes of glass versus one, as well as to the layer of air that is sandwiched between the two panes.

The dry air trapped between the two glass panes helps curb the transfer of heat. It works like a down jacket helps keep you warm, with the warmth provided by the jacket through the small pockets of air within the down that curb heat transfer.

Low-E stands for Low-Emissivity. Emissivity is a measure of how much a glass surface transfers radiant heat. The less radiant heat is transferred, the better. The

surface of Low-E double glazing glass is coated with a special metallic layer that further lowers heat transfer (thermal emission) and demonstrates superior insulation properties compared with standard double glazing.

Owing to stronger energy efficiency standards, the number of new homes being built with double glazing in Europe, the United States and Japan is increasing. However, most existing houses still use single glazing and continue to face the issue of inefficient heaters and heat loss. The thermal efficiency of SPACIA 21 vacuum glass compared to single glazing:

# The vacuum principle helps boost the thermal insulation efficiency of double glazing.



In 1997, the NSG Group became the first company in the world to successfully develop vacuum glass, which it named SPACIA. SPACIA vacuum glass applies the principle that makes a thermos bottle effective, namely, that a vacuum does not transfer heat. Accordingly, the layer of dry air between the two panes of double glazing has been replaced by a vacuum.

There are three ways in which heat, or thermal energy, is transferred. The first is conduction, exemplified by heat passing from one object to another without the objects actually moving, such as when the handle of a heated frying pan becomes hot. The second is called convection and explains why the heat from a hot bath flows from the hot water to warm up the surrounding water. Third, is emission, which is heat radiation, such as the way an open fire radiates heat. Consequently, the more





SPACIA 21 vacuum glass

efficient glazing is at curbing all three types of heat transfer, the higher its insulation properties.

The vacuum layer of the vacuum glass works better than a simple layer of dry air to curb conductive and convection types of heat transfer. SPACIA 21, which was developed after the original SPACIA, is a hybrid of our vacuum glass and Low-E double glazing and achieves superior thermal insulation properties. Owing to the functioning of the Low-E film coating, not only is SPACIA 21 effective in curbing conduction and convention heat transfer, but also heat emission.

SPACIA 21 vacuum glass, boasts eight times, four times, and two times the thermal insulation of single glazing, standard double glazing and Low-E double glazing, respectively.

# Prevalence of Energy-Efficient Glass

The adoption of high-performance thermal insulating glass to meet the increased energy efficiency needs of buildings and homes is an urgent matter.



**Eco-Glass Web site** 

http://ecology-glass.jp

\*Data compiled in collaboration with the Flat Glass Association of Japan

Within the last 25 years, in mature markets such as Japan, Europe and North America, the growing need for energy efficiency has driven the switch from single glazing to insulated, double-glazing units.

With stricter energy standards being enforced since the initiation of the Kyoto Protocol in 1997, insulated glazing units for new buildings and homes in most parts of Europe have become mandatory. Legislation requiring higher efficiency, Low-E double-glazing units has also been introduced.

However, Low-E double-glazing units have yet to become sufficiently utilized in existing homes. Of the approximate 46 million existing homes in Japan, the usage rate of Low-E double-glazing units is a mere 0.3 per cent. To encourage higher take-up, in April 2006, the NSG Group joined the Flat Glass Association of Japan and other industry organizations in educational and popularizing activities to raise awareness of energyefficient glass products. To increase awareness of the benefits of Low-E double glazing amongst general consumers, we dubbed the glass "Eco-Glass," launched a dedicated NSG Group Eco-Glass Web site, and are continuing to develop other activities to increase usage and application.

As building energy efficiency becomes a higher priority for European countries, EU Directives such as the European Energy Performance of Buildings Directive will stipulate the use of Low-E glazing. Accordingly, the diffusion of high thermal insulating glass to meet increased energy efficiency needs of buildings and homes is an urgent matter. Usage rate in Japan of Low-E double glazing units

# As a leader in the glass manufacturing industry, the NSG Group is pushing for greater building energy efficiency.

### **NSG Group Eco-Glass**

# • Pair Multi Super (High thermal insulating double glazing)

- Sekyuo Pair (Safety thermal insulating double glazing)
- Pair Multi Low-E (Low-E double glazing)
- SPACIA ST (Vacuum glass)
- SPACIA Mamoru ST (Laminated vacuum glass)
- SPACIA 21 (Double glazing vacuum glass)



Eco-Glass is the preferred industry nickname for Low-E double glazing throughout Japan.

To quantify this, if all single glazing were changed to Low-E double glazing, the effect would be a reduction in energy emissions. For example, it is equivalent to 9 million tons of CO<sub>2</sub> annually in the UK or 17 million tons in Japan. This potential effect on annual energy expenditure provides the NSG Group with plenty of reasons to promote the use of Low-E double glazing in buildings and homes worldwide.

The Group is well positioned to satisfy such widespread need, with a comprehensive line-up of energyefficient products. These include the Pair Multi and SPACIA series in the Japan market and the Pilkington, range of energy-efficient products, including the Optitherm<sup>™</sup> S3, Optitherm<sup>™</sup> SN and the heavy-duty Optitherm<sup>™</sup> SN Pro T. Pilkington K Glass<sup>™</sup> is Pilkington's most advanced range of Low-e double

# 0.3%



Pilkington K Glass<sup>™</sup>

R

Pilkington K Glass<sup>™</sup> has the highest thermal insulation properties of any glass in the UK.

glazing products.

In Japan, the NSG Group undertakes Eco-Glass awareness activities through the Flat Glass Association of Japan, as well as by collaborating with related industries in targeting government and economic organizations to encourage the use of Eco-Glass.

In Europe, Pilkington encourages the ongoing development of such products through the Pilkington Energy Efficiency Trust (PEET) that it established to fund research designed to improve energy-efficiency in buildings.

# Solar Control Glazing for Cars

# Car Air-Conditioning Proves to be Hidden Cause of Poor Fuel Efficiency in Summer.

The NSG Group is one of the world's leading suppliers of automotive glazing. Every year approximately 60 million cars are sold worldwide with a total of 869.82 million vehicles in use in 2005 (based on data provided by the Japan Automobile Manufacturers' Association, Inc.). Furthermore, in line with changing automobile designs, the area of glass installed per vehicle increases every year.

At present, over 20 per cent of global CO<sub>2</sub> emissions come from automobiles. In Japan, cars are responsible

for about 20 per cent of the nation's CO2 emissions, explaining the recent surge in the importance of reducing automobile CO2 emissions. Correspondingly, although improvements in fuel efficiency, which dictates automobile CO2 emission levels, are made every year, the amount of energy needed to cool the inside of a car in summer through the use of air-conditioning is exceptionally high. Moreover, this not only causes a decrease in fuel efficiency, but also places a substantial burden on the environment.



# Infrared-Reduction Glass Lowers Thermal Load on Cars.

While solar rays consist of ultraviolet, visible light and infrared rays, it is the penetration through car glazing of infrared radiation that leads to heat build-up in vehicles. Consequently, by integrating an infrared-blocking feature into the automotive glazing, heat rays are partly transmitted, reflected and absorbed to contribute to the reduction of heat build-up within vehicles.

Automotive glazing with this feature is called "infrared reduction glass" or "solar control glazing" and



Automotive glazing manufactured by the NSG Group possesses high thermal insulation properties that contribute to reducing solar heat build-up inside the car, which thereby lowers the load on the air-conditioning unit, improves fuel efficiency and greatly reduces the car's level of CO2 emissions. Furthermore, reducing the heat burden within the car positively affects the temperature regulation inside the car when the engine is stopped. Accordingly, the NSG Group's solar control glazing performs a major role by achieving solar control properties.



By reducing a standard vehicle's thermal load by 5 per cent, it becomes possible to cut the electricity consumption of the air-conditioning unit by 10 per cent and thereby improve fuel consumption efficiency by 2 per cent-4 per cent (Source: NSG Group data). Therefore, if all cars around the world were to use solar control glazing, we would expect that the improved fuel efficiency would have a significant and positive effect on the reduction of global CO<sub>2</sub> emissions. With this in mind, the NSG Group's new glass development and product diffusion efforts are one way in which the Group is practicing social accountability.

Reduction in heat entering cars equipped with Pilkington Optikool™, compared with

consists of an infrared-reflecting film that is sandwiched between two pieces of glass. This type of glass provides high thermal insulation, reducing air-conditioning load and improving fuel efficiency.

The NSG Group is a leading supplier of these functional infrared reduction and solar control glazing materials. Pilkington Automotive's functional solar control brands include Optikool<sup>™</sup> and EZ-KOOL<sup>®</sup>.

# With the aim of establishing relationships of trust with stakeholders, the NSG Group is taking a CSR-oriented approach to business.

# **CSR Underpins the Group's Management** Philosophy

The NSG Group is a member of the Sumitomo Group and its management philosophy, "people are the most important asset of our company," is deeply rooted in the 400year-old Sumitomo Spirit. This spirit underpins the NSG Group's CSR foundation, which espouses the basic ideas of "open and fair," "thorough compliance with corporate ethics" and "contribution to global environmental issues.'

With the acquisition of Pilkington plc in June 2006, the business scale of the NSG Group expanded significantly and along with it, the scope of its social responsibilities. Consequently, the Group reviewed from a global perspective the management philosophy it had established in 1976, and in July 2006 formulated the new NSG Group "Values and Principles." The concept "people are the most important asset of our company" provided a firm basis for the Group's values and has been retained in the new management philosophy, which has been disseminated to all Group employees worldwide.

The Group's "Values and Principles" statement defines the ideals to which it aspires, in addition to the basic CSR concepts that guide all of its business activities. The NSG Group regards the adoption of a CSR-oriented business approach to be synonymous with the implementation of its management philosophy and has consequently reinforced those activities that are founded upon its basic CSR policy. To help promote its CSR activities, the NSG Group has established subcommittees representing various stakeholder groups, including customers, shareholders and investors, employees, suppliers and the local communities in which the Group has operations. As part of its effort to spread these activities throughout the Company, the NSG Group created a CSR Handbook that explains the Group's CSR philosophy and activities in layman's terms. The contents of the Handbook have been published on the company intranet system. The Handbook is currently being further revised to reflect the development of the NSG Group into a global company.

The establishment in April 2007 of a new global management structure will help ensure that CSR activities are further developed worldwide, to the benefit of all of the Group's stakeholders.



Overview of Corporate Social Responsibility at NSG Group





### **NSG Group and Its Stakeholders**

In its basic CSR policy, the NSG Group defines CSR as "an activity that establishes relationships of trust with all stakeholders; in order for it to operate as a socially reliable company." This reflects the fact that the Group's business activities are largely attributable to its stakeholders, including customers, shareholders, investors, employees, suppliers and local communities. Therefore, the Group is able to enhance its corporate value only by responding to their expectations.

The NSG Group established a CSR Committee in August 2005. The NSG Group assesses CSR activities throughout the Group. The President chairs the CSR Committee, with relevant officers, headquarters general managers, business line general managers and plant managers in Japan serving as committee members.

# Through the development of global corporate governance, the NSG Group will strive to become a company that operates with a spirit of openness and fairness.

# The NSG Group's Governance Structure

In all its business activities, the NSG Group places top priority on the enhancement of corporate governance, in order to establish relationships of trust with all stakeholders and promote CSR-oriented management. To this end, the Group is also reinforcing its governance structure to ensure fair and transparent business operations.

As part of its corporate governance structure, currently the Group operates a corporate auditor system. As of October 2007, the Group employs 12 directors (including eight executive officers) and 24 executive officers (including eight executive officers concurrently serving as executive officers). Following the launch of the global management structure, the Group created on October 1, 2007 the posts of Chief Executive Officer (CEO) and Chief Operating Officer (COO) to expedite the process of integration and globalization. NSG Group also employs five corporate auditors. Three of the five corporate auditors are external auditors, comprising one attorney, one auditor with experience as a director at other companies and one accounting specialist.

In fiscal 2007, the Board of Directors met 15 times and Board of Auditors meetings were held seven times.

The NSG Group has established structures such as the

An Open Management System

CSR Committee and the Compliance Committee with the aim of improving internal control over the execution of Group-wide operations. The Japanese SOX Act (J-SOX), formulated in 2006, stipulates internal control-related rules under the Financial Instruments and Exchange Law. In accordance with the law, in fiscal 2009, all publicly listed companies will be required to assess their internal control systems regarding the reliability of their financial reporting, as well as ensuring that such systems receive external audits. The NSG Group has been proactively engaged in preparatory processes for the implementation of J-SOX. In order to define the responsibilities and authority of the Board of Directors as well as executive officers, the NSG Group introduced an executive officer system aimed at improving management efficiency and speed. Together with this, the Group reduced the term of office for directors to one year. Furthermore, to increase transparency with regard to the compensation and selection of directors, corporate auditors and executive officers, NSG Group has established a Compensation Advisory Committee and a Selection Advisory Committee. With these efforts, the NSG Group will further develop its governance structure to effectively control operations worldwide.



### (As of October 1, 2007)

# Promotion of Compliance

The NSG Group strives to develop its compliance system and to raise awareness of this system among its employees, on the understanding that thorough compliance, including abiding by laws and social norms, is a minimum corporate social responsibility when pursuing continued business operations.

Developing the compliance system, the Group established the Compliance Committee in August 2002, with the director responsible for compliance serving as chairperson. To that end, the Group provides regularly scheduled compliance education based on the NSG Group Compliance Policy, monitoring the actual status of compliance in liaison with the Audit Office. In addition, compliance reporting and consultation contact points both inside and outside of Group offices have been set up to create a system for employees to report and consult on matters regarding compliance. The Group's principal subsidiary, Pilkington Group Limited has vigorously implemented compliance-related initiatives based on the Pilkington Code of Conduct, which all Pilkington Group employees observe closely in their operations, and operates a Reporting of Concerns procedure, which is comparable to the NSG Group's system of compliance reporting and consultation contact points. The NSG Group is proceeding with the development of a global compliance system under the global management structure launched in April 2007.



NSG Group CSR and compliance related training materials

# **Response to Various Risks**

The NSG Group has principal manufacturing operations in 27 countries around the world, with sales in 130 countries. The Group thus faces various risks with regard to its business activities and risk management is increasingly important to the Group's ongoing prosperity. Based on this understanding, the Group's Compliance Committee comprehensively identifies and controls Group companies' exposure to risks. For risks relating to the environment, workplace safety, disasters, product quality, information security and credit control that may cause a significant impact on the Group's business, each division sets out rules to control the relevant risks, depending on their significance. When a significant risk materializes, the division responsible for that risk category will address the risk by formulating an emergency response group under the Group's risk management rules and the basic risk control policy.



### Using the Risk Map

The NSG Group uses a risk map to evaluate and manage collectively the degree of risk impact as well as the likelihood of exposure to certain risks, rated low, medium and high. The use of this map helps the Group clarify risk exposure while also strengthening its overall risk management structure.

# Through its environment-friendly manufacturing, the NSG Group contributes to the realization of a healthier and more abundant society.

### NSG Group's Environmental Policies\*

### Philosophy

With a deep awareness of the importance of the earth's environment, NSG Group will contribute to the realization of a healthier and more abundant society by carrying out its business activities in harmony with the natural environment.

### Action Guidelines

- 1. The Company will give sufficient consideration to the environmental impact of its business activities during all phases of operationsincluding R&D, manufacturing, sales, distribution, product disposal, and recycling-and will carry out its corporate activities in harmony with the environment.
- 2. The Company will strive to develop production technologies that minimize environmental impact and develop and promote the greater use of products that reduce the environmental burden
- 3. The Company, while strictly adhering to national and local environmental regulations, will establish self-management standards as it works to protect the environment.

- 4. The Company will provide extensive environment-related education to raise environmental awareness among its employees and will progress with the implementation of environmental-protection activities.
- 5. The Company will make efforts to continually raise the level of its environmental-protection capabilities by establishing and effectively operating an environmental management system.
- 6. The Company will endeavor to cooperate and coexist harmoniously with local communities.

The guidelines will be announced within the Company and externally. Adopted December 24, 1997

(\*) The NSG Group has adapted established NSG environment policies to address the expanded global perspective of the Group.

Considering environmental issues as a top management priority, the NSG Group formulated its environmental poli-term business plans of four years' duration-are set in order to implement proactive and preventive environmental conservation activities.

The NSG Group significantly expanded the scale of its operations, not to mention the global scope of its environmental measures, with the acquisition of Pilkington plc in June 2006. During the initial phases of the acquisition, both NSG and Pilkington pushed ahead with environmental measures that were based on "environmental policies" across all regions and divisions. Since the launch of its global management system in April 2007, the Group has

unified its brand under the NSG Group banner and systematically integrated the operations of both companies. Thus in the NSG Group, the review of systems, policies and environmental targets has proceeded in parallel to bring about the development of environmental measures from a global standpoint.

When reference is made to "in Japan" or "domestic," the environmental data supplied in this report covers all NSG Group business sites operations in Japan, along with Japanese affiliates that are co-located with a business site, and Nippon Muki Co., Ltd.'s Yuki Plant, in fiscal 2007. A partial report on Pilkington's activities is also included. In the body text, "ton" indicates "metric ton."

# **Environmental Targets Progress Report Environmental Targets for Fiscal 2011**

Having positioned fiscal 2001 to mark the start of its environmental activities in Japan, for its long-term vision,

the NSG Group has set four environmental targets for fis-The introduction of the environmental management cal 2011. In addition to providing clarification from a system into principal affiliates in Japan was completed broad perspective, these environmental targets also conduring the course of the plan's initial phase. Reducing the tain a quantitative element. In addition to establishing an use of harmful substances was also ongoing in fiscal environmental management system, there are targets for 2007 and will continue from here on. With regard to envireducing energy use, CO<sub>2</sub> emissions and land-filled solid ronmentally sustainable products, there are plans in place waste to set up in-house accreditation standards for "green The NSG Group, which had set a medium-term target product" lines that will be able to contribute to reducing of reducing the amount of landfill waste to almost zero at the impact on the environment.

### **Environmental Targets**

1.Living in harmony with local communities Establish a group-wide environmental management system and improve it continuously.

### 2. Pursuing environmental protection

Reduce energy consumption more than 15 per cent in comparison with fiscal 1991.

Reduce the final disposition of industrial waste by more than 95 per cent through reuse and recycling.

### Fiscal 2007 Domestic Environmental Activities

Items	Key Issues	Medium-Term Targets (Fiscal 2011)	Fiscal 2007 Performance	Self- assess- ment	Fiscal 2008 Targets
Living in harmony with local communities	Extension of environ- mental management system to all domestic and overseas affiliates	Environmental management systems to be introduced at all affiliates that have manufacturing facilities     Risk assessments to be conducted at all affiliates, and measures taken to reduce risks	Completed the implementation of envi- ronmental management systems at all domestic affiliates     Started to expand implementation of environmental management systems at overseas affiliates	0	Expand global activities, including those of former Pilkington plc
	Promotion of energy conservation	Flat Glass business sector to reduce energy used in manufacturing process by 15 per cent in comparison with fiscal 1991 amount (fiscal 2011) • Flat Glass business sector reduced ener- gy used in the manufacturing process by 17 per cent of 1991 amount		0	Develop activities to reduce energy use and CO <sub>2</sub> emissions worldwide
Pursuing environmental protection	Reducing waste generation	All domestic Group operations to have achieved a recycling ratio of more than 95 per cent by fiscal 2011	<ul> <li>Major business sites again maintained a recycling ratio of more than 99 per cent in fiscal 2007. Affiliates began to improve their recycling ratios</li> </ul>	0	Improve recycling ratios     at domestic affiliates
			<ul> <li>Successes in the development of recy- cling techniques for automotive and high-performance glass</li> </ul>	0	Promote recycling tech- niques for automotive and high-performance glass
Contributing to a recy- cling-oriented society	Reducing the use of harmful substances	Use of harmful substances (lead, arsenic, selenium) to be reduced by more than 50 per cent in comparison with fiscal 2000	Progress made in developing technology to completely eliminate lead, arsenic and selenium	Δ	Advance the development of technology to com- pletely eliminate lead, arsenic and selenium
Vigorously developing environmentally sus- tainable products	Increasing market acceptance of green products	Sales to be more than double their fiscal 2005 level	cal •Strengthen ties between R&D and sales divisions		Advance the use of new products

○: Initial targets attained: at a satisfactory level

 $\triangle$ : Some initial targets attained: some issues remain

×: Initial targets not attained; at a unsatisfactory level

its business sites in Japan by fiscal 2007, achieved the target one year ahead of time, in fiscal 2006.

### 3.Contributing to a recycling-oriented society

Reduce use of harmful substances by over 50% in comparison with fiscal 2000.

4.Vigorously developing environmentally sustainable products

Increase sales of environmentally sustainable products to more than double their fiscal 2005 level.

INPUT

# Material Balance of Operations

# The NSG Group works to reduce environmental impact at all stages of glass production and processing.

NSG Group (in Japan)

General energy (GJ)11,473,831 Glass Manufacture Distribution PAIRMULTI Spacia vacuum Fuel oil (kl) 148,763 Electricity (MWh) 417,635 double-glazed glass series LPG (tons) 8,114 Raw Materials Melting Furnace Float Bath Cooling Cutting Distribution and Sales glass series Natural gas (thousand m<sup>3</sup>) 16,402 Molten glass Cooling, cleaning, City gas (thousand m<sup>3</sup>) 10,897 made flat drying Glass Cutting Industrial water (thousand m<sup>3</sup>) 9.937 Glass melting Raw Materials Roller conveyor Tin Silica sand (tons) 287,250 Limestone (tons) 9.255 Cut to size Consolidation of Dolomite (tons) 76,342 Silica sand, Melt materials Called float Evenly formed limestone, recy- at 1,600°C in logistic equipment 82,704 bath as liquid Soda ash (tons) glass slowly (recycling depots for Sodium sulfate (tons) 1.702 cled cullet, etc. melting furnace glass floats on cooled washed surface of in water and shipping pallets glass homoge-**Recycled Materials** established, etc.) nization molten tin dried 149,300 Cullet (tons) Contributing to reduced CO<sub>2</sub> emissions from buildings with glass products that offer high levels of insulation OUTPUT 760,000 Waste and Recycling Air Pollutants Air Pollutants Total waste (tons) 192,413 tons SOx (tons) 804 SOx (kg) 25,900 580,000 Landfill and incineration 1,615 NOx (tons) NOx (kg) 76 1,674 volume (tons) tons Reuse as raw materials Recycling volume (tons) 190,469 Particulates (tons) 66 22,900 CO<sub>2</sub> (tons) CO<sub>2</sub> emissions CO<sub>2</sub> reductions during accruing from CO<sub>2</sub> (tons) 735,428 Wastewater (thousand m<sup>3</sup>) 7,317 manufacturing product use BOD (tons) 2 Approx. 80% COD (tons) 21 SS (tons) 28 beech trees.

760,000 tons

CO<sub>2</sub> Emissions during Operations

The NSG Group's operations in Japan cause the emission of approximately 760,000 tons of CO2. Of these operations, the process that has the greatest impact on the environment is the melting of the raw materials using heat (between 1,600°C and 1,700°C) from the combustion of fuel oil. In contrast, other processes, such as cutting and forming, do not require high temperatures and have little environmental impact. The melting of raw materials is indispensable in the manufacture of glass and requires the use of a certain amount of energy. The NSG Group is taking wide-ranging measures to reduce CO<sub>2</sub> emissions during the manufacturing process.

580,000 tons CO<sub>2</sub> reductions accruing

from product use

In Japan, the CO2 reductions accruing from the use of NSG Group insulating glass products are calculated at 580,000 tons (NSG Group study). The study also shows that NSG Group achieves an approximate 80% (760,000 tons) in CO2 emissions during glass manufacturing. At NSG Group, popularizing the shielding effect and superior insulating properties of double-glazed glass and vacuum glass contributes to the reduction of energy used for heating and cooling and thus of CO2 emissions.

Terms of Calculation

\* Transport of ore from mine to factory, and transport of fuel oil and gas from points of production to factory (marine transport = 2.634Mt/km; overland transport = 27Mt/km)

\* Transport of products between factories, and from factories to points of sale (distance of overland transport of products = 199Mt/km)

\* Simulation results from a SMASH thermal load calculation program during the usage stage \* Volume of waste incinerated = volume of waste consigned to final disposition (waste consigned directly to landfill + waste consigned to landfill immediately after waste treatment) + waste incinerated

# Customers (in Japan)







# NSG Group's Environmental Management

# Environmental Management System

The NSG Group promotes environmental management that involves the entire Group in environmental conservation activities. To ensure the effectiveness of these activities, NSG Group has introduced an environmental management system and is forging environmental measures and policies for the entire Group based on this system.

The NSG Group has completed ISO 14001 certification procedures at each of its domestic facilities and finished deploying its environmental management system at major domestic affiliates in fiscal 2007.

In addition, Pilkington has nearly completed the introduction of the ISO 14001 standard at key facilities. Notable is the introduction of a globally integrated environmental management system in the automotive glass business division. Based on this, the NSG Group has constructed a system that enables it to supply products from any plant in the world under uniform environmental policies.

# **Environmental Audit**

The NSG Group has conducted environmental audits of domestic plants since 1991. The audits deal with the effectiveness of environmental management systems, progress toward key environmental targets, and hazardous materials management and reduction. They include both paperwork audits and inspections of material and workplaces. Especially good audits are used as "model cases" and, in an effort to improve results at each facility, every effort is made to share the information and know-how that produced the excellent results.

The Environment, Safety & Health Control Department, established as an independent department in fiscal 2006, performs environmental safety and health control audits that further enhance both the environment and safety and health.

Environmental audits were conducted at ten domestic facilities in fiscal 2007, including Nippon Muki's Yuki facilities, which comprises a significant part of the company's glass fiber business. These audits were intended to emphasize three key issues: environmental risk management; energy conservation; and the reduction of the volume of waste generated. There were no significant discrepancies of the sort linked with pollution or major accidents. Environmental management activities utilizing management systems were progressing at every facilities and were linked to voluntary risk-reduction programs.

Currently, NSG Group is deploying this environmental audit system throughout the entire Group, including Pilkington.

# Green Procurement of Office Supplies

In Japan, the NSG Group is a leader in environmentfriendly procurement of such items as office supplies, paper, office furniture, PCs, copy machines, air conditioners and automobiles, as well as in the percentage of products that conform to energy-saving standards based on the Rationalization in Energy Use Law.

In Japan, this method of procurement is called "green procurement," and in fiscal 2007, NSG Group maintained a 99.9 per cent green procurement rate for office supplies at all of its domestic facilities (please refer to pages 33 "Management of Environmental Harmful Substances" and 42 "Suppliers" regarding green procurement of raw materials, etc.).

# **Environmental Accounting**

to reduce environmental impact on the atmosphere and As a key index for environmental management, the NSG water quality, and have contributed to boost environmen-Group has adopted environmental accounting based on tal performance. Despite changes in production volume the Ministry of the Environment's "Environmental and other factors, energy consumption increased only Accounting Guidelines." Although capital investments for slightly. The NSG Group will continue to use environmenenvironmental protection in fiscal 2007 totaled ¥1.33 tal accounting to obtain an accurate picture of environbillion (a 2.1 per cent year-on-year increase), environmental conservation costs and environmental effects. mental expenses amounted to ¥2.96 billion (a 33.6 per cent year-on-year decrease).

Environmental investments were made in recycling facilities, industrial water recycling system, and measures

### Environmental protection costs

Item				Capital investments for		Environmental expenses	
		Principal activities	environmental protection				
Major divisions*1	Intermediate divisions		Fiscal2006	Fiscal2007	Fiscal2006	Fiscal2007	
	Pollution prevention costs	Prevention of air pollution, water pollution and noise pollution	447	584	1,057	951	
Business area costs	Global environmental protection costs	Energy conservation; prevention of global warming	114	109	1,301	97	
	Resource circulation costs	Reduced volume of waste generation, reuse of materials, efficient and reduced use of water	497	421	1,346	1,071	
Upstream and downstrea	am costs	Green procurement, recovery of products and packaging materials	21	14	27	3	
Administration costs		Environmental education, operation of environmental management system, monitoring and measurement of environmental impact	44	43	156	413	
R&D costs		Development of products that contribute to environmental protection and reduction of environmental burden in manufacturing and distribution processes	108	90	313	252	
Social activity costs		Conservation of nature, support for community programs, environmental advertising, and other activities	23	8	53	40	
Environmental remediation costs		Remediation of soil contamination and damage to nature; insurance and pollution levies, etc.	49	61	196	129	
Total			1,302	1,330	4,448	2,955	
Environmental protection benefit (material effect)							
Item		Material effect					

Item		Material effect				
Major divisions*1	Intermediate divisions	Type of effect	Fiscal2006	Fiscal2007	Changes	
		Volume of SOx emissions (tons)	797	804	7	
		Volume of NOx emissions (tons)	1,607	1,615	8	
	Related to pollution	Volume of Particulates emissions (tons)	94	66	-28	
	prevention	BOD pollution load (tons)	2	2	0	
Environmental protection		COD pollution load (tons)	19	21	2	
penefit within business areas		SS pollution load (tons)	29	28	-1	
	Related to global envi-	Volume of CO <sub>2</sub> emissions (tons)	731,717	735,428	3,711	
	ronmental protection	Total volume of energy consumption (PJ)	11.3	11.5	0.2	
	Related to resource	Total volume of waste generation (tons)	175,375	192,143	16,768	
		Total volume of waste consigned to final disposal (tons)	2,829	1,674	-1,155	
	recycling	Total volume of industrial water use (thousand m <sup>3</sup> )	9,668	9,937	269	
Jpstream and downstream environ	mental protection benefit	Recycled cullet (thousands of tons)	134	149	16	

(¥million)

### Environmental protection benefit (economic benefit)

	Economic benefit			
Major divisions*1	Intermediate divisions	Fiscal2006 Fiscal2007		
	Pollution prevention costs	313	201	
Business area costs	Global environmental protection costs	190	205	
	Resource recycling costs*2	337	346	
Upstream and downstrea	9 8			
Administration costs		66	35	
R&D costs*3		3,790	4,548	
Social activity costs*4		16	18	
Environmental remediati	on costs*5	200	100	
Total		4,920	5,461	

\*5 When an investment of ¥5 million or more is made to prevent environmental remediation, a constant amount of ¥20 million is posted to the account. (However, this is limited to once per fiscal year with the same conditions.)

(¥million)

<sup>\*1</sup> Environmental protection cost category in accordance with the Ministry of the Environment's Environmental Accounting Guidelines 2002

<sup>\*2</sup> Reduction in raw materials costs, sale of unneeded assets, and reduction in waste treatment and disposal subcontracting costs, etc.

 $<sup>^{\</sup>ast}\mathrm{3}$  The difference between heating and cooling costs using double-glazed glass and Spacia, and those same costs using ordinary flat glass.

<sup>\*4</sup> Coverage volume~advertising expenses (when ads result in a negative impression, cost is recorded as a negative figure )

# Minimization of Environmental Impact

# Tackling Climate Change

In fiscal 2007, the NSG Group's energy consumption with Japan declined 12.6 per cent compared to fiscal 1991 (including flat glass manufacturing and other businesses), and CO<sub>2</sub> emissions were down 18.1 per cent over the same period.

Over the past five years, energy consumption and CO2 emissions were substantially reduced thanks to the centralization of manufacturing operations carried out in fiscal 2003. Since fiscal 2004, CO2 emissions have been flat.

To reduce CO<sub>2</sub> emissions, NSG Group has installed inverters and implemented energy-saving measures, including leak prevention. In the years ahead, NSG Group will examine the use of alternative energy sources in the manufacturing process and take steps to minimize environmental impact through further reductions in CO<sub>2</sub> emissions and other measures.

# Increasing the Efficiency of Distribution and Reducing CO2 Emissions

The establishment of an efficient distribution system not only reduces distribution costs, it also addresses the issue of reduction of CO<sub>2</sub> emissions.

In Japan, the Group is taking steps to centralize distribution equipment, and to minimize the waste of returning empty pallets to plants following their distribution to customers, it has established yards to serve as shipping pallet collection points. This increases the efficiency of pallet recovery, and by integrating this system with the distribution system, the Group can at the same time minimize the overall transportation distance. In the future, the Group will pursue further efficiency with diversified approaches, including a modal shift.

In addition, NSG Group is working to conserve energy in its offices through a range of measures, including the improvement of window thermal insulation, the installation of solar panels and the control air conditioning and heating temperatures.

# Air Pollution Countermeasures

Sulfur oxide (SOx), nitrogen oxide (NOx) and soot arise primarily due to combustion in the glass melting process. SOx emissions in fiscal 2007 amounted to 804 tons (up 0.9 per cent year on year) and NOx emissions totaled 1,615 tons (up 0.5 per cent year on year). SOx and NOx emissions have remained constant in recent years but are on a downward trend. Particulates in fiscal 2007 declined from 94 tons in the previous fiscal year to 66 tons, a 28-ton decrease, thanks to equipment improvements and other measures.

SOx and NOx Emissions (Japan)



Status of Efforts to Reduce the Volume of Energy Consumption (Japan)



## Status of Efforts to Reduce CO2 Emissions (Japan)







# Water Pollution Countermeasures

The volume of both industrial water and wastewater has been on the decline, but in fiscal 2007, the volume of industrial water was 9,937 thousand m<sup>3</sup> (up 2.8 per cent year on year), and wastewater was 7,317 thousand m<sup>3</sup> (up 17.9 per cent year on year). In Japan, the NSG Group is deploying water circulation systems that recover, purify and then reuse wastewater in an effort to achieve efficient utilization of water resources. The volume of chemical oxygen demand (COD) emissions amounted to 21 tons (up 10.5 per cent year on year), while biochemical oxygen demand (BOD) emissions and suspended solid (SS) emissions were two tons (no change) and 28 tons (down 3.4 per cent year on year). This was a result of the strict application of voluntary management standards and continuous improvements to the management structure.



# Contribution to a Recycling-Oriented Society

# Reduction of Landfill Waste

To promote the emergence of a recycling-oriented society, the NSG Group is working to reduce the volume of waste it generates and to increase its recycling ratio. Companywide environmental protection activities have been carried out since the new environmental policy was established in 1997. In 2001, a Group policy decision was made to undertake activities toward zero landfill waste at NSG Group plants in Japan—a goal that was achieved a year ahead of schedule in fiscal 2006. This represented a first for the flat glass industry.

As the recycling of glass fiber cullet and grinding sludge has been problematic, part of the promotion of recycling activities has involved each plant bringing about a significant reduction in industrial landfill waste. This has resulted in plants placing an emphasis on trial-anderror methods and a variety of approaches, such as practicing thorough sorting of waste, looking for and checking waste disposal firms and developing new processing methods for recycling.

In addition to expanding these activities to affiliates in Japan, efforts will be made to eradicate waste.

As there are inherent difficulties with the recycling process for automotive glass formed from composite materials such as glass and resin, as well as for high-performance glass, technical developments that will separate glass from composite materials are also under way.



Trends in the Group's Waste Volume

### Waste Breakdown (Japan)



# Management of Environmentally Harmful Substances

In Japan, the NSG Group verifies the amount of environmentally harmful substances upon procurement of materials and components and, having established three criteria—prohibited substances, reduction and monitoring—conducts restricted-use management<sup>\*1</sup> as appropriate depending on their individual properties.

Category	Product covered	Substances	Product applications	Notes
Prohibited Substances	All Products	Bis (tributyltin) oxide (TBTO)     Tributyltin (TBT)     Triphenyltin (TPT)     Short chain chlorinated paraffin (carbon number 10 to 13)     Polychlorinated biphenyl (PCBs)     Polychlorinated naphthalenes (chlorine number 3 or higher)     Asbestos     Azo dyes and azo pigment     Chlorofluorocarbons (CFC) and other allegedly     ozone-depleting substances     Radioactive material	Addition prohibited	In accordance with the Law Concerning the Examination and Regulation of Manufacture, etc. of Chemical Substances, the Industrial Safety and Heath Law and the Montreal Protocol*2
	Automotive applications, electrical and electronic applications	Cadmium (Cd) and cadmium compounds     Hexavalent chromium (Cr6+) and its compounds     Mercury (Hg) and mercury compounds     Lead (Pb) and lead compounds     Polybrominated biphenyls (PBB)     Polybrominated diphenyl ether (PBDE)	Addition prohibited (cadmium < 0.01%; other < 0.1%)	As required by the ELV Directive*3 and the RoHS Directive*4
Reduction	All products exclud- ing electrical and electronic applica- tions	Lead (Pb) and lead compounds     Arsenic and arsenic compounds     Selenium and selenium compounds	Continuous develop- ment of products that are free of these sub- stances	Voluntary reduction initiatives
Monitoring	All Products	Antimony (Sb) and antimony compounds     Beryllium (Be) and beryllium compounds     Bismuth (Bi) and bismuth compounds     Nickel (Ni) and nickel compounds     Magnesium (Mg) and magnesium compounds     Barium (Ba) and barium compounds     Thallium (Tl) and thallium compounds     Polyvinyl chloride (PVC)     Phthalate ester     Formaldehyde	Monitoring of volume of usage (restricted- use management)	In accordance with JEITA* <sup>5</sup> Green Procurement Standard and Japan's Building Standards Law

# Results of Audit of Substances Covered under the PRTR Law<sup>\*1</sup>

The table below shows those substances covered by the Pollutant Release and Transfer Register (PRTR) Law of Japan of which the NSG Group handles one ton or more. This includes substances of which individual plants handle less than one ton. Growth in manufacturing volume has resulted in increases in the amounts that the Group handles of some of these substances, but the Group is working ceaselessly for reductions in the volume handled, emissions, and transport of these materials through reviews of alternative substances, improvements to recovery methods, and reduced utilization per unit of specific productivity.

Before any chemical substance can be used for the first time, company regulations require a study of its safety and environmental impact, followed by a review by the Advisory Committee and their approval.

						(tons)
Substance Name	Volume Handled	Atmospheric Emissions	Release to Water	Total Emissions	Total Amount Transferred*2	Consumption* <sup>3</sup>
Water-soluble zinc compounds	14.501	0.000	0.062	0.062	0.020	14.420
Antimony and antimony compounds	36.966	0.004	0.000	0.004	16.118	20.844
Ethylbenzene	245.810	3.668	0.000	3.668	16.857	225.285
Ethylene diamine	5.311	0.000	0.000	0.000	0.000	5.311
Xylene	227.711	4.240	0.000	4.240	18.882	204.589
Silver and water-soluble silver compounds	6.645	0.000	0.000	0.000	0.000	6.645
Chrome and trivalent chromium compounds	4.375	0.000	0.000	0.000	0.000	4.375
Cobalt and cobalt compounds	1.605	0.000	0.000	0.000	0.000	1.605
Dichloromethane	1.000	0.500	0.000	0.500	0.000	0.500
Styrene	3.976	0.040	0.000	0.040	0.000	3.936
Trichloroethylene	40.700	40.664	0.001	40.665	0.032	0.003
Toluene	3.355	0.961	0.000	0.961	0.916	1.478
Lead and lead compounds	14.522	0.000	0.000	0.000	1.082	13.440
Nickel compounds*4	6.353	0.000	0.001	0.001	0.000	6.351
Barium and water-soluble barium compounds	241.102	0.004	0.000	0.004	177.985	63.113
Arsenic and inorganic arsenic compounds*4	44.565	0.005	0.000	0.005	40.244	4.316
Phenol	4.811	1.322	0.000	1.322	1.304	2.185
Hydrogen fluoride and its water-soluble salts	21.465	0.278	0.005	0.283	0.246	20.937
Boron and boron compounds	433.069	3.868	0.888	4.756	207.742	220.572
Poly (oxyethylene) nonylphenyl ether	0.986	0.000	0.002	0.002	0.351	0.633
Formaldehyde	7.047	0.759	1.082	1.841	0.472	4.734
Total	1365.876	56.314	2.04	58.354	482.251	825.271

- \*1 Restricted-use management = Monitoring volume of use and amount contained, use in accordance with laws and standards, and proper disposal
- \*2 The Montreal Protocol on Substances that Deplete the Ozone Layer
- \*3 The EU Directive on end-of-life vehicles (ELVs), which restricts the use of toxic metals in parts for automotive use
- \*4 The directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment
- \*5 JEITA = Japan Electronics and Information Technology Industries Association

- \*1 Includes all substances covered by the PRTR Law of Japan of which the NSG Group handles one ton or more.
- \*2 Total amount transferred is the total of the volume transferred as waste and that released to sewers as wastewater.
- \*3 The amounts contained in products and shipped off-site and the amounts used on plant grounds (reactions or incineration), etc.
- \*4 Chemical substances designated Specific Category 1
- Reduced amounts for volume handled, atmospheric emissions, total amount transferred, consumed

# **Tackling Carbon Emissions in Flat Glass Business**

"The climate is changing. While the scientists discuss it and the politicians argue, we are planning ahead. When we are locating new plants, we ask about flood levels and drainage requirements. If sea levels rise, will it damage our plants or our employees' homes? Assessing the carbon emissions from our activities is becoming routine. Such environmental concerns form part of our business plans. I hope everyone will participate in our activities to reduce carbon emissions."



Allen Norris Director environment, health and safety

The Group's Pilkington businesses were responsible for 4.3 million tons of carbon dioxide emissions in 2007. The total mass of CO<sub>2</sub> emission has slightly increased for the last 5 years as the company has expanded its production capacity to meet the increasing demand for flat glass worldwide.

However, the Pilkington operation in Europe has succeeded in reducing CO<sub>2</sub> emissions per ton of glass by 6.6 per cent over the past 3 years-significantly better than its 6 per cent target. Carbon trading improved that reduction to 8 per cent.

Conversion from heavy oil to natural gas as the pre-



Reductions have been achieved by a combination of actions: improving design fuel efficiency and operation of furnaces, improved heat recovery and increasing the recycling of glass cullet are just some examples.

We have also developed products specifically designed to be used to contribute to emissions reductions made by society as a whole. Energy saving and solar control glass for high insulating glazing systems and glass for use in solar panels are just two such products we offer.

CO<sub>2</sub> emissions



Fuel conversion from oil to gas



# Carbon trading

Carbon trading in EU (Cap and Trade)

- 1. To honor its commitment under the Kyoto protocol, the EU set upper limits to the CO<sub>2</sub> emissions of each Member State. These limits are reduced with time. To support this activity the EU established a carbon trading scheme, the EUETS. The first phase runs from 2005 to 2007 and the second will run from 2008 to 2012. Although referred to as a 'carbon' trading scheme what is actually traded are allowances to emit carbon dioxide. The units are tonnage of CO2 equivalent.
- 2. Each Member State (Country) produces a National Allocation Plan which allocates a maximum emission figure (cap) to individual company sites. Within each phase, if a site emits less than its allocated cap it can sell the excess credits (trade), but if it exceeds the cap it has to purchase credits (allowances) from the market. Overall the national emissions must not exceed the limits set by the EU. This system allows companies to respond to their customer's requirements but at the same time meet emissions targets. The price of CO<sub>2</sub> per ton was around 4,000 yen in late 2006.
- 3. The Group's Pilkington business handles carbon trading centrally. The gap between the limits (allocated cap) and actual achievement of emissions on each site is closely monitored. Trading is used to ensure that every site retains sufficient allowances for its needs and that costs are minimized.

### Cap and Trade system



# Customers

# Taking on *monozukuri* challenges in order to win the trust of customers

# NSG Group Values its Customers

As a glass manufacturer trusted by a broad range of customers, the NSG Group regards improvements in product quality and production technologies as key objectives. The Group's customers include construction and building material manufacturers, automobile manufacturers, sales agents and individual consumers. Glass and glazing products have become irreplaceable materials in people's lives. They are increasingly required to meet a wide range of environmental and safety functions, as well as enhancing the living and working environments of end consumers.

The Group continues to make progress in reducing the environmental impact of glass manufacturing, whilst also addressing the issues of waste and recycling throughout the supply chain. To this end, the NSG Group has implemented in Japan its proprietary Manufacturing Innovation Program, covering such fields as quality control, while nurturing a team of highly skilled engineers at its Gijyutsu Dojyo (in-house technical school).

In the Building Products business, the Group's Customer Center is working constantly to improve the quality of its customer service. The Center handles approximately 30,000 customer inquiry calls a year.

Pilkington's Automotive business is working continually to upgrade its product and service quality through the utilization of its unique quality management system. The Building Products business offers a wide range of Pilkington-branded products that comply with the (EU) European Energy Performance of Buildings Directive.

### **Customer Information Flows**



### **Customer Center**





# 0120-498-023 URL http://498023.jp

Sixty per cent of the inquiries received at the Customer Center are technical questions from professional glass users, and 40 per cent from consumers asking about product characteristics and how and where to purchase double-glazed glass products.

# The Pursuit of Customer Satisfaction

Improving customer satisfaction significantly depends on the timely supply of glass products. The Logistics Department, which is responsible in Japan for the distribution of NSG Group products, is leading the optimization of the Group-wide distribution platform by further sharpening the Group's competitive edge through logistics innovation efforts.

The Logistics Department and NSG Kanto Co., Ltd. launched a joint effort to improve customer satisfaction in fiscal 2006. The project involved the tracking of order delivery status using mobile phones equipped with a global positioning system (GPS). The Japan Institute of Logistics Systems (JILS) acknowledged this joint effort with a prize at the 23rd Logistics Grand Prize Awards ceremony in fiscal 2007. This Award, established with the aim of supporting the development of logistics in society and raising the consciousness of those involved in the field of logistics, recognizes outstanding achievements in the area of logistics promotion.



Members of the Logistics Department and NSG Kanto's Operation Department were delighted to receive a prize at the 23rd Logistics Grand Prize Awards ceremony

# Taking a Lead in Quality

Glass is a key automotive component, and vehicle manufacturers demand the highest quality products for their vehicles. Against this background, in May 2007, Pilkington Automotive's Sandomierz plant in Poland was presented with the Ford Q1 Award by Ford Motor Company. The Q1 Quality Award system is Ford's proprietary quality control program, and Ford, based on this program, assesses its suppliers' quality control systems. The receipt of the award represents Ford's high evaluation of the NSG Group's quality control standards. Aiming to take the lead in quality control, the NSG Group will continue to implement improvement measures.



The plant at Sandomierz, Poland is one of three of the Group's Automotive plants to have achieved Ford's Q1 Quality Standard

# Topics

# Master technician in float glass manufacture recognized

Mr. Tadao Imai, Chief Technician in float glass manufacturing at the Group's Chiba Plant, received a prize at the 40th Ceramic Prize Awards ceremony hosted by the Ceramic Society of Japan. Through this award, the Society honors the long-term contribution of excellent technicians to the development of the ceramics industry, which includes glass and other materials. Mr. Imai was presented with the prize for his achievements in educating young Japanese technicians, as well as in supporting technicians overseas to acquire float glass technologies.

The NSG Group currently owns or has interests in 51 float lines worldwide, manufacturing 6,400,000 tons of flat glass every year. Mr. Imai and other master technicians who operate the Company's production lines have made the manufacture of NSG Group's high-quality glass possible.



Mr. Imai (Chief Technician, Manufacturing, Chiba Plant) at the Ceramic Prize Awards ceremony (left)

# Shareholders and Investors

The NSG Group is working to strengthen communications with shareholders and investors, to ensure sustainable growth of business operations, and increase corporate value.

# What Our Shareholders and Investors Mean to Us

NSG Group considers shareholders and investors to be vital stakeholders. This is reflected in the Group's "Values and Principles" statement, which sets out the Group's intention "to be the preferred long-term investment for our shareholders." Through its IR Basic Policy of "ensuring open and fair business dealings," and through proactive and timely disclosure of information, NSG Group is working to build mutually beneficial long-term relationships with shareholders and investors.

As of March 31, 2007, there were 66,588 shareholders in the Group, an increase of 12,246 investors compared with March 31, 2006. The composition of shareholders includes the following investor types: 33.5 per cent ownership by financial institutions and securities

companies, 7.0 per cent by other corporate entities, 34.8 per cent by foreign investors, and 24.5 per cent by other individual investors. Notably, the shareholding by foreign investors jumped over 14.1 percentage points compared with March 31, 2006. This followed the acquisition of the UK-based Pilkington plc, in June 2006. Furthermore, as of September 30, 2007 the number of shareholders have been 57,826, the ratio of foreign investors has reached 40.8 per cent.

The Corporate Communications Department, which facilitates the NSG Group's IR activities, regularly holds IR presentations for analysts and institutional investors, while taking steps to ensure that individual investors are kept up to date via the Group's IR web site.

### Who Are NSG Group's Shareholders?



### Stock price standing



# A Dynamic IR Program

The NSG Group's mid-term and year-end financial results presentations in Japan provide important opportunities for direct communication with investors. The Group also holds individual IR presentations for over 200 firms every year, and visits overseas investors in various regions throughout North America, Europe and Asia. All of this adds up to a dynamic IR program with impact.

Following the Group's acquisition of Pilkington in June 2006, NSG Group held special IR presentations to introduce investors to the enlarged Group's structure. Subsequently, in October 2006, NSG Group hosted an IR tour for a group of financial analysts from leading Japanese firms of Pilkington Automotive's largest automotive glass factories located in San Salvo, Italy. This factory visit was highly significant to the Group's IR program. It helped to bring about a deeper understanding of the Group on the world stage as a leading global supplier in the automotive glass sector.



Japanese Analysts Visit San Salvo Automotive plant

# Improving IR Communication Tools

The NSG Group works to enhance communications with investors through the use of quarterly performance reports, annual reports and business reports as its main IR tools. The Group also offers e-mail updates via its IR News Mail Service (available in Japanese and English), which provides investors with news releases and timely NSG Group IR information.

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# NSG Group IR in the Spotlight

The NSG Group IR Web site has recently earned two top awards in recognition of excellence among other listed Japanese companies. It was selected to receive an "Internet IR Best Company Award" in the 2006 Internet IR competition held by Daiwa Investor Relations Co., Ltd. In addition, the NSG Group Web site was ranked first in the glass and ceramic sector in the 2006 Web site rankings of listed companies organized by Nikko Investor Relations Co., Ltd.



Received Daiwa IR's "Internet IR Best Company Award"

Amid the attention being given to Socially Responsibility Investment (SRI), not only has NSG Group qualified for inclusion in Japan's leading SRI indices, but its stock has been incorporated in the SRI funds of several other companies in Japan.

# Employees

Striving to create an employee-friendly work environment that allows a diversity of personnel to achieve their full potential

# NSG Group Values Its People

Recognizing that every employee is a key player in implementing its passion for manufacturing excellence (monozukuri), the NSG Group is providing support in various forms in order to allow employees to fully realize their capabilities and expand their opportunities to achieve personal growth.

In the area of employee training, the NSG Group aims to foster a team of globally competitive professionals in the truest sense. To this end, the Group focuses on employee training by providing various training programs, including a management program that meets modern business needs.

The NSG Group also places significant emphasis on human rights in its corporate activities and is working to create a discrimination-free workplace. To achieve its goals, NSG Group is working to nurture human-rights awareness throughout the Group by educating its employees in such areas as discrimination, employment of people with disabilities and sexual harassment.

The number of NSG Group employees increased from 12,736 to 35,811 with the acquisition of Pilkington plc in June 2006. (This was reduced to around 34,000 in July 2007, with the sale of the Australasia business.) The cultural diversity of the NSG Group has also expanded with the Pilkington acquisition. Pursuant to its Code of Conduct, the Group annually publicizes key performance indicators (KPIs) in conjunction with the initiatives that it implements for the benefit of its employees. The new Corporate Human Resources Department, which was established in April 2007 for the purpose of building a new NSG Group-wide platform for human resource management, is currently advancing the integration processes.

### Breakdown of NSG Group Employees by **Geographic Region**



### The NSG Group Considers Health and Safety of **Employees a Top Priority**

People are the most important assets of our company. This means that we will take good care of people because they are the major resource of our business. Management, along with all employees, will strive to create a working environment that is healthy and safe, operating with an obsession with safety, in the belief that all accidents are preventable.

# Ensuring the Health and Safety of Employees

The health, safety and well-being of all employees, contractors, visitors, neighbors and customers remain at the forefront of all business activity in the NSG Group.

Safety programs emphasize the importance of improving behavior and of individuals taking personal responsibility, building on the safety management systems already in place, giving everyone a greater degree of safety.

All injuries at work are regarded as avoidable and no matter how minor, each one must be reported and investigated. Only by investigating and learning from such incidents will the desired levels of safety performance be achieved.

Safety performance in the Group is measured using two key performance indicators, the lost time injury rate (LTIR) and the significant injury rate (SIR). A lost time injury is a work-related accident or illness of sufficient severity to prevent the individual involved from being able to report for work on the following day or shift. A significant injury is defined as an injury sufficiently severe to require medical treatment or the reallocation of duties.

A proactive safety evaluation system, PRISM, exists in all facilities, ensuring that all activities are subjected to risk assessment, with proper procedures in place to protect individuals.

## Progress on Lost Time Injury Rate (LTIR) in NSG Group Flat Glass Business



Number of lost time injuries per 200,000 hours worked by NSG Group Flat Glass employees and long-term contractors.

# Promoting the Well-being of Employees

In addition to safe working, the NSG Group seeks to promote the general health and well-being of all employees. Provisions are made at the local level and integrated as appropriate into the infrastructure that exists in the locality to assist this aim.

Programs are in place to assist any employee who may be suffering from physical or mental ailments, and mental illness is specifically recognized as a potential factor in the cause of occupational ill health.

In suitable cases, services such as counseling are available. Systems encourage the open expression of concerns, and our development of behavioural safety training seeks to assist people to identify the signs that might indicate persons at risk.

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# **Comment from Sachiyo Nishie**

I joined NSG Group in 1991 through mid-career recruitment. I had worked at the Corporate Planning and Accounting Department for NSG Group's Glass Fiber Business for about 10 years and was transferred to the Foreign Legal Affairs Department at NSG's Tokyo Head Office in 2003. In 2005, I was given an opportunity to study in the United States for two years, in line with the Company's aim of strengthening human resources in legal affairs in terms of their expertise and internationality. During my stay in the U.S., I obtained a Legum Magister (LL.M) after completing law school, took the New York State Bar Exam and worked for a law firm as an intern.

During my leave-of-absence from work, I could really dedicate myself to the study of law without worrying about anything else. At the same time, I feel very privileged to have been able to make friends with people from all over the world who were, like me, contemplating legal careers. I gained invaluable experience through the stay in the U.S., and I truly appreciate the Company for providing me with that opportunity. I plan to apply what I

learned and experienced to my work and continue to contribute to the NSG Group's globalization and diversification efforts.



With colleagues from the law school (Ms. Nishie: back row,

# Suppliers

# Maintaining an equitable relationship with suppliers and cooperating with them to meet social responsibilities

# Philosophy toward Suppliers

NSG Group glass products are made from raw and processed materials and services procured from suppliers throughout the world. The Group obtains a wide range of materials and services from outside suppliers, including silica sand, the raw materials of glass; silver paste, interlayer film, distribution services from transport companies and work tools and packaging materials.

To make and supply superior quality glass products for delivery to customers, the Group aims to build strong relationships of trust and cooperative frameworks with its suppliers. The procurement policy of the NSG Group's purchasing department is to acquire materials at suitable quality, cost and delivery from the global market based on

this approach. The NSG Group procurement process is guided by the Group's compliance policy of "openness and fairness" and conforms to relevant laws and regulations.

The Group's business is working to strengthen its relationships of trust with suppliers based on a Code of Conduct under a policy of "Buy more from the fewest, best suppliers who fully meet the Group's needs today and in the future." While taking into account not only the elements of product design and cost, but the safety of supplier company workers and environment-friendliness, NSG Group shares a CSR consciousness with its suppliers and promotes cooperative frameworks.

### NSG Group's Basic Materials Procurement Policy

Corporate Social Responsibility (CSR) means managing our business responsibly and sensitively for long-term success with respect to all stakeholders. Accordingly, complying with relevant laws and regulations, the NSG Group procures necessary materials and services at suitable quality, cost and delivery from global markets, thereby contributing to the supply of products that delight the customer.

The Group seeks to build relationships with suppliers that are based on CSR standards similar to those in the NSG Group's Code of Conduct.

Suppliers are asked to indicate situations where adoption of these standards causes conflicts or problems and to formulate plans for corrective action. These will be jointly agreed and implementation jointly monitored. The NSG Group will provide guidance, where needed, during implementation.

The Group also works closely with suppliers to ensure that their products and services not only meet design, cost, quality and performance requirements but are also backed by recognized quality standards, appropriate environmental practices and safe working procedures.

# Supplier-Related Activities

The basic material procurement philosophy of the NSG Group is "to contribute to the resolution of environmental issues and realization of a recycling-oriented society." All the Group's plants in Japan have already achieved a recycling ratio of more than 99 percent, however, a cooperative relationship is essential in order to maintain and improve the recycle rate. Therefore, we are working together with suppliers and material distributors to promote a range of initiatives that include recycling and eliminating the idling of truck engines within plant premises.

In addition, to further reduce the volume generated of substances that negatively impact the environment, we are implementing "green procurement" throughout the Group. To meet the needs of our customers in each business field, we are actively promoting green procurement by reporting on hazardous materials, increasing the number of companies participating in these efforts and taking other steps.

As part of our activities to promote environment-friendly policies at the NSG Group, we ask suppliers to cooperate with us in a variety of ways, such as by entering into Basic Material Contracts and agreeing to Terms and Conditions for Contractors, which bind the supplier to "practicing concern for environmental protection in business activities in accordance with the company's environmental policies."

# Treating Subcontractors Fairly

In Japan, NSG Group abides by the "Act against Delay in Payment of Subcontract Proceeds, etc., to Subcontractors" (the Subcontractor Act) to protect the interests of domestic subcontractors, to this end holding workshops that include Group companies and verifies the status of compliance.

As a form of in-house training, we have held regularly scheduled in-house workshops every year since 2003, which, as of fiscal 2007, a cumulative total of 680 people have attended. Moreover, through participation in workshops held for subcontractors at the Japan Fair Trade

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Commission and at the Small and Medium Enterprise Agency, we are strengthening our efforts in these areas by publicizing details of the Subcontractor Act, implementing self checks and other actions. In addition, the Compliance Committee is taking steps to thoroughly comply with the Subcontractor Act through the verification of business practices by corroborating the status of subcontractor dealings at each business office.

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# **Procurement Activities in the Flat Glass Business**

Pillkington's Automotive business published a "Supplier Handbook" in 2005. This details Pilkington Automotive's approach to building cooperative relationships with suppliers, and the handbook explains in an easy-to-understand manner the Pilkington Automotive business and procurement system while clarifying the procurement process.

The handbook makes clear the Pilkington Code of Conduct and the expectation that suppliers will adopt similar standards in their business relationships



Pilkington Automotive Supplier Handbook

# Local Communities

The NSG Group aims to ensure that its worldwide operations play a responsible and responsive role in the local communities in which it operates.

# NSG Group's Approach to Local Communities

Having a close relationship with the communities in which it operates, the NSG Group conducts its glass business in 27 countries worldwide, as a global company. Therefore, it is very important for the Group's business activities to be in harmony with regional communities and contribute to their development as a good corporate citizen.

In Japan, the Group engages in educational support and environmental protection activities through glass manufacturing, as well as the promotion of social welfare and regional volunteer activities by its employees. Overseas, the NSG Group implements various activities, mainly at Pilkington's business bases, throughout the year in response to each region's needs. With the aim of passing on its *monozukuri* spirit to the next-generation researchers, the NSG Group established the Nippon Sheet Glass Foundation for Materials Science and Engineering in 1979 to support the development of the study and technology of inorganic materials such as glass and ceramics. The Group's global-scale research subsidies have totaled approximately ¥1,100 million for 788 research activities over the last 29 years.

2007 marked the 20th anniversary of Pilkington Automotive's sponsorship of the UK Royal College of Art Vehicle Design Award. The 2007 "Best Design Interpretation" award for the use of glazing was won by Teresa Mendeza from Italy.

Research Subsidies for *Monozukuri* 



The number of subsidies provided to Nippon Sheet Glass Foundation for Materials Science and Engineering for research activities

### UK Royal College of Art Vehicle Design Awards



Teresa Mendeza from Italy, who received the 2007 "Best Design Interpretation" award in the Royal College of Arts Vehicle Design Award

# Adoption of Nature

Near NSG Group's major business base in Japan, Maizuru Plant (Maizuru City, Kyoto), there are cherry trees planted by its employees around 1959, and they are now one of the most popular sightseeing spots-a row of cherry trees lining Oba Kaido Avenue. Since 1987, NSG Group has conducted beautification activities along this avenue several times a year, and in fiscal 2004, the Group registered itself in the Adoption Program organized by Maizuru City, broadening the area of its beautification activities. The Adoption Program was established for the purpose of taking responsibility to look after public places, almost like adopting a child, and it originated in Texas, the United States, where littering on public highways has become a serious issue. In addition to beautification activities, NSG Group launched an organization to protect cherry trees along Oba Kaido Avenue. With the cooperation of the local government, the Group eradicates weeds along the avenue with volunteer employees, developing nature protection activities in the Oba region as a member of regional community.

# Social Contribution Activities Worldwide

Pilkington Group Limited, a wholly-owned subsidiary, implements various social contribution activities in areas such as education, art, welfare, employment and urban redevelopment at each business base. The total expenditure for social contribution activities in fiscal 2007 was £300,000.

In Argentina, for example, approximately 100 Group employees and their family members have volunteered to carry out building repair work at local schools since 2001. In São Paulo, Brazil, the local business has since 2006 sponsored Agam, a social service institution dedicated to children. In Poland, the local operation has for the past 10 years supported an international music festival in the city of Sandomierz, where the Group has important operations. This local festival promotes a range of musical styles and also provides a platform for new talent.



# Maizuru Festa 2006: Get People to Know the Strength of Glass

On October 8 and 9, 2006, "Maizuru Festa 2006: Rediscover the Power of Maizuru" was held at Maizuru Bay Plaza, Maizuru City, Kyoto. This event was organized for the purpose of setting a place for communications, while introducing local industries to citizens on the occasion of Maizuru Bay Plaza's 60th anniversary. With the participation of local companies, approximately 16,000 people visited the site—people from both in and outside Maizuru City in two days.

The NSG Group's Maizuru Plant set up a booth in which visitors could experience the intensity of strengthened glass by hitting it with a rubber hammer. Other displays at the booth included a demonstration with a falling ball impact tester, a strengthened glass, double glazing and UMU (switchable light control glass) exhibit, as well as a promotion video regarding the Maizuru Plant. The Group viewed the Maizuru Festa 2006 as a prime opportunity to let people know about the characteristics of double glazing and strengthened glass, as well as the Group's other business activities.



Experiencing the intensity of strengthened glass

# **Independent Review**



Tamio Yamaguchi, Representative (left) Hiromitsu Kumetani, Administration Officer (right) Non-Profit Organization Workers Club for Eco-harmonic Renewable Society

With the acquisition of Pilkington plc, the NSG Group has made great progress in becoming a truly global glass manufacturer. On this occasion, the Group improved its "Environmental Social Activity Report" by changing it into a "CSR Report," which we think is a significant move. The new report shows the Group's pride as a global company as well as its determination to maximize the synergistic effects of the business integration with Pilkington. President Fujimoto's preface was particularly impressive, indicating his ardent determination in taking on the responsibilities of his position and making the right moves.

However, this report also tells us that the Group is reviewing its organization, from the CSR, environmental and personnel points of view, even though the Group had established a global business structure in April 2007. We suppose that there must be a number of difficulties in creating this report under such circumstances. In order for the Group to report its actual business situation as a global company, it is necessary to consolidate its information disclosure rules, information collection standards and information collection methods. And we assume that such preparations are still under way. Therefore, our evaluation of this report with regard to its intention "to report every process of the Group's CSR activities" should be postponed until next year.

Notwithstanding the limitations imposed during this transition period, I would like to express our view of this report.

The report claims to "highlight what the Group considers to be priority topics in light of current social concerns," which corresponds to the reporting principles of the GRI Guideline, and I hope that the Group will maintain such priorities. And we also expect the Group to detail the process of selecting these priority topics, if at all possible. In the Special Features section of the report, based on corporate policy, the Group advocates implementing its CO<sub>2</sub> emissions reduction activities by means of its eco glass, helping to address widespread social concerns about climate change. We value such efforts highly. The Special Features section is easy to understand and very persuasive as it utilizes simple expressions and contents based on data. However, other topics-particularly those covering social issues-seem not to be chosen in accordance with corporate policy.

Currently, the Group focuses on synergy maximization by mutually accommodating both companies' best practices, and we hope that they will also make efforts to create synergy through their CSR activities. Regrettably, this report does not show the results yet. Though the NSG Group has already defined its CSR activities, the Group needs to redefine them as a global company with an expanding business sphere. In that regard, Pilkington's past activities will serve as a useful reference. The key CSR policy in Europe is addressing social issues.

There are four points we would like the Group to pay attention to when making a report: (1) Use specific descriptions, not abstract ones. The report will lack persuasiveness if it states such generalities as "the company takes various measures" or "the company ensures appropriate management"; (2) Use quantitative expressions, not qualitative ones: "Progress" and "reinforcement" of environmental activities cannot be evaluated; (3) Describe actual situations rather than just explaining structures and organizations; and (4) Make effective use of the Web site. There are a number of topics in this report about which readers would like to have more detailed information.

The Japan Workers Club has a policy of exchanging opinions three times during the writing of a report such as this. We had a very meaningful talk with the NSG Group, although a meeting was held on only one occasion.

Workers Club for Eco-harmonic Renewable Society: A citizen's group that pursues the realization of an eco-harmonic renewable society to hand down to future generations, while studying, supporting and implementing the activities of local citizens, private companies and public administration in creating an eco-harmonic renewable society from a global viewpoint. URL: http://www.nord-ise.com/junkan/