Sustainability Report 2009

'First in Glass'

NSG GROUP

About this report

Our new format NSG Group Sustainability Report retains much of the content of our former Corporate Social Responsibility Report, but signals an important change in our approach.

In June 2009, we published our Group Sustainability Policy, which set out our sustainability agenda. This report should therefore be regarded as transitional. Over the course of the calendar year 2010, we will be working to align our targets and performance more closely to the achievement of sustainability.

Our next Sustainability Report will be published in the first quarter of calendar year 2011.

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To keep the size of the printed report to a minimum, we have included additional information, charts and tables covering our performance on the sustainability section of our website http://www.nsg.com/sustainability.

The NSG Group is fully committed to sustainability. Our policies underline the unique contribution our products can make to addressing climate change and the challenges we face in improving our own energy usage and resource management.

President and Chief Executive Officer's introduction

Key message

Over the past year, we have further strengthened our commitment to sustainability, with the publication of a Group Sustainability Policy. This underlines the important contribution our products make to addressing climate change and conserving energy, whilst recognizing that glass production is energy-intensive.

Our new policy represents a start, but we are aware that we still have much to do. We aim to move forward by balancing the needs of all our stakeholders, managing our environmental impacts, developing our people, encouraging innovation in processes and products, working in harmony with the communities in which we operate and encouraging our customers, contractors and suppliers to do the same.

We are all collectively responsible to those with whom we share one world to try to attain a more sustainable future for the next generation. As a global manufacturer of advanced glazing products that help save, manage and generate energy, the NSG Group has a significant role to play in this process.

Our vision

In 2006, NSG and Pilkington came together with a common shared aspiration. We aim to be the world's number 1 glass company. Despite the recent global turmoil that has affected all our markets, our resolve to be number 1 remains unchanged.

We are judged by our three principal stakeholders. For our customers, we need to be their preferred supplier, with quality the key to retaining that position. For our employees, being number 1 means being their preferred place to work, with particular emphasis on safety, and for our shareholders their preferred long-term investment.

We operate as an integrated international group, with a multinational management. We have principal operations in 29 countries and speak over 25 languages, with 80 percent of our employees outside Japan. We reflect diversity in our workforce, believing that the range of nationalities, skills, qualifications and experience available in our many operations is a positive benefit to our business. Our management style is to put the best person in each job, regardless of nationality. More details on our policies can be found in the Employees section of this report.

The text of our Sustainability Policy can be found on www.nsg.com/sustainability

Our Code of Conduct defines the behavior we expect across all areas of our business. A summary document: 'The Way we do Business' is issued to all employees in every language in which we operate.

We produce high-quality glass products that make an important contribution to improving living standards, to people's safety and wellbeing and to the generation and conservation of energy.

Glass and sustainability

The NSG Group is fully committed to sustainability. Our policies underline the unique contribution our products can make to addressing climate change and the challenges we face in improving our own energy usage and resource management. Our product range and R&D efforts are geared to addressing the challenges of a low-carbon world.

In buildings, energy saving and carbon emission reduction requirements are driving tougher specifications for energy-saving glazing. In vehicle glazing, energy saving and weight reduction are increasingly important considerations. Our Specialty Glass business is developing battery technology for the next generation of electric and hybrid vehicles.

Although primary glass-making is energy-intensive, the 'energy balance' means that the energy expended in manufacture is quickly paid back over the lifetime of the products (see the section on Glass and climate change).

Key elements of our Sustainability Policy

- We value the health and safety of all our people above all other considerations.
- We develop innovative new products and processes that give increased sustainability benefits throughout their life cycle.
- We foster long-term partnerships with our suppliers, preferring those who share our commitment to sustainability.
- In assessing the life cycle impacts of our products and processes, we seek to reduce adverse environmental impact, maximize the reuse, recycling or recovery of resources and minimize the production of waste.
- We manage all materials responsibly in a manner commensurate with their environmental risk, and exercise responsible stewardship of those lands for which we are accountable.

Corporate governance

In June 2008, we strengthened our corporate governance procedures, replacing the traditional Corporate Auditor system with a 'Company with Committees' model of corporate governance. More details can be found on page 10 of this report.

These changes reflect our development as an international company based in Japan, bringing us into line with a growing number of leading Japanese corporations and with best practice.

Code of Conduct

Our Code of Conduct defines the behavior we expect across all areas of our business. It applies to relationships with colleagues, customers, suppliers, business partners, the community and all others with whom we have contact in daily business life. More details can be found in the section on Responsible leadership.

We are all collectively responsible to those with whom we share one world to try to attain a more sustainable future for the next generation.

As a global manufacturer of advanced glazing products that help save, manage and generate energy, the NSG Group has a significant role to play in this process.

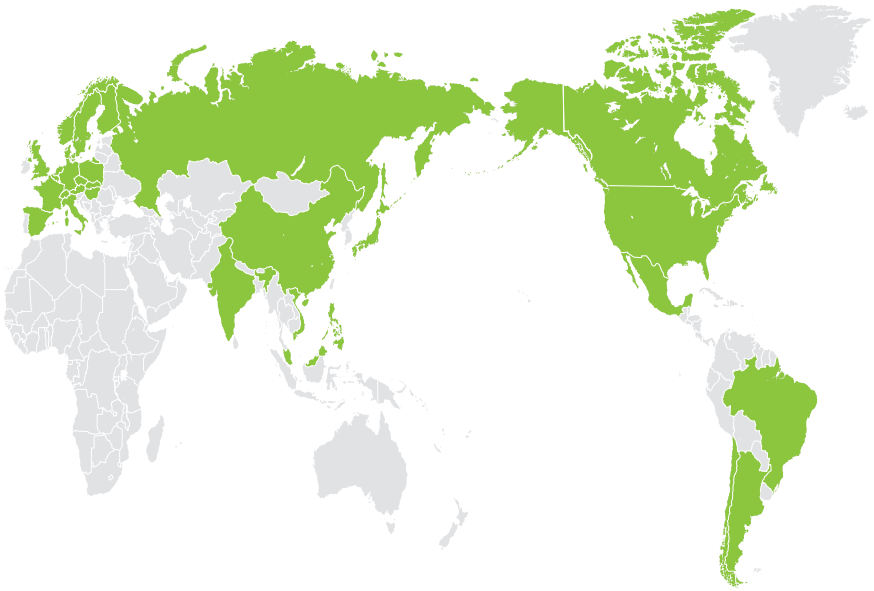
Competition compliance

Further attention has been given over the past year to this issue. A new integrated Group Competition Compliance Policy and Manual have further strengthened our rules. A training program for people in 'key roles', seen as those most likely to face competition compliance issues in their work, has been launched Group-wide.

Katsuji Fujimoto
President and CEO
NSG Group

Our operations support a worldwide customer base. We have principal operations in 29 countries, employing around 30,000 people and marketing our products in over 130 countries.

Global operations



Argentina
Austria
Belgium
Brazil
Canada
Chile
China
Czech Republic
Denmark
Finland
France
Germany
Hungary
India
Italy
Japan
Malaysia
Mexico
Netherlands
Norway
Philippines
Poland
Romania
Russia
Spain
Sweden
United Kingdom
United States
Vietnam

Europe

12,250 employees

- 13 float lines.
- Automotive OE plants in 8 countries.
- BP downstream in 11 countries.
- Extensive AGR network.
- Specialty Glass operations in UK.

Japan

5,150 employees

- 4 float lines.
- BP downstream network.
- Automotive OE plants and AGR network.
- Specialty Glass operations.

North America

3,850 employees

- 6 float lines.
- Automotive OE in US, Canada and Mexico.
- Extensive AGR network in US.
- Specialty Glass operations in Canada.

South America

2,300 employees

- 6 float lines.
- BP downstream operations.
- Automotive OE in Brazil and Argentina.
- AGR network.

South and South East Asia

2,500 employees

- 2 float lines and Automotive operations in Malaysia.
- Automotive plant in India.
- 2 float lines in Vietnam.
- Specialty Glass operations in the Philippines.

China

2,450 employees

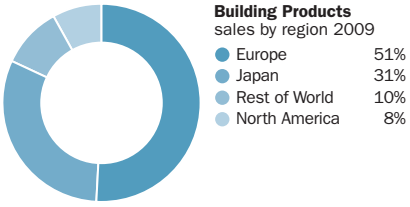
- 16 float lines.
- 3 Automotive plants.
- Specialty Glass operations.
- Rolled glass for photovoltaics.

We operate three worldwide business lines: Building Products, supplying glass for the world's buildings; Automotive, producing glass and glazing systems for vehicles worldwide, and Specialty Glass, operating in the display, office equipment and glass fiber sectors.

Business lines

Building Products

Contribution to Group sales 48%



Fiscal year ended 31 March 2009

Glass for the world's buildings

People
9,700 employees in 21 countries.

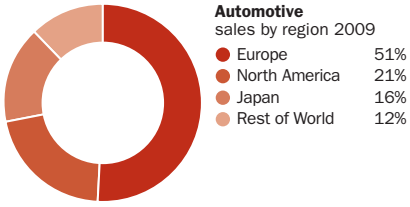
Manufacturing
Principal operations in 21 countries. Manage, or have a stake in, 49 Float lines around the world.

Global spread
Major presence in Europe, Japan, North America. Also in China, South America and South East Asia.

Main products
- Solar control glass.
- Thermal insulation glass.
- Fire protection glazing.
- Noise control glazing.
- Safety and security glazing.
- Self-cleaning glass.
- Glass for solar energy.

Automotive

Contribution to Group sales 42%



Fiscal year ended 31 March 2009

Supplying every major vehicle manufacturer in the world

People
Around 14,300 employees in 21 countries.

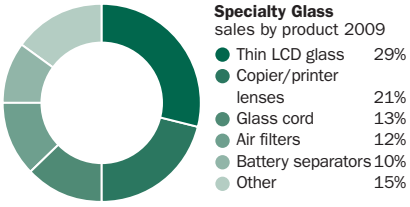
Manufacturing
Principal fabrication facilities at 32 sites in 16 countries. Major presence in Europe, Japan, North America, South America and China.

Global spread
Leading share of the global Original Equipment (OE) and Specialized Transport markets. Largest player globally in Automotive aftermarket glazing distribution and wholesale.

Main products
- Solar control glass.
- Glazing systems.
- Laminated glass.
- Toughened glass.
- Security glazing.
- Integrated antennas.
- Water-repellent glazing.

Specialty Glass

Contribution to Group sales 10%



Fiscal year ended 31 March 2009

World leader in thin display glass and optical devices for office machinery

People
Around 4,000 employees in 5 countries.

Operations
Major fabrication facilities in Japan, China, the Philippines and Europe.

Global spread
World leader in thin display glass and optical devices for office machinery.

Main products
- Thin LCD glass.
- Copier/printer lenses.
- Glass cord.
- Battery separators.
- GLASFLAKE.
- METASHINE®.

Our brands

PILKINGTON
NSG Group Flat Glass Business

Our Building Products and Automotive businesses operate under the 'Pilkington' brand.

NSG GROUP

Our Specialty Glass businesses operate under the 'NSG Group' brand.

At the heart of the world's glass industry is the Float Glass Process, developed by Pilkington in 1959 and now the world standard for high-quality glass production. The process manufactures clear, tinted and coated glass for buildings and clear and tinted glass for vehicles.

Glass manufacture

The float process

Raw materials

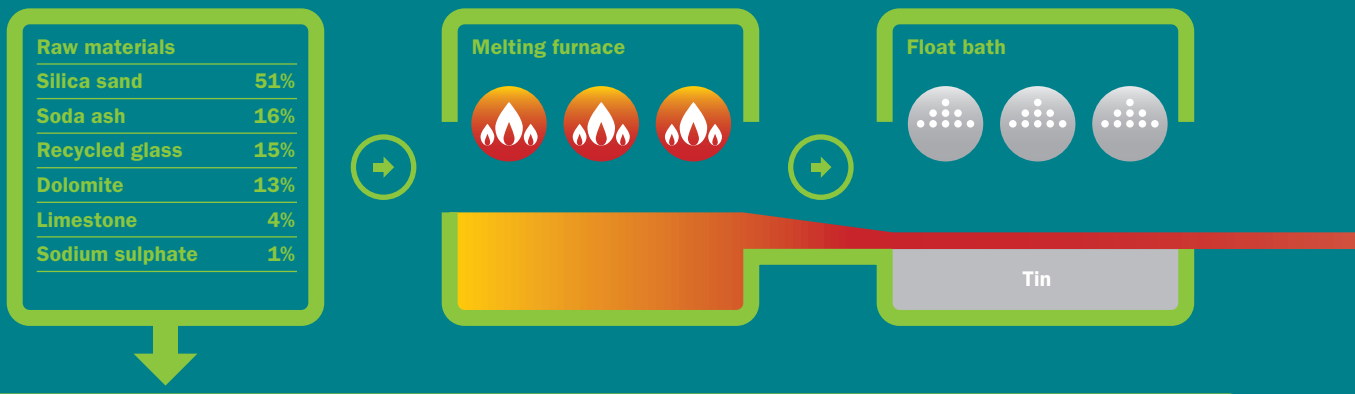
Blended and conveyed into melting furnace.

Melting furnace

Contains up to 2,000 tonnes of molten glass at 1,550°C.

Float bath

Molten glass floats on molten tin in an inert atmosphere.



The economics of float glass

In the Float Glass Process, raw materials and energy are the single largest elements of cost, followed by overheads and prime labor. Silica sand is the main component by weight of the 'batch' (raw material mixture). Soda ash is one of the most expensive raw materials used in glass manufacturing and represents about 16 percent of batch weight, but around 60 percent of batch cost.

Recycled glass (cullet) represents, on average, around 15 percent of the materials used. Its addition helps reduce the energy required in the process.

Average float production costs
Fiscal year ended 31 March 2009

Raw materials	20%
Energy	28%
Primary labor	12%
Overhead costs	9%
Depreciation	9%
Transport	12%
Other	10%

A float plant, which operates non-stop for between 10-15 years, makes around 6,000 kilometers of glass a year. The process produces clear, tinted and coated glass for buildings and clear and tinted glass for vehicles.

Globally, over 380 float lines are in operation, under construction or planned, with a combined output of about 1,000,000 tonnes of glass per week. We operate, or have interests in, 49 float lines worldwide.

Extra ingredients can be added to the glass raw materials at the melting stage to produce tinted products. Modified properties can be produced by means of surface coating (on or off-line). Plies of glass are bonded or laminated together with a layer of polymer film in between for use in safety and security applications. Glass can also be heat-treated (toughening), shaped, bent, silvered (mirrors), surface-worked, installed in multiple glazed units and, in Automotive, assembled in modular systems.

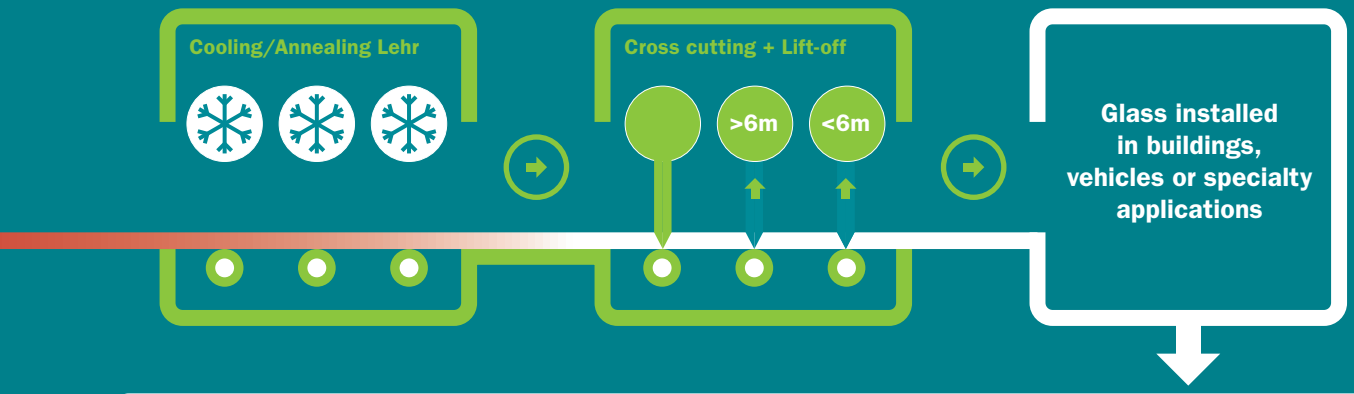
Energy accounts for around 20 percent of total cost in the float process. Since the 1960s the glass industry as a whole has reduced specific energy consumption by approximately 1.5 percent per year. The rate of reduction is now slowing as the thermodynamic limits of the process are approached.

Cooling/Annealing Lehr

To relieve internal stresses, the ribbon undergoes heat-treatment in a long furnace known as a lehr.

Cross cutters + Lift-off devices

Computer-controlled cutters select plate sizes.



Float glass and environmental impact

Glass and CO_2
The manufacture of one square meter of low-e double glazing leads to the emission of 25 kg of CO_2.

However, industry studies show that the CO_2 saved by replacing one square meter of single glazing with low-e double glazing in a typical European building is 91 kg per year, offsetting the CO_2 emitted during manufacture after only 3.5 months in use.

If ordinary double glazing is replaced by low-e double glazing, the offset period is typically 10.5 months.

Effects of reducing the CO_2 emissions of buildings
Study covering 25 EU member states*

765 million tonnes
CO_2 emissions from buildings

140 million tonnes
CO_2 reductions using low-e double glazing

46 million tonnes
CO_2 generated by glass industry

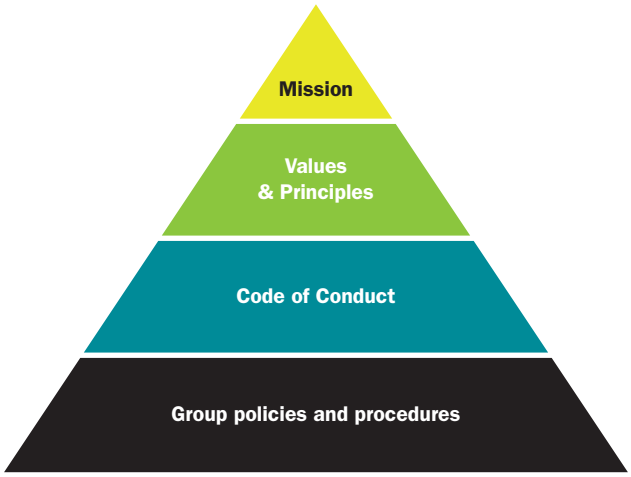
***For more information go to http://www.glassforeurope.com**

Our Code of Conduct sets out the sustainability responsibilities shared by the NSG Group and its employees in relationships with colleagues, customers, suppliers, business partners, the community and other stakeholders in our business.

Responsible leadership

Key message

We aim to achieve our sustainability objectives by balancing the needs of all our stakeholders, managing the environmental impacts of our activities, developing our people, encouraging innovation in processes and products, working in harmony with the communities in which we operate and encouraging our customers, contractors and suppliers to do the same.



Our mission

To be the global leader in the manufacture and supply of glass products, through the best use of our people and technology, and the pursuit of innovation.

Our values

People are the most important asset of our Company. We value:

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

Our guiding principles

We believe that success will be achieved by:

- An obsession with safety, in the belief that all accidents are preventable.
- Ensuring that all our decisions and actions add value to the Company.
- 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 processes.
- *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 improve continuously in all other 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.

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.

Our sustainability agenda

We are constantly working to develop innovative new products and processes, offering increased benefits to our customers and the environment. We assess the life cycle impacts of our products and processes, seeking to reduce adverse environmental impact, maximizing the reuse or recovery of resources and exercising responsible stewardship of land we hold. We aim to develop long-term partnerships with our suppliers, preferring those who share our commitment. We act as responsible members of our communities, by generating economic growth and supporting social, educational and cultural development.

Glass for solar energy is an important potential growth area for the Group. The number of manufacturers of solar power installations is increasing and legislation on CO_2 targets around the world is encouraging the use of solar as an energy source. We are well placed to supply products for all of the leading technologies.

The Float Glass Process is central to our operations. It revolutionized the world's glass industry, making possible the use of large expanses of glass and bringing light into buildings. It also facilitated the development of energy-saving and solar control products, allowing architects and car designers to use increasingly large areas of glass in buildings and vehicles without significant heat loss or solar gain. Since its inception, major environmental improvements have been made in the Float Glass Process. Emissions have been reduced significantly and substantial reductions have been made in energy consumption.

We believe that glass has a major part to play in society's efforts to reduce greenhouse gas emissions and to mitigate the effects of climate change. Recognizing this, we support initiatives to utilize glass in order to reduce the energy consumption of buildings, vehicles and equipment or to generate or conserve energy.

Our Code of Conduct

Our Code of Conduct defines for all employees what is expected of them. It reflects our values and principles, particularly the emphasis on safety, taking personal ownership for actions and communicating with openness and involvement.

The overriding basis of the Code is that we will carry out these activities in a safe, professional, legal and ethical manner and in a way that demonstrates corporate social responsibility and sustainability. Wherever possible, the Code defines a fair and common sense approach to doing business, with some elements dictated by strict legal requirements.

Our Code of Conduct reflects our values and principles, particularly the emphasis on safety, taking personal ownership for actions and communicating with openness and involvement.

The Way we do Business

A summary document, 'The Way we do Business', covers the main points of the Code in a succinct pamphlet. Personal copies have been distributed to all Group employees in their own language. Both the full Code and the summary document can be downloaded from the Group website.

People, health and safety

Consistent with the philosophy of the Sumitomo Group of Companies, to which we are affiliated, we believe that people are the most important asset of our Company. We value the health and safety of all our employees above all other considerations and aim to ensure that we provide a working environment that allows our people to reach their full potential.

Our safety programs emphasize the importance of improving behavior and of individuals taking personal responsibility. All injuries at work are regarded as unnecessary and avoidable. 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. Details of our progress on safety performance are shown in the Employees section of this report.

Our principal raw materials are mineral in nature and we recognize our obligation to ensure that in obtaining those minerals, natural habitats and biodiversity are preserved or enhanced.

Corporate governance is a key element of the sustainability activities of the NSG Group. We are committed to effective stakeholder engagement in all our activities.

Corporate governance

Key message

In addition to complying with the requirements of laws and regulations, we had developed our own systems to help improve the soundness and transparency of our governance by strengthening the separation of the directors' function from that of management. In June 2008, we adopted the 'Company with Committees' corporate governance model, under the Japanese Companies Act.

Our governance structure

The Group is governed by its Board of Directors, which is appointed by resolution at the General Meeting of Shareholders. The Board comprises the Chairman of the NSG Group, the Vice-Chairman, five executive directors and four external directors. In the fiscal year 2009, the Board of Directors met 17 times.

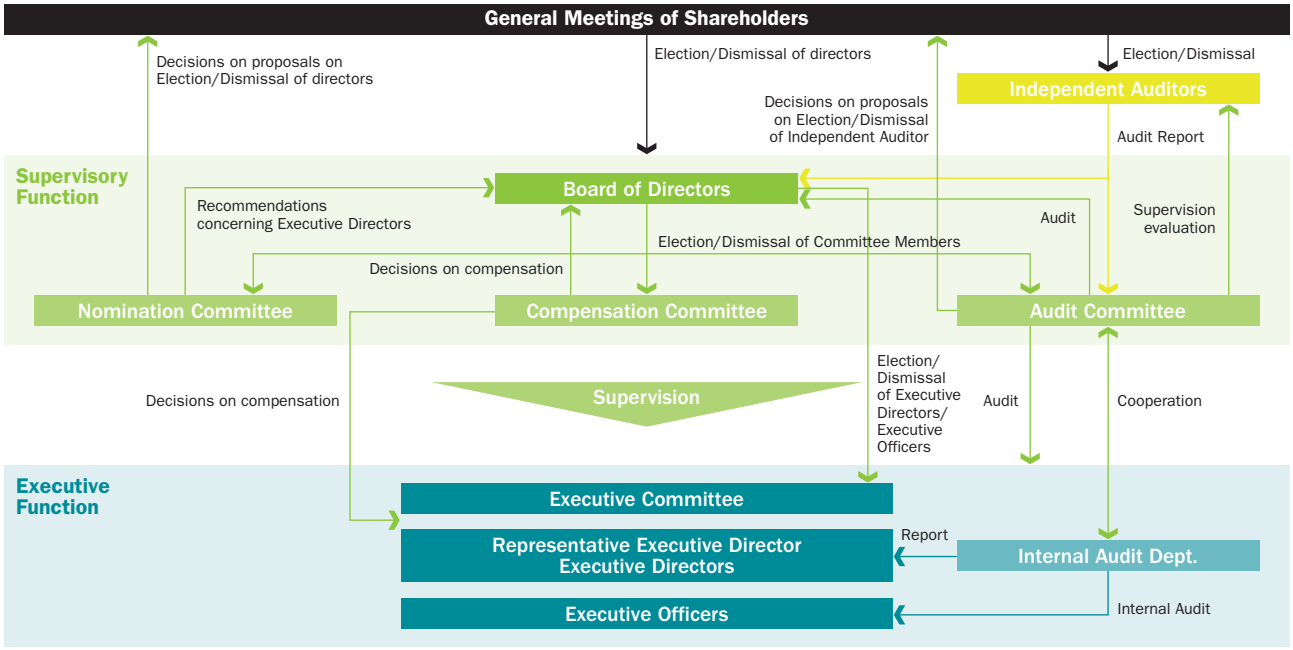
The Board of Directors oversees the Group's economic, social and environmental performance adherence to compliance with internal and internationally agreed standards, codes of conduct and principles.

Adoption of Company with Committees model

In June 2008, shareholders approved the adoption by the Group of the Company with Committees model, replacing the former Corporate Statutory Auditors model. Three committees, Nomination, Audit and Compensation have been established.

Nomination Committee decides the details of the agenda items to be submitted to the General Meeting of Shareholders concerning the appointment and removal of directors. The Committee consists of seven directors, including four external directors and its chairman is Yozo Izuhara, Chairman of the NSG Group.

Open Management System



Training for staff most likely to face competition compliance issues in their work, is in operation Group-wide.

Further information on our corporate governance and risk assessment procedures can be found on our website.

Adopted Company with Committees Governance Structure

In June 2008, we adopted the Company with Committees corporate governance model, replacing the former Corporate Statutory Auditors model.

Audit Committee, chaired by the Vice-Chairman of the Group, Tomoaki Abe and comprising six directors, including four external directors. It conducts audits of the execution of duties by directors and executive directors and ensures that adequate risk management processes are followed. It also decides the details of agenda items to be submitted to the General Meeting of Shareholders concerning the appointment and removal of independent auditors.

Compensation Committee makes decisions on compensation of individual directors and executive directors. The Committee is chaired by an external director, George Olcott, and comprises six directors, including four external directors.

Evolution of our Company organization

The process of integration, begun in 2006, is now largely completed, with all of the former Pilkington and NSG businesses operating in three business lines: Building Products, Automotive and Specialty Glass.

Each business line is managed on a global basis by a main board director, with Mark Lyons leading Building Products Worldwide, Mike Fallon heading Automotive Worldwide and Keiji Yoshikawa managing Specialty Glass Worldwide. Global functions provide specialist services across all business lines.

Our two-year J-SOX project has involved the documentation, evaluation, improvement and testing of every major accounting process, covering not only finance but also sales, purchasing and inventory.

Japanese SOX Act (J-SOX)

The Japanese SOX Act (J-SOX), formulated in 2006, stipulates internal control-related rules under the Financial Instruments and Exchange Law. The Group successfully met J-SOX requirements by the 31 March 2009 deadline and submitted its first internal control report under Japanese financial reporting rules in June 2009. Our two-year, Group-wide J-SOX project has involved the documentation, evaluation, improvement and testing of every major accounting process, not just within finance but including the areas of sales, purchasing and inventory.

We operate a full program of compliance activity across the Group. This includes self-assessments and independent audits conducted by the relevant Group functions and by Group Internal Audit.

Risk management

The scope of our operations introduces potential risks to our business activities, requiring effective risk management. Our enterprise risk management process enables the impact and likelihood of key risks to be assessed in a standard format. The information is used to assess the cumulative risk exposure of the Group and promote effective global risk responses, thus strengthening our overall risk management structure.

Compliance

We continue to develop our compliance system and to raise awareness of it among our employees. The Executive Committee is responsible for identifying areas of compliance that are ‘key’ or ‘high risk’. Where these exist, formal centralized compliance monitoring and reporting must be implemented. The Audit Committee independently monitors the overall program of compliance activity and the reported level of compliance, assisted by Group Legal and Group Internal Audit.

The program of compliance across the Group includes self-assessments and independent audits conducted by the relevant Group functions and by Group Internal Audit. The results of these activities are used by the relevant functions to improve the level of compliance, and summarized for presentation to the Executive Committee and the Audit Committee. Reporting of Concerns procedures allow employees to report, in confidence, any concerns they may have on compliance.

We are committed to free and open competition and will compete vigorously but with integrity and honesty. Competition Compliance issues are managed by the Group Competition Compliance Officer. A training program for people in ‘key roles’, seen as those most likely to face competition compliance issues in their work, is now in operation Group-wide.

Glass has a unique role to play in society's attempt to reduce greenhouse gas emissions and mitigate the effects of climate change. The energy used in making high-performance glass products is quickly paid back.

Glass and climate change

Key message

Glass has a unique role to play in promoting sustainability, reducing greenhouse gas emissions and mitigating the effects of climate change. The 'energy balance' between manufacture of high-performance glazing products and their use means that the energy used and CO_2 emitted in manufacture are quickly paid back through the lifetime of the products. The energy involved in glass-making should therefore be seen as an investment in future energy saving.

Buildings and vehicles are central to the environment in which millions of people live and work every day. Recognizing the role of glass in reducing greenhouse gas emissions and mitigating the effects of climate change, we are supporting initiatives to use glass in order to reduce the energy consumption of both buildings and vehicles.

In the global discussions about climate change and energy efficiency, architecture has moved to center stage. Governments around the world are becoming aware that buildings offer the biggest energy-saving potential and that the technology to achieve this already exists.

Our climate change challenges and opportunities

Challenges: The principal risks to our business introduced by climate change are those associated with potential damage to our plants and infrastructure. These include flooding and wind damage. We mitigate these effects through climate change risk assessment in our investment decisions. Price and availability of fossil fuels is also a risk for us, which we seek to minimize through energy conservation and the use of alternative energy sources for our processes.

Opportunities: Our added-value products, such as low-e (low-emissivity) glass, solar control glass and glass for photovoltaics have the principal purpose of reducing energy consumption in buildings and generating energy from the sun. We are therefore in a strong position to help mitigate the effects of climate change by helping to conserve energy in buildings and vehicles and to assist with the generation of solar power. A significant part of our R&D effort is dedicated to finding solutions to the challenges raised by climate change, reducing energy consumption and waste.

Political priority

In every region of the world in which we operate, the need to save energy and reduce CO_2 emissions is a political priority. Buildings account for almost 50 percent of the energy consumed in developed countries. Governments are putting increased focus on legislation and policies to improve their energy efficiency.

In North America, initiatives such as the environmental building rating system (LEED) run by the US Green Building Council are helping to transform the market for added-value glazing, and this will continue. Similar opportunities are anticipated in Europe, for example, through the development of an EU-wide Energy Labeling system for windows. In China, legislation is at an earlier stage, but the government has already introduced building regulations to improve the energy efficiency of new buildings.

Glass in buildings

Energy issues are crucial to the building glass industry, as glass products can make an important contribution to combating climate change. Improving the energy efficiency of buildings brings other benefits too. Buildings are more comfortable and cheaper to run for the owner and occupier. And from a social point of view, national economies and energy security will improve when energy-importing countries become less dependent on increasingly expensive supplies from other parts of the world.

Pilkington Suncool™ is a range of coated solar control products with high visible light transmittance and low emissivity in one off-line product.

140
million tonnes of CO_2

Estimated 140 million tonnes of CO_2 saved in the EU if current glazing replaced by low-e double glazing.

New products

Over the past year, we have launched a number of energy-efficient products across Europe. These include Pilkington **Suncool**™ 70/35, offering a solution to an ever-increasing need to achieve outstanding energy efficiency within buildings without compromising levels of natural daylight. Its very low total heat gain and extremely high light transmission maximize the thermal comfort and aesthetics of a working or living environment.

We have also seen excellent growth in the sales of the range of energy-efficient products launched last year under the Pilkington **energiKare**™ brand, which offers all home owners the opportunity to improve the efficiency of their windows by up to 90 percent.

Glass industries studies show that emissions from buildings, amounting to 765 million tonnes of CO_2 per year in the EU, could be cut by 140 million tonnes if the current glazing was replaced by low-e double glazing.

CO_2 emissions and low-e double glazing

The European glazing trade association, Glass for Europe, of which the NSG Group is a member, published in 2005 a study into the CO_2 savings potential of replacing ordinary single or double glazing with low-e glass.

It showed that CO_2 emissions from buildings which amount to 765 million tonnes of CO_2 per year in the EU, could be cut by 140 million tonnes if the current glazing was replaced by low-e double glazing.

Even taking into account the 4.6 million tonnes of CO_2 released per year by the building glass industry in its production processes to manufacture the additional glass required (NSG Group in Europe released 1.7 million tonnes in 2008), the replacement of obsolete glass in old buildings and specification of energy-efficient glass in all new buildings would result in a huge net benefit.

CO_2 emissions and solar control glazing

In regions where the ambient temperature is often uncomfortably hot, the increasing tendency is to install air conditioning and that, of course, brings with it an energy and carbon burden.

Glass for Europe has recently published a report, 'Impact of Solar Control Glazing on Energy and CO_2 Savings in Europe', which quantifies the potential CO_2 savings in the year 2020 through the installation of solar control glass in air-conditioned buildings.

The study shows that installing solar control glass versus air conditioning under the current growth scenario would produce annual savings of around 1.1 million tonnes of CO_2 by 2020. If air conditioning use in Europe were to approach the level of usage in North America, annual savings would be closer to 7 million tonnes.

Our added-value products, such as low-e glass, solar control glass and glass for photovoltaics have the principal purpose of reducing energy consumption in buildings and generating energy from the sun.

Glass in vehicles

As we describe later in this report, in the automotive industry, the shift to electric vehicles and plug-in hybrids marks a new era, with CO_2 reduction a major focus. This 'eco-innovation' will drive glazing advances in solar energy control, weight reduction and energy saving. We are well placed to meet these challenges. Our technology will be critical to differentiate us from low-priced competitors and we are currently developing new products to meet the demands of the next generation of vehicles.

Our products are at the heart of modern architecture, engineering and construction. They have a beneficial role to play in addressing some of the major environmental challenges of buildings, new and old.

Glass in buildings

Key message

Architects increasingly seek to bring natural environmental factors into the interior of buildings by maximizing natural daylight. This has been achieved through the use of larger glazed areas in façades and roofs, and through entirely glazed façades where the glass is a structural component of the building.

Energy saving is a key driver. CO_2-reduction targets have driven tougher legislation for energy-saving glass and made insulated glazing units mandatory in many parts of Europe. This has now developed further into legislation requiring coated low-e glasses that are particularly energy efficient.

In hot climates, the reliance on air conditioning, which would otherwise be increased by such larger glazed areas, is mitigated by the use of advanced solar control products which allow the sun's light into the building while keeping much of its heat out.

Sustainability in buildings

Glass is used extensively in most buildings, both for exterior and interior use; as a construction material, for functionality, for decoration and for interior fittings. Around the world, policy-makers have begun to realize how important the quality of our buildings is in relation to the quality of the environment and to the overall quality of people's lives.

Policy and legislative activity addressing the building sector, including the glass products that are used in buildings, is increasing worldwide.

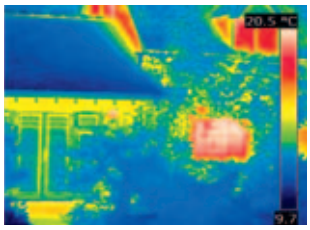
Our products play a vital role in improving energy efficiency and reducing CO_2 emissions. But they also offer other advanced functionality, protecting against fire, insulating against noise, offering safety and security, privacy, decoration and even self-cleaning properties

Energy efficiency in buildings

In every region of the world in which we operate, the need to save energy is a political priority. Buildings account for almost 50 percent of the energy consumed in developed countries. Governments are putting increased focus on legislation and policies to improve their energy efficiency.

In North America, initiatives such as the environmental building rating system (LEED) run by the US Green Building Council are helping to transform the market for added-value glazing, and this will continue.

Buildings account for almost 50 percent of the energy consumed in developed countries. Our products have a beneficial role to play in addressing some of the major environmental challenges of buildings, new and old.



Calculations show that installing Pilkington energiKare™ saves, on average, more than 20 tonnes of CO_2 in the lifetime of each window, compared to basic single glazing.

The use of large glazed areas in façades, roofs and even entirely glazed façades, brings natural environmental factors into the interior of buildings.

50%
proportion of energy consumed in developed countries by buildings

Buildings account for around half of all energy consumed in developed countries. Glass has an important role to play in helping to reduce energy consumption in buildings.

Similar opportunities are anticipated in Europe, for example, through the development of an EU-wide Energy Labeling system for windows. In China, legislation is at an earlier stage, but the government has already introduced building regulations to improve the energy efficiency of new buildings.

Thermal insulation – keeping heat in buildings

In cold weather, low emissivity (low-e) products reflect heat back into the building. Our thermal insulation products combine unrivalled thermal insulation with high light transmittance and lower reflectance for a more neutral appearance.

Our **Spacia**™ product was developed in Japan and was the world's first vacuum glazing commercially available, offering the thermal performance of conventional double glazing in the same thickness as single glass. Sales for this product are developing worldwide, particularly for use in historic buildings.

For the residential market, we have developed products combining thermal insulation and passive solar gain, helping domestic window companies meet homeowner demand for more energy-efficient windows.

Advances in low-emissivity (low-e) glass technology have made windows an essential contributor to energy conservation and comfort, minimizing heat loss and internal condensation.

Pilkington **energiKare**™ is a family of energy-efficient Insulating Glass Units innovatively using low iron float glass Pilkington **Optiwhite**™ in combination with Pilkington **K Glass**™, to provide the best possible energy-efficient performance. The product is being used in both replacement windows for homes and in newly built dwellings utilizing both double and advanced triple glazing technology.

Solar control – keeping heat out of buildings

In warm weather, our solar control products dramatically reduce or reflect the sun's heat transmitted through the glass, while transmitting the majority of the light, minimizing the need for air conditioning.

Solar control is a key issue in terms of energy saving. In hot conditions or for buildings with high internal heat loads, solar control glass is used to minimize solar heat gain, by rejecting solar radiation and helping to control glare.

In temperate conditions, it can be used to balance solar control with high levels of natural light. The correct choice of glass can help to reduce the capital outlay, running costs and associated carbon emissions of a building throughout the year.

The correct choice of glass can help to reduce the capital outlay, running costs and associated carbon emissions of a building throughout the year.

Fire-protection glazing

We offer three types of technology to protect people and property against fire – wired glass, special modified toughened glass and a special proprietary clear intumescent interlayer technology. The products in this range provide not only protection against flames and smoke, but also a high degree of protection against the heat of a fire, as well as from heat transfer mechanisms. Our fire protection glass products are well respected and used in a variety of building, marine and rail transport applications all over the world.

Glass has an important role to play in the development of the growing Solar Energy sector. The NSG Group supplies products for all three of the leading technologies, converting power from the sun into clean renewable energy.

Glass and solar energy

Key message

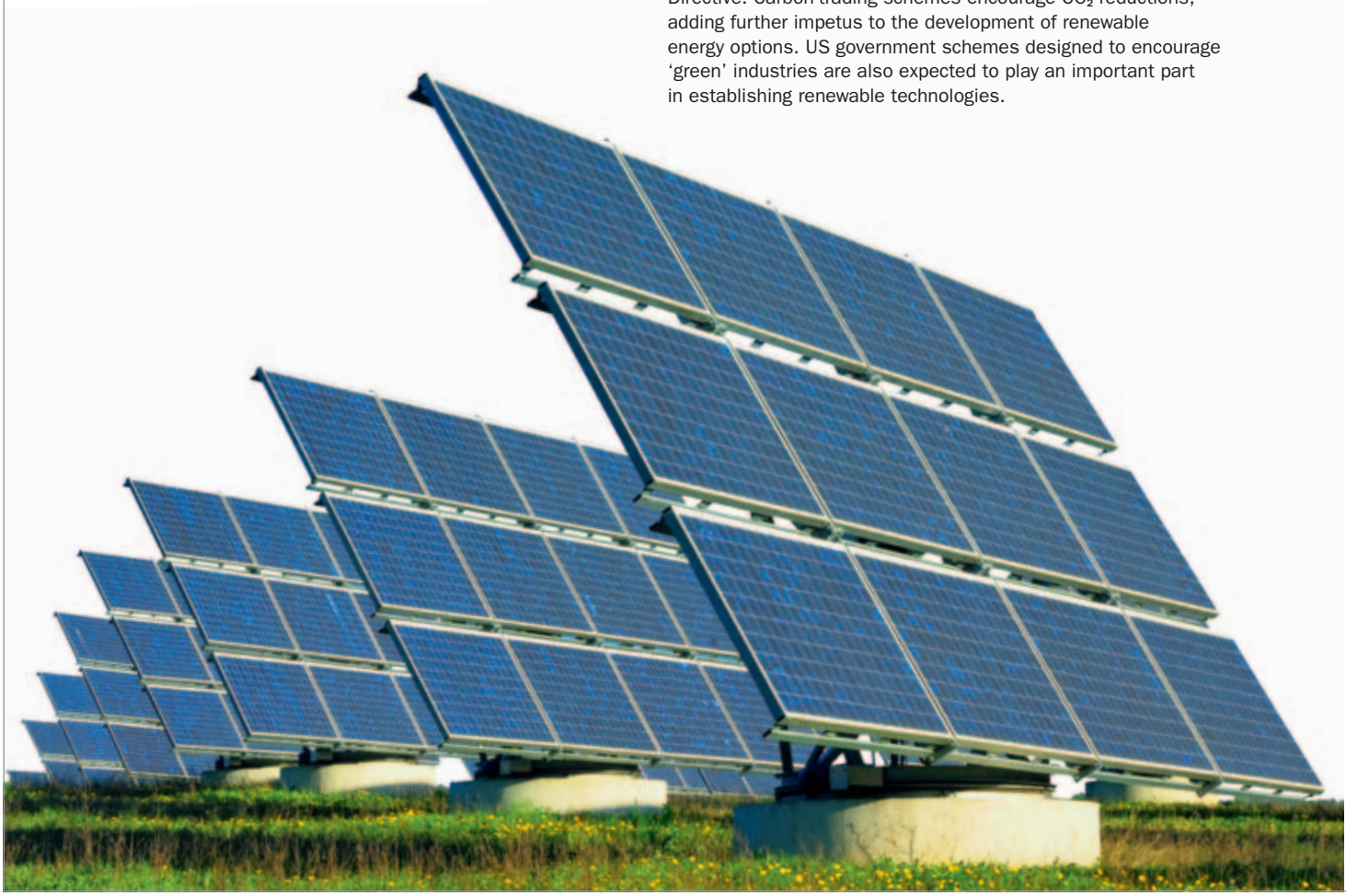
Glass has a key role in attempts to find cheaper and more efficient ways of generating power from the sun.

Our products support the three leading solar energy technologies; thin film and crystalline solar modules and concentrated solar power applications.

Glass is an integral and important element of solar modules, used to convert solar energy into electricity. In traditional photovoltaics, the solar cells may be encapsulated using toughened high-transmission glass, which protects the cells from the elements.

Increasingly, electrically conductive glass is used in photovoltaic modules as the front contact of the solar cell, to form a system which generates a direct electrical current. Where the power feeds into a grid, it is first converted into alternating current.

The United States and the European Union in particular, are encouraging the production of renewable energy and in December 2008 the EU published the Renewable Energy Directive. Carbon-trading schemes encourage CO_2 reductions, adding further impetus to the development of renewable energy options. US government schemes designed to encourage 'green' industries are also expected to play an important part in establishing renewable technologies.



Thin film photovoltaic solar modules produce power at low cost per watt, but require large surface areas for installations.

Crystalline photovoltaic solar modules are highly efficient, but the cells are also expensive to make. So, best used in applications where space is at a premium.

Concentrated solar power applications. Typically large area mirror arrays. Requires a large area and lots of sunshine. Particularly effective in sunny deserts.

As one of the world's leading glass-makers, we are well placed to supply the three leading solar technologies and have established a new Solar Energy business unit to exploit this opportunity.

Government subsidies are increasingly playing a role in encouraging solar generation, with feed-in tariffs in countries such a Germany, Spain, Italy and Greece making it economic for solar generators to feed power into the national grid systems. The authorities in Japan have indicated likely support for homeowner solar installations and US tax incentives are adding further impetus to these technologies.

Even without such subsidies, many systems already make economic sense and costs are anticipated to fall further as the technology matures with grid parity expected to be achieved over the next few years.

Our products support the three leading solar energy technologies.

Thin film photovoltaic solar modules

Technology characteristics: Produces power at low cost per watt, but requires large surface areas for installations. Can be used in climates where the sun is not very strong and may be obscured by cloud.

Glass type required: Transparent Conductive Oxide Coating on float glass. The glass both lets light through and helps conduct the electricity produced.

NSG Group Products: Pilkington **TEC Glass**™ is a high-performance, highly durable, electrically conductive glass used in a wide range of markets including photovoltaics, where it is used to construct thin film PV modules. With the Group's advanced technology, the coating properties can be 'tuned' to a wide variety of Thin Film PV technologies, including silicon and cadmium telluride based.

Crystalline photovoltaic solar modules

Technology characteristics: Highly efficient, but the PV cells are also expensive to make. So, best used in applications where space is at a premium. Requires reasonably high solar radiation, but can tolerate some cloud cover.

Glass type required: Low iron rolled glass plus anti-reflective coating, to ensure that the maximum amount of solar radiation hits the PV cells.

NSG Group Products: Pilkington **Sunplus**™ is a high-performance, low iron glass designed to maximize solar energy collection through very high light and solar transmission. The high solar energy transmission of Pilkington **Sunplus**™ makes it an ideal choice for crystalline PV photovoltaic solar cells.

Concentrated solar power applications

Technology characteristics: Typically large area mirror arrays. Requires a large area and lots of sunshine. Particularly effective in sunny deserts.

Glass type required: Low iron float glass.

NSG Group products: Pilkington **Optiwhite**™ is an ultra-clear float glass with very low iron content and its high solar energy transmittance makes it ideal as a base substrate for mirrors used in concentrated solar power applications.

The shift to electric vehicles and plug-in hybrids marks a new era for the automotive industry, with CO_2 reduction a major focus. As a leading global supplier of automotive glazing, we are developing new products to meet the demands of the next generation of vehicles.

Glass in vehicles

Key message

The global automotive industry is increasingly addressing the sustainability agenda. The shift to electric vehicles and plug-in hybrids marks a new era, with CO_2 reduction a major focus. This requires glazing advances in solar energy control, weight reduction and energy saving.

As a world leader in automotive glazing, we are meeting these challenges. We are developing automotive coating technology and glass compositions to produce advanced infra-red absorbing and high-performance infra-red reflecting technology. Our aim is to provide further opportunities for vehicle manufacturers to reduce CO_2 output.

Lightweight glazing

There can be over 13 individual pieces of glazing on a vehicle, all of which contribute to the overall vehicle mass and contribute significantly to the overall weight of the vehicle and to fuel consumption.

We are at the forefront of development of automotive glazing products that address sustainability issues, such as CO_2 reduction, lighter and more aerodynamic glazing, vehicle end-of-life issues and recycling.

Our developments have been heavily focused on the introduction of lightweight glass and glazing technology, with the launch of reduced thickness laminated and toughened sidelights, backlights and rooflights. Through continuous developments in our glass shaping capability to enable asymmetric windshield constructions, we are contributing to the future of automotive glazing products.

30%
of vehicle heat enters cars through the windshield

Control of heat energy entering vehicles has a direct impact on air conditioning usage, helping to reduce fuel consumption and CO_2 output.

Approximately 30 percent of the heat loading on a car's interior comes through the windshield. Solar control glass can reduce solar gain and reduce air-conditioner demand.

With our developing glass-shaping technology it is now possible for vehicle manufacturers to reduce the mass of glass components by up to 25 percent. Glass in vehicles offers more properties than simple transparency, so when designing vehicles for reduced mass in the components, consideration needs to be given to acoustics, stiffness, sealing and guiding systems and solar control.

Solar control technology

The relationship between high-performance solar control glazing and vehicle CO_2 emissions reduction has been recently identified by the California Air Resources Board (CARB), through its 'Cool Cars' legislation. As a contribution to the state's commitment to reduce its CO_2 output, the first specification of glazing performance requirements for vehicles has been legislated. From model year 2012, vehicles sold in California will need to be fitted with state-of-the-art glass technology to control the amount of heat energy entering the vehicle cabin.

The CARB research has established that control of the heat energy entering the vehicle will have a direct impact on mobile air conditioning usage and will lead to reduced fuel consumption and CO_2 output. We are committed to support our customers by development and delivery of innovative, cost-effective solar absorbing and solar reflective glazing products.

Our range of optimized green and privacy solar absorbing glasses can reduce the heat entering a vehicle by up to 65 percent.

Ancillary engine loading contributes significantly to overall vehicle CO_2 output, with air conditioning usage imposing the largest ancillary load on a vehicle engine. Our advanced solar control glass can make a large contribution to the reduction of air conditioning usage by reducing solar heat gain.

Approximately 30 percent of the heat loading on a car's interior comes through the windshield. Our vehicle glazing products provide advanced solar control by absorbing or reflecting the infra-red energy from the sun. Our range of optimized green and privacy solar absorbing glasses can reduce the heat entering a vehicle by up to 65 percent.

Ensuring passenger comfort and safety

We develop and supply not only glass but also glazing systems that are used to mount and seal the products in vehicle apertures. We are working constantly to decrease the component content, with a view to reduced cost and weight.

New technology areas, for example, integral seals, significantly reduce processing steps and the amount of hardware needed to transform glass products to glazing products. Issues such as driver visibility and pedestrian safety overlay our work in the development of the next generation of automotive glazing.

We are actively involved in work on the elimination of harmful materials in glass, ink, solder and other components used for automotive glass products.

Glass and end-of-life vehicles

Glass typically constitutes around 3 percent of the composition of an average car. The automotive glass industry has not been directly involved in the setting of end-of-life Vehicle legislation, but we are actively involved in work on the elimination of harmful materials in glass, ink, solder and other components used for automotive glass products.

Our Specialty Glass products support touch-screen technologies and help reduce power consumption in printers and scanners.

We are developing new battery technology, set to make a major contribution to the development of the next generation of electric and hybrid vehicles. Our glass fiber cords for automotive timing belts help reduce fuel consumption.

Specialty Glass

Key message

Our Specialty Glass business operates in a range of niche markets, including the manufacture of ultra-thin glass for displays and touch-screen technology. Our patented optical products are used in office machinery, including a new generation of LED printer heads, offering the advantages of miniaturization, low power consumption and low-noise operation.

We are leading the development of the next generation of automotive batteries for use in electric and hybrid vehicles.

We are world leaders in the development of products using glass fiber, which is now a high-profile, high-tech material in a variety of fields: it is light and strong, fire retardant, non-conductive and resistant to chemicals.

Our Specialty Glass products are used in environmental improvement schemes, including applications designed to reduce noise and pollution,

Battery separator technology – an important role in the next generation of electric vehicles

We are world leaders in the development of advanced glass products for use in battery separators; sheets of non-conducting porous material between positive and negative plates in storage batteries. They prevent short circuits caused by plates bending and touching and greatly increase the efficiency of batteries.

Moves to achieve a low-carbon society have focused the automotive industry on the development of more fuel-efficient cars. Such vehicles, often using the Idling Stop and Start (ISS) system, require advanced performance batteries.

The aim of our research is to improve the capacity, stability, power and safety margins of the next generation of batteries. Such enhanced performance characteristics can enable the use of smaller and more powerful batteries in next generation lower-emission vehicles. We are rising to this challenge, developing and expanding sales of separators for these new batteries.

We are developing and expanding sales of separators for smaller and more powerful batteries for use in the next generation of lower-emission vehicles.

Displays in communications devices – helping to cut power consumption and even reduce travel

We are a world-leading supplier of ultra-thin glass for small LCD applications, helping to reduce power consumption in the display market. Our Ultra Fine Flat Glass (UFF) is produced in thicknesses as low as 0.3 to 1.1mm.

These products are increasingly being used in the growing touch panel market, particularly in mobile phones and computers. This technology helps reduce the need for additional peripheral equipment, such as keyboards and pointers.

We are developing advanced fiberglass separators for batteries with enhanced capacity, stability, power and safety margins, for use in next generation lower emission vehicles.

Light Emitting Diode (LED) print heads, using our proprietary SELFOC® Lens Array (SLA®) technology allow optical systems to be designed compactly and manufactured at low cost.

Our new range of advanced LED print heads offers the advantages of miniaturization, reduced noise and lower power consumption in the next generation of printers and scanners.

LED print heads – reducing power consumption in office machinery

We have been involved with printer and scanner manufacturer Fuji Xerox in the joint development of a new generation of Light Emitting Diode (LED) print heads, using our proprietary SELFOC® Lens Array (SLA®) technology, which allows optical systems to be designed compactly and manufactured at low cost.

The new system uses self-scanning light-emitting devices and radially distributive refractive index rod lens arrays to provide images up to 1,200 dpi. The new print head offers all of the advantages of miniaturization, low power consumption and low-noise operation, while providing the image quality equal to or surpassing more conventional laser scanning units.

Improving the living and working environment – glass sound insulation on expressways

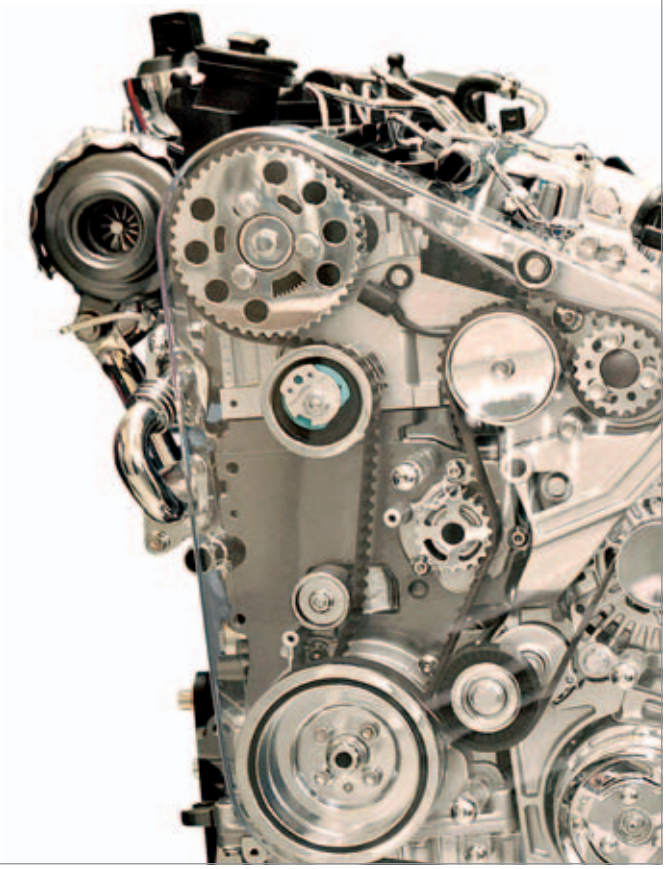
Our Nippon Sheet Glass Environment Amenity (NEA) operation supplies the market for sound insulation systems for industrial use, acoustic architecture, expressways and residences as well as electromagnetic wave shielding systems. In Japan, NEA recently won a contract to supply sound insulation systems for the second Keihan Expressway, with other orders in the pipeline.

Although transparent plastics such as polycarbonates and acrylics are also used for soundproof panels around expressways, glass has significant advantages in terms of aesthetics and cost.

Glass cord engine timing belts – helping to reduce fuel consumption

Our advanced glass fiber cord enables automotive timing belts to maintain performance for longer. A German belt manufacturer has launched the first timing belt suitable for lifetime use in Volkswagen's common-rail diesel engine – as fitted in the new VW Golf. The belt includes a new high-strength glass cord developed by our glass fiber businesses in the UK and Japan.

This new high-tensile strength glass fiber cord improves belt flexibility and stretch resistance significantly. These characteristics help to provide accurate valve operation timing for better fuel efficiency over the lifetime of an engine. In tests, belts containing this cord have been run for 300,000 km without any deterioration. Our glass fiber cord products are making a significant contribution to reducing fuel consumption worldwide and helping to protect the environment.



We take our environmental responsibilities extremely seriously. All our operations are required to meet all legislative standards as a minimum, and where local requirements are not considered sufficient to address an issue, our own corporate standards do.

Environmental policies and management

Key message

As one of the world's largest glass companies, we believe that we have a responsibility to go further and to set an example to others. We all share one planet together and we have to play a full role in helping to manage the precious resources on that planet to the mutual benefit of everyone.

This is the cornerstone of sustainability; meeting the needs of the present without compromising the ability of future generations to meet their own needs. Our commitment is reflected in our policies and the way we manage our environmental responsibilities.

NSG Group Environmental Policy

Our Group Environmental Policy defines our approach on environmental matters. In particular, it outlines our management of both current activity and the legacy of past and inherited liability. It reinforces our commitment to using good scientific principles to try to predict and assess our impacts on the environment, both positive and negative.

We acknowledge that our activities will inevitably have an impact, but we have taken steps to minimize the adverse nature of any impact and have put in place systems to try to ensure that we manage such impacts in a controlled manner.

Principal among the tools we use is our environmental management system, which as a matter of policy is certified to ISO 14001 for all our glass manufacturing and automotive manufacturing sites.

More recently, there has been an increasing recognition that the environment is only one part of a wider sustainability agenda. Care and respect for the environment must go hand in hand with the social and economic needs of society.

We have decided, therefore, to state more clearly our position in our Sustainability Policy, which now sits above and is complemented by our environmental policy.

Our environmental management system is, as a matter of policy, certified to ISO 14001 for all our glass manufacturing and automotive manufacturing sites.

Reporting

We are committed to reporting on our performance both good and bad. In 2006, NSG acquired Pilkington. The two companies had up to that point operated different policies and data collection systems. In order to develop a meaningful data collection, record keeping and monitoring system, a great deal of effort has been put into integrating and rationalizing our environmental controls and data systems. We chose calendar year 2007 as a starting point for reporting on the progress of the enlarged Group.

Before the acquisition, both NSG and Pilkington reported on environmental and safety performance. There were, however, considerable differences in some of the parameters used and the Group has undergone considerable restructuring since 2006.

Our Automotive business was one of the first in the automotive industry to achieve a corporate certificate for environmental management. A single DIN EN ISO 14001 certificate covers Pilkington Automotive sites worldwide.

Co-generation equipment fitted to some of our float plants allows electrical power to be directly generated on site from waste gases, reducing environmental impact.

More details on our environmental policies and risk analysis can be found on our website: www.nsg.com.

70%
of our operations take place on sites certified to ISO 14001 environmental standard

Direct historical comparison is therefore difficult and it was felt more useful to allow the past reports to remain on their own merits, whilst building a new reporting structure based on the current business and geographic organization of the Group.

We continue to work with regulatory authorities worldwide on issues relating to historical industrial activity on and around Group premises.

Data collection

Environmental and safety performance data is now collected right across the Group using an online electronic data reporting system known as **Airsweb**™. This database is multilingual and accessed over the corporate intranet. All sites are connected to the system either directly or via VPN, allowing monthly updating of relevant information.

Environmental data is collected under the broad headings of energy, emissions to air, water usage, recycling and waste. The data collected is based primarily on the core environmental performance indicator set of the Global Reporting Initiative (GRI).

In addition to the collection of environmental emissions and resource usage data, the **Airsweb**™ system also incorporates an incident reporting system. This allows the timely reporting and recording of incident data both safety and environmental, as well as provision for tracking the progress or remedial actions and communication of learning points.

Supplementing the routine monitoring of our business, we also maintain a number of central registers, used to guide our strategic development and maintain a high level of corporate governance in the sustainability field. For example, a register of all furnaces their associated permits, relevant legislation and abatement capabilities is maintained and used to support the assessment of any proposed changes in operation or design.

To ensure a consistent and innovative approach, we operate a number of multidisciplinary design panels whose task is to ensure full assessment and review of proposed changes. We utilize a stage gate process to ensure that an appropriate level of information and resource is applied to an issue at set points within the development of a project or proposal. This ensures the most efficient use of our resources and encourages the use of a wide range of skills to assist innovation.

A register of all furnaces, their associated permits, relevant legislation and abatement capabilities is maintained and used to support the assessment of any proposed changes in operation or design.

For glass manufacturing plants we have defined our strategic approach to abatement in order to ensure that across the world we hold fast to our principles even in parts of the world where legislative controls are less well developed.

Certification

We aim to certify our manufacturing facilities to the internationally recognized ISO 14001 environmental standard. We now have 69 certified sites around the world, representing 70 percent of business by turnover.

In all our manufacturing and processing activities, we seek to use as diverse a range of energy sources as practicable. We continuously work to minimize energy input into all our processes, so that the usage of glass contributes net benefit to sustainability.

Energy and resource usage

Key message

We own or operate 49 float lines globally and have major automotive fabrication facilities in 32 locations worldwide. In response to the unprecedented global economic crisis, which began to affect our operations in mid-calendar year 2008, we announced a major restructuring of the Group. The aim was to reduce our production capacity to match customer demand.

The effect on our manufacturing base was dramatic. Some of our float lines were put on hot hold (maintaining working temperature, but not producing glass). Some were mothballed (closed down with a view to restarting when markets improve) and some were shut permanently. Our Automotive and Specialty Glass operations were similarly affected, with an unusual number of shutdowns and restarts.

Important structural changes included three new glass manufacturing plants in China and Vietnam added in 2008 and three Australian plants sold. For this reason, there has been a slight increase in the absolute consumption of energy resources. As we report our energy and resource usage on a calendar year basis, the full effects of this disruption in production will not show up until next year's report.

Initiatives to reduce resource usage

Major initiatives to reduce energy in float production included the conversion of the Malaysian float line to natural gas and the switching of on-site electricity production in Moscow.

The Automotive business introduced an extensive survey program to study energy usage in detail at the production machine level in order to target a 3-5 percent reduction in energy usage on the previous year. These studies enabled the completion of many low-cost projects which made a considerable contribution to energy saving.

The dramatic onset of the financial crisis and its subsequent collapse in demand led to a shift in the priority of the programme to benchmark both shutdown and restart energy consumptions. Sites were able to significantly reduce consumption to minimal levels commensurate with maintaining the safety of the plant.

Absolute consumption was reduced in part due to lower production, but for the same reason specific consumption increased.

Our energy usage

Natural gas

For both environmental and financial reasons and wherever practicable, we use natural gas as the fuel of choice for glass melting. Natural gas emissions are discussed below, but from a production viewpoint the fuel is easy to control, does not usually demand a large investment in local storage and has generally proved relatively reliable in delivery.

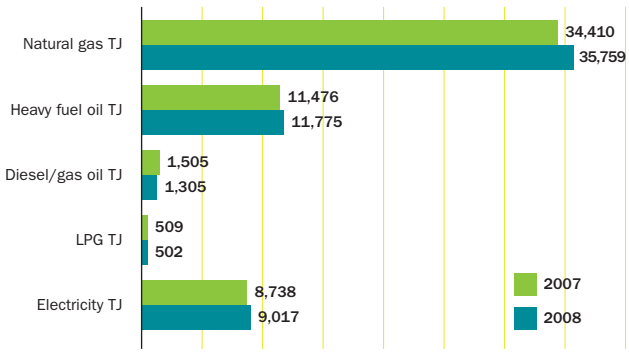
We used 1,014 million cubic meters of natural gas in 2008. This equates approximately to 35.8 PJ of energy, a 4 percent increase on the previous year.

Heavy fuel oil

Our second most utilized fuel is heavy fuel oil, readily available and relatively low cost. It is therefore used when gas is not available. It provides good heat transfer and is considered a good fuel for glass melting. Its principal disadvantages lie in the emissions caused during combustion, its physical characteristics and consequent difficulty in handling (e.g. it is very viscous at normal temperatures and therefore requires heated storage).

We used 297 million liters of heavy fuel oil in 2008, or 11.8 PJ; a 3 percent increase on the previous year.

NSG Group energy usage



58.35 PJ

Total energy used by the Group in 2008

For both environmental and financial reasons and wherever practicable, we use natural gas as the fuel of choice for glass melting.

The total energy used by the NSG Group in 2008 was 58.35 PJ (16.21 TWh).

Diesel oil and liquid petroleum gas

The use of diesel oil and of liquid petroleum gas as fuels for float furnaces is generally limited by cost. Both are used as back-up fuels in case of the failure of the preferred fuel. Diesel oil is also widely used to power small engines and boilers.

In 2008, our consumption of diesel oil was 35.0 million liters, or 1.3 PJ (–13 percent compared to 2007) and that of liquid petroleum gas 10.6 k tonnes or 0.5 PJ.

Electricity

Electricity is a major resource usage for the Group. The environmental impact associated with electricity is, of course, dependent on the method used to generate it.

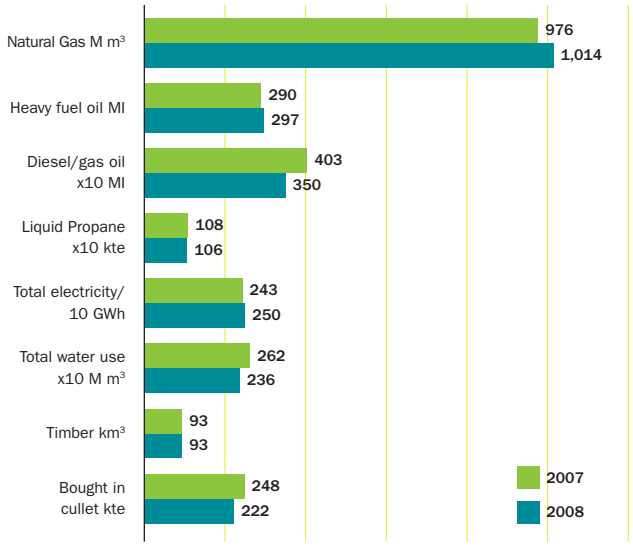
During 2008, we used 9.0 PJ (2.5 TWh) of electrical energy.

Our resource usage

Renewable resources

It is often difficult to calculate the proportion of this energy generated from renewable resources. Renewable electricity is acquired in a number of ways. Some electrical power is directly generated on-site from waste gases or using co-generation installations. Electricity supplied directly from wind or solar remains quite low. More is supplied via the existing grid supply system under so called 'green supply' contracts. In a number of jurisdictions, electricity suppliers have a legal obligation to generate a proportion of electricity from such sources.

NSG Group resource usage



In 2008, we received 7.1 GWh from renewables and waste heat directly, plus a further 255 GWh from combined heat and power. The diversity of generation of grid supplies is taken into account when calculating carbon dioxide emissions resulting from the generation of electricity by taking this into account when using published carbon factors. No attempt has been made in this report to make a more accurate estimate of the overall renewable content of our supplied electricity, but this will be considered in the future.

The total energy used by the NSG Group in 2008 was 58.35 PJ (16.21 TWh).

Other resources

Timber

In Europe, much of our glass is transported without packaging utilizing specialist vehicles known as 'Floatliners'. In these vehicles, jumbo size glass is transported on steel stillages, which do not require additional packaging. Outside of Europe, more of the glass is transported in boxes and containers, often made of wood. Although much of the timber we use comes from sustainable forestry, we are not yet in a position to be able to guarantee this worldwide and this remains an area for improvement.

We used 93,000 cubic meters of timber (wood) in 2008, mainly in the transportation of glass.

Water

The glass-making process is not a particularly high user of water. Water is used for cooling in the process, but the majority of our plants operate with closed loop systems and so only require top up. Water is also used for washing glass within the plants, but there the need is for very high purity, so water is treated and then reused.

We used a total of 23.6 million cubic meters of water in 2008. This is a 10 percent reduction on 2007 data.

Recycled glass

The other notable resource used by the Group is cullet (recycled glass) bought in from external sources and remelted to form new glass, so closing the recycling loop.

In 2008, we bought in 222,000 tonnes of cullet to supplement cullet from our own internal recycling. For comparison, we made 4.7 million tonnes of glass for sale over the same period.

Glass manufacture is an energy-intensive process, involving the melting of sand and other raw materials at high temperatures. Principal emissions from the process are to air and arise as products of the combustion of fuel and as CO_2 from the decomposition of limestone and dolomite used in the process.

Minimizing environmental impact

Key message

The glass manufacturing process itself produces very little waste material. All trimmed glass is recycled back into the melting process and waste is limited to maintenance waste, occasional off-specification raw material which cannot be usefully blended and packaging waste. If glass is produced which cannot conveniently be remelted on-site, it is sent, where practicable, for external recycling.

Our environmental impact analysis of the float glass and automotive glazing production processes reveals that the only significant emissions are carbon dioxide, oxides of nitrogen, oxides of sulphur and, to a far more limited extent, particulate matter.

Progress against our targets

The Automotive business achieved a 5.6 percent reduction in specific electrical consumption (per square meter processed) against their 5 percent target, a 2 percent increase in specific gas usage, but this was following a 6.7 percent improvement the previous year, and a 9 percent reduction in water usage against a 5 percent target. The dramatic reduction in production at the end of the year will significantly impact on these figures going forward.

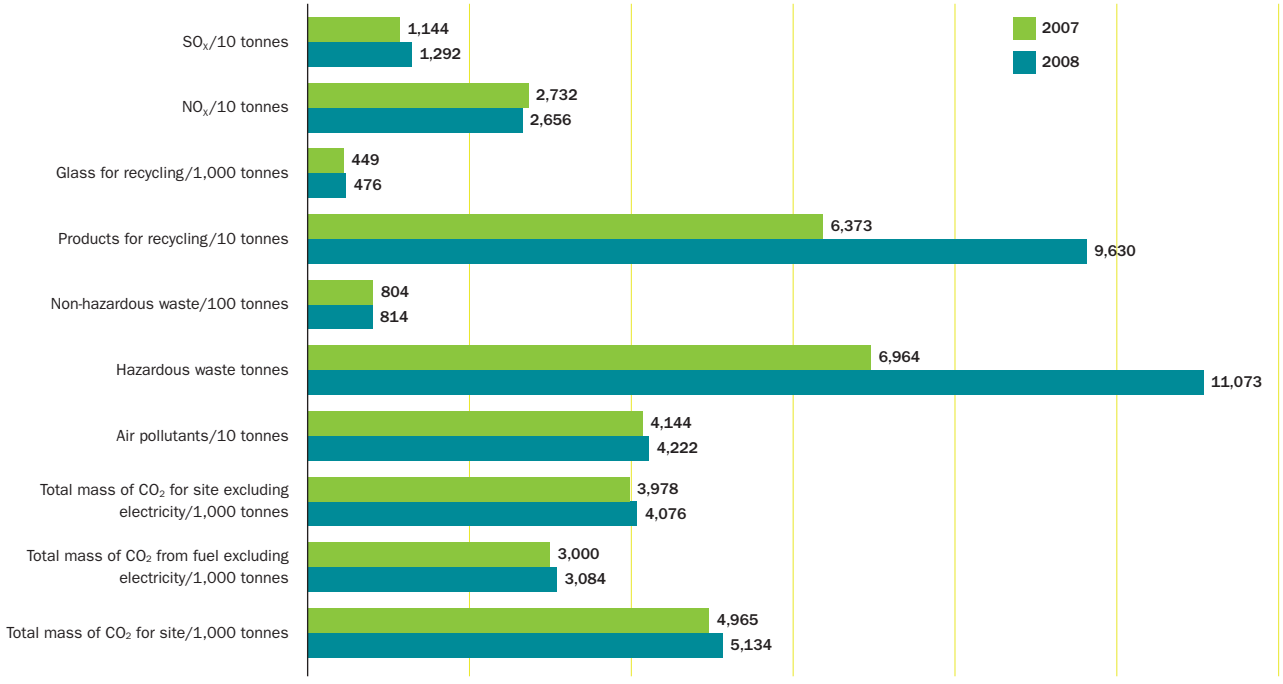
The installation of new capacity together with an increased proportion of more energy-intensive low iron glass intended for solar applications increased direct emissions of carbon dioxide. Steps taken to improve performance successfully held this to 2 percent despite early production difficulties in China. In Europe, verified direct carbon dioxide emissions were reduced 3.4 percent.

Recycling

Glass for recycling is a valuable resource. Wherever practicable, we recycle any glass off-cuts or cullet within our own glass melting lines. Glass from our downstream operations and from those of our customers represents a potentially useful resource to us.

We gain a double benefit from the use of such cullet. Its use to make glass reduces the requirement for raw materials and avoids disposing of what would otherwise be a waste material. There is

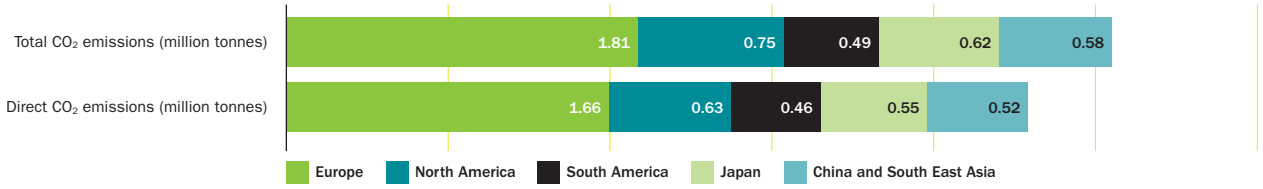
Principal emissions from the NSG Group during 2008



In 2008, we sent 476,000 tonnes of glass for recycling

In 2008, we sent 476,000 tonnes of glass for recycling and bought in 222,000 tonnes. In addition, a total of 26,000 tonnes of glass could not be successfully recycled and was sent for disposal.

NSG Group manufacturing carbon emissions 2008



also a net energy saving and consequent reduction in emissions. Our operations in Japan and Brazil achieve some of the highest levels of recycling in the Group.

In 2008, we sent 476,000 tonnes of glass for recycling and bought in 222,000 tonnes. In addition, a total of 26,000 tonnes of glass could not be successfully recycled and was sent for disposal.

Waste

The classification of waste, hazardous or non-hazardous, is dependent upon local jurisdiction. Where this is unclear we default to the European Union waste classification system. We use the waste hierarchy to guide our disposal options. In this system, landfill is the least favored option. However, with significant tonnages of mineral materials arising for disposal we have not eliminated landfill completely.

We disposed of 66,022 tonnes of non-glass waste (a 3 percent reduction), of which 2,486 tonnes of hazardous (a 12 percent reduction) and 25,470 tonnes of non-hazardous waste (a 33 percent reduction) were sent to landfill. Hazardous waste has increased significantly (+59 percent) due to a doubling of production of LCD glass units at Suzhou, with used acid being treated off-site rather than in the facility.

Emissions to air

These arise primarily from the combustion of fuel in melting the raw materials. The principal materials emitted are oxides of sulphur and nitrogen. Some particulates arise partly from trace components in the fuel and partly from the glass formation itself.

Oxides of sulphur and nitrogen

The fuels we use; oils and natural gas, all contain sulphur compounds as contaminants. Natural gas, our preferred fuel contains less sulphur than oil. Heavy fuel oil contains the highest levels of sulphur of all our fuels and that readily available in Japan is particularly high. Our furnaces in Japan are therefore fitted with efficient emission gas-cleaning equipment. The combustion of such fuels can produce a mixture of sulphur oxides (SO_x).

Most sulphate arising from soda lime glass manufacture is released as sodium sulphate, which is of low toxicity.

Nitrogen compounds released arise from the combustion air in which the fuel is burnt. At the high temperatures used in glass-making, the nitrogen in combustion air is oxidized to a mixture of nitrogen oxides (NO_x). Actions we take to reduce or prevent the emission of these oxides of nitrogen are all detailed on our website.

Glass for recycling is a valuable resource. Wherever practicable, we recycle any glass off-cuts or cullet within our own glass melting lines. We also recover glass from our downstream operations and from those of our customers.

Tackling carbon emissions

Direct emissions occur from our furnaces and from fuel used in bending and toughening furnaces in Automotive and Building Products. The majority of electricity generated worldwide consumes fossil fuels and releases carbon dioxide, thus raising the issue of how to account for these indirect emissions. In 2008, the NSG Group was responsible for the emission of 5.1 million tonnes of total carbon dioxide. Our direct emissions were 4.1 million tonnes.

Direct carbon dioxide emissions include any released as a result of directly generating electricity on our own sites. Indirect electricity-related emissions are calculated using data provided by the energy supply company or publicly available data sources.

Heavy oil to natural gas conversion has helped to almost halve carbon emissions over the past 40 years, and a combination of design and operational innovations has made further progress.

Our management philosophy values people as 'the most important asset of our company'. Around 30,000 people work in the NSG Group, manufacturing in 29 countries and speaking over 25 languages. Safety and Quality underpin everything we do, with the principle of 'open communication' central to our employment policies.

Employees

Key message

We operate as an integrated international Group, with a multinational management and 80 percent of our employees work outside Japan. We reflect diversity in our workforce and believe that the range of nationalities, skills, qualifications and experience available in our many operations are a positive benefit to our business. Our management style is to put the best person in each job, regardless of nationality or region.

Our management philosophy, 'people are the most important asset of our company', is deeply rooted in the 400-year-old Sumitomo Spirit to which we subscribe. It has therefore been a cause of great regret that the initiatives we have had to take over the past year have led to significant headcount reductions. As of 30 December 2009, 6,500 employees had left the Group since June 2008. We have taken special measures to mitigate the effects on both those employees leaving the Group and those remaining.

Employee engagement is also being given a high priority, with training for managers and supervisors in communication skills and additional briefing to keep employees informed of developments. We continue to promote the health and wellbeing of our people against new challenges such as that presented by A (H1N1), as well as the stresses caused by the global financial turmoil. We aim to play a responsible and responsive role in our local communities worldwide.

Diversity

Our Code of Conduct acknowledges internationally proclaimed human rights and the impact these have on employment. Employment standards have been set, derived from external international human rights employment guidelines and our own business requirements.

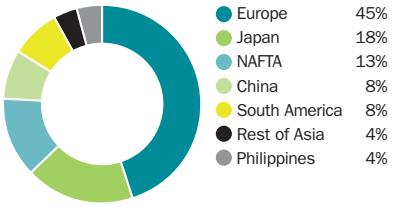
The Code and our overall employment policy provide employees with reassurance on how they will be treated, and guide employment policy and practice in individual businesses. Our equal opportunity policy aims to prohibit discrimination on the basis of race, color, creed, religion, age, gender, sexual orientation, national origin, disability, union membership, political affiliation or any other status protected by law. This policy operates in all employment-related decisions.

Safety performance

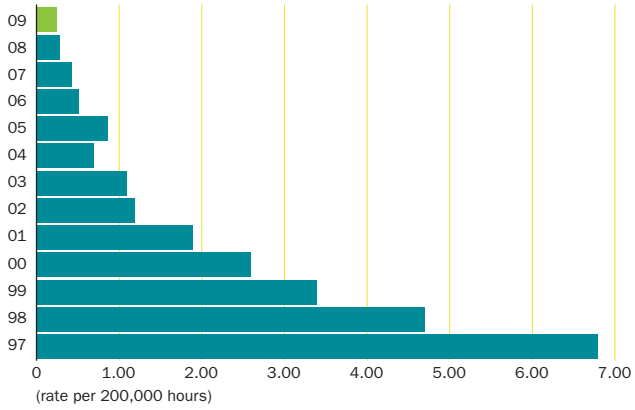
We measure safety performance using two key performance indicators. The Lost Time Injury Rate (LTIR) records work-related accidents or illnesses preventing individuals involved being able to report for work on the following day or shift. These are expressed as a rate per 200,000 hours (approximately the time worked by 100 people in one year). The LTIR was 0.25 in 2009; an improvement of 14 percent.

As the LTIR has improved, it has become less useful as an indicator of performance and the Significant Injury Rate (SIR) is now our primary reactive indicator. This records injuries requiring medical treatment or the reallocation of duties to allow an individual to continue working. The SIR was 0.9 in 2009; an improvement of 28 percent. There were 111 lost time injuries and 294 injuries classified as significant in the year, for the then total of 32,500

NSG Group employee distribution



Lost Time Injury Rate (LTIR)



Employee training in safety procedures is given a high priority in the NSG Group.

Our Machinery Safety Policy aims to establish best international standards for machinery safety at all manufacturing sites Group-wide.

80%
of our employees work outside Japan

Group employees. We have also introduced a number of proactive measures of safety performance, targeted at changing behavior.

During the current global economic downturn, some employees have been laid-off for varying periods. To address this issue, special initiatives were launched to raise awareness of the safety risks inherent in stopping and starting operations in a non-standard way.

Consultation and open communication

We operate a comprehensive formal cascade system of regular communication and briefing within all businesses, including effective mechanisms for two-way communication. All employees receive regular updates on Group and local business objectives, targets, results and best practice at central and business line levels.

Every employee receives a monthly briefing in his or her own language written by the head of the respective business line. Everyone also receives a copy of the Group's employee magazine, MADO, every eight weeks in his or her own language. The Group Intranet, NSG Group Inside, is available to every employee on the company network.

We operate formal mechanisms to brief unions and employee representatives on Group operations and future plans, as appropriate to local circumstances and requirements.

Despite the current emphasis on cost reduction, we continue to invest in the future of employees. The training and development of our people as individuals and as professionals remains a priority.

Group-wide employee survey

We conduct a global employee survey every two years. The purpose of the survey is to obtain employees' assessment of their level of job satisfaction within the Group. The first global employee survey since the acquisition of Pilkington, conducted in 2007, revealed a positive result worldwide, with almost 70 percent of employees assessing their level of motivation and satisfaction as 'good' or better.

The results of the survey also identified the need to improve internal communications in some areas of the business. Action plans, including a program, 'Project Messenger', to improve communications skills in managers and supervisors, were initiated to address this. The 2009 survey is currently underway and the results and action plans will be covered in the 2010 Sustainability Report.

Maximizing the potential of individuals

Despite the current emphasis on cost reduction, we continue to invest in the future of employees and the training and development of our people as individuals and as professionals remains a priority. Education and training programs are provided for employees so as to raise global professional standards.

Our people development policy emphasizes the importance of the training, retraining and continuous development of all employees. On-the-job training is significant and focuses on raising safety standards and performance, and enhancing skills through planned initiatives in the workplace.

Although English is the common language of the Group, training is also arranged in local languages, to ensure maximum participation and effectiveness. Our key course for junior managers, ED1, is replicated in Japanese and a Senior Management Workshop is provided for Japanese local senior managers, to help accelerate the integration process.

Highest quality and service are key features in building relationships with our industry customers and end-consumers.

Customers

Key message

We aim to be the supplier of choice of our customers. This means that all our businesses must be the most efficient, most reliable and most responsive supplier.

Most efficient means having the lowest delivered unit cost of what we supply.

Most reliable means that, having committed to a customer order, we deliver what they ordered, with the promised quality, when they expect it, in full, on time, every time, without quality issues or paperwork mistakes.

Most responsive means that when our customers contact us by whatever method, they get an answer immediately. In other words, they know where they stand with us.

Katsuji Fujimoto (right) accepts a Mazda Performance Award for 2008/09 on behalf of the NSG Group – one of only 13 out of 400 Mazda suppliers selected for the honor.

Highest quality

Quality is key because high quality can reduce waste throughout the supply chain, while improving production efficiencies. The scope of quality extensively encompasses design, development, manufacture, delivery, assembly and price of glass, as well as customer support. In the NSG Group, the achievement of high quality is supported by the use of rigorous quality management systems and standards.

In the Building Products business, the Group has ISO 9000:2000 quality management certification in Europe, Japan, North and South America. New certifications have been achieved in Russia and China over the past year.

Our European Building Products business has been a leading player in the development of new glass product standards for the European building industry. These standards have provided a route for glass manufacturers to meet the European Construction Products Directive and apply to virtually all NSG Group products used in buildings. Global supply chains in Building Products are increasing and the Group is actively contributing to the development of new global product standards through collaboration with working groups set up by organizations such as the International Standards Organization.

The global Pilkington Automotive Original Equipment organization operates a single quality management system to ensure the consistent quality of its products from wherever they are manufactured and supplied. It has a corporate ISO/TS16949:2002 (which is the internationally recognized automotive quality standard) certificate and is well advanced in its plans to extend this certification to operations in Japan and other parts of Asia.

We are now a leading supplier of glass products for solar module production where quality standards are set by customers with electronics industry quality experience. A global quality strategy is in place to respond to the higher quality expectations in manufacturing organizations. At the same time, we are contributing to the working groups that will produce the first set of product quality standards for glass used in photovoltaic applications.

Our Building Products Commercial website includes an electronic ‘Product Directory’ to inform customers on the Group’s product range and the specific benefits offered by each product category.

Akira Kitayama, assistant manager of automotive manufacturing at the Maizuru, Japan plant, received the 42nd Ceramic Award from the Ceramic Society of Japan in 2009.

CE

Building Products applies the CE mark, confirming achievement of harmonized European Norms for all products marketed inside the EU, demonstrating confidence in our quality management systems and products.

Customer health and safety

Overall, we aim to provide customers with products that have safety, environmental and in-service benefits. These include personal protection, security, energy saving, solar control, noise reduction, fire protection, improved styling and enhanced visibility for vehicles, and self-cleaning properties for glazing in buildings. Support is also provided to customers in the selection and application of products, in their safe handling and storage and in evaluating their environmental impact. Capital projects (even small ones) have a number of checklists to cover the potential environmental and health and safety impact.

Awards won for quality and marketing

Building Products

- Pilkington **Activ**™ marketing and sales team received the Bronze Award in the Institute of Practitioners in Advertising (IPA) Effectiveness Awards (UK).
- Pilkington **Activ**™ campaign received the SWOT Marketing Award (UK).
- Pilkington Building Products UK won a Health and Safety Award at the UK G08 glazing industry awards 2008.

Automotive

- Toyota Superior Quality Control Award from Toyota Motor Corp. (Japan).
- Achieved Ford's Q1 Quality Standard (Italy, Poland, Finland).
- National Economic Award from a Polish Business Newspaper (Poland).
- Received Supplier of the Year Award from Panasonic Automotive Systems America Inc. (PASA) (North America).
- Mexicali plant recognized as one of the top three companies in Mexico City in an annual productivity award scheme (Mexico).

Specialty Glass

- First-Class Value Engineering Proposal Award from Bridgestone Corporation for the streamlining of plasma TV production (Japan).
- Excellent Quality Award for LCD panels from Stanley Electric Co., Ltd. (Japan).
- Chairman Encouragement Award from the Japan Air Cleaning Association for the study of air filters (Japan).
- Excellent Supplier Award from Panasonic Storage Battery (Shenyang) Co., Ltd. (China).
- Best Supplier Award for Nanox by telecommunications manufacturer NEC Infrontia Thai Ltd. (Philippines).

CE marking

Demonstrating confidence in our quality management systems and the quality of our products, Building Products Europe applies the CE mark, which confirms achievement of harmonized European Norms (hENs) for all products marketed inside the EU.

In glass manufacturing, CE Marking means that the product satisfies all the provisions of Directive 89/106/EC on construction products and other applicable marking directives. In addition, the CE Marking declares that the product carrying the mark complies with the hENs, which are European technical standards, and has undergone appropriate conformity assessment procedures.

Effective communication with all our stakeholders is a priority for us. We aim to keep our shareholders informed through a focused international investor relations program. This encompasses regular communications throughout the financial year, through meetings, publications, plant visits and our websites.

Shareholders

Key message

In communicating with our shareholders, potential investors, the financial community regulatory authorities and the media, our aim is to provide transparency, timeliness and accuracy.

Our overall objective is to provide as much information as possible to help our shareholders and potential shareholders understand our strategy and performance, to enable them to take investment decisions.

Annual and Interim reports are produced in both Japanese and English and widely distributed to other parties who may have an interest in our performance. These documents are also made available on our websites.

The Group Chief Executive and Group Finance Director make regular reports to the Board on investor relations and on specific discussions with major shareholders. The Board receive copies of all research published on the Group. Shareholders have an opportunity at the General Meeting of Shareholders to ask questions of the Chairman and the Board.

Shareholder engagement

Our Investor Relations (IR) Policy reflects our aims to be open and fair and to comply with corporate ethics. The NSG Group is listed on the Tokyo Stock Exchange (TSE) and the Osaka Securities Exchange and we disclose information in line with the TSE 'Rules on Timely Disclosure of Corporate Information by Issuers of Listed Securities'.

Where information does not fall under the category of timely disclosure rules, our policy is to communicate it swiftly and fairly, once it has been determined that the disclosure of such information is beneficial to investors.

Communicating our performance

We hold half-year and year-end financial results briefings for securities analysts and investors in Japan, with further communications in the intervening quarters. The CEO and Group Finance Director (GFD) personally present and discuss financial results, charting our progress against our strategy and the future outlook for the Group.

Supplementing this, the GFD and IR team give background briefings to analysts and investors following the release of financial results. From time to time, visits are arranged to our operations, to enable analysts to see for themselves.

Over the past year, we have increased our focus on non-financial aspects of our performance relating to sustainability. The current report is an important channel for communicating our progress in meeting these requirements and we intend to develop this process further.

Composition of NSG Group shareholders
(Shareholding ratio by ownership)

Shareholding ratio by ownership 669,551 thousand shares
(as of 31 March 2009)

We hold half-year and year-end financial results briefings for securities analysts and investors in Japan, with further communications in the intervening quarters.

More details on our Investor Relations can be found at www.nsggroup.net/ir/

30%
shareholders based outside Japan

Evolving shareholder composition

A major issue for us has been the significant changes in shareholder composition over the past three years. The acquisition of Pilkington plc in 2006 transformed NSG from a regional Japanese glass company to an international group headquartered in Tokyo. Following the acquisition, the proportion of non-resident foreign corporations and foreign individuals owning NSG Group shares has risen markedly.

The increase in the proportion of shareholders outside of Japan since the expansion of the Group in 2006, presents new challenges.

We have adapted our communications to address this, with all major IR communications now issued in both Japanese and English.

We have consequently expanded our global IR effort to meet the requirements of shareholders and potential investors around the world, including a range of publications published in both Japanese and English. We organize 'road shows' for analysts, investors and potential investors outside Japan, when appropriate.

Communicating our strategy

We are following a 10-year, 3-phase strategy, published in July 2006, following the acquisition of Pilkington plc. Our Medium-Term Plan represents Phase 1 of our strategy and remains central to our long-term vision. The basic objectives remain in place, although the current downturn in world trade has required some adjustments to the timetable.

10-year, 3-phase strategy

Execute growth strategies through 3 phases

2007

Phase 1 — 4 years

Create a new entity focused on differentiating ourselves from competitors, and maximizing productivity and operational quality while re-establishing our financial foundations.

2011

Phase 2 — 3 years

Achieve aggressive growth in the flat glass business.

Geographically expand into emerging countries.

Improve competitiveness, launch major new products, improve R&D and foster technologies.

2014

Phase 3 — 3 years

Explore new areas for future growth.

Explore new businesses by both leveraging our customers and our technical and operational competencies.

2017

Pursue acquisitions, mergers, and alliances in adjacent areas.

We purchase materials, goods and services from over 3,000 direct and critical indirect suppliers worldwide. Our Supplier Code of Conduct and related audits help ensure that our suppliers understand and comply with our standards.

Suppliers

Key message

Our manufacturing processes use materials, products and services procured from suppliers throughout the world. Our suppliers are therefore crucial to the achievement of our sustainability objectives. To manufacture and supply superior quality glass products to our customers, we aim to build strong relationships with suppliers that are based on a framework of trust, cooperation and sustainability.

In June 2009, as part of our Sustainable Procurement Program, we launched a new Supplier Code of Conduct. It outlines behaviors, processes and procedures which we observe as the standards we expect from our suppliers.

Our Supplier Code of Conduct

The wide range of issues addressed in the Code reflect the many and diverse activities in which our suppliers are involved. Wherever possible, the Code defines a fair and common-sense approach to doing business, while incorporating all relevant legal requirements.

The content of the Code also takes into account our Values and Principles, particularly the emphasis on safety, taking personal ownership for our actions and communicating with openness and involvement. It is the responsibility of all of our suppliers to follow the principles of this Code to ensure compliance with our requirements.

To manufacture and supply superior quality glass products to our customers, we aim to build strong relationships with suppliers, based on a framework of trust, cooperation and sustainability.

The standards we expect

We expect our suppliers to achieve and maintain high standards throughout the supply chain, but particularly with regards to the following:

Ethical behavior

Our suppliers must accept personal responsibility for behaving professionally, ethically and with integrity and fairness.

Social behavior – human considerations in the workplace

All our suppliers must conform to the relevant International Labor Organization Labor Standards as a minimum requirement.

Environmental behavior

Our suppliers must recognize the crucial importance of their role in reducing environmental impact. They must play their part in creating a prosperous and sustainable future by continually seeking to achieve best practice in environmental protection.

Audit

Conformance to the Code now forms part of our supplier audits. A team of 10 supplier development engineers, covering all regions, is responsible for validating compliance. Around 120 selected suppliers are currently being audited and will now be subjected to these additional checks. Any that fall short will be given an improvement program. We expect the whole cycle may take a year, or longer if improvements are needed.

Previously, our audits focused very much on quality issues. Now, we have widened the audit's scope in line with our Sustainability Policy. We categorize our suppliers and those which are identified as posing a high risk to sustainability are prioritized and audited against the requirements of the Supplier Code of Conduct. Any supplier failing to meet our basic requirements will be expected to agree an improvement action plan with us or be removed from our supplier list.

Previously, our audits focused very much on quality issues. Now, we have widened the scope of our audits to reflect the expectations of our Sustainability Policy.

Our float plants are designed to ensure that cullet is recovered efficiently and returned to the manufacturing process. This increases recycling and reduces the raw material and energy required to melt glass.

More details on our Supplier Code of Conduct can be found in the Sustainability section of our website.

120
selected suppliers currently being audited

Around 120 selected suppliers are currently being audited and will now be subjected to these additional checks. Any that fall short will be given an improvement program.

Communication and Cooperation

In line with our Sustainability Policy, we communicate with and work constructively with our suppliers and governments, regulatory agencies, the scientific community and other relevant stakeholders, to develop and encourage business and community practices that make progress towards the common aim of sustainable development.

We expect our suppliers to uphold the same standards in dealing with their own suppliers, contractors and sub-contractors – and to be able to provide evidence of this if requested.

We expect our suppliers to uphold our standards in dealing with their own suppliers, contractors and sub-contractors and to be able to provide evidence of this if requested.

Supplier-related activities

Our procurement activities and projects demonstrate our commitment to sustainability. Where possible, we implement them across our operations in all regions. Good practice is shared through Global Procurement Category teams and spread throughout the Group. We are able to leverage our Global Procurement function to achieve this spread of good practice effectively and efficiently.

Recycling

In the Automotive business line, all supplied materials are registered in the global IMDS (International Material Data System) system to ensure that the Group has complete visibility of material content to identify hazardous materials and also the opportunity for recycling. This data is shared openly with our automotive customers, to support their own recycling efforts.

Cullet

We recover cullet (broken, waste glass) for use in the float glass process. Glass manufacturing plants are designed to ensure that cullet is recovered efficiently and returned to the manufacturing process. Not only does this increase recycling but it also reduces the raw material and energy required to melt glass.

Polyvinyl Butyral (PVB)

PVB is used to manufacture laminated glass, mainly for automotive windscreens. PVB trims from the edges of the laminated glass are returned to PVB suppliers to be recycled in their manufacturing processes.

Packaging

We are increasing the use of returnable, reusable packaging. Wooden crates used to transport glass for the automotive glass replacement market are reused 10 times or more, thus minimizing our consumption of wood resources. The wood used in the manufacture of these crates is also purchased only from sustainable sources.

Maintenance parts

We have developed detailed processes to encourage the repair of used maintenance parts, such as motors. Usually, these repairs are carried out by suppliers local to our plants to minimize transport.

Water management

We seek to minimize our water consumption by working with suppliers to recycle water and to install cutting edge water treatment facilities. This not only reduces the consumption of water itself but also the chemicals used in the treatment of the water.

As a responsible member of the communities in which we operate, we ensure we are actively involved, leveraging our core business and management resources to help address local issues, through a variety of direct grants and employee involvement at all levels.

Communities

Key message

We employ around 30,000 people, with principal operations in 29 countries throughout Europe, Japan, North and South America, China and South and South East Asia. We do this in around 550 separate facilities worldwide – some large and some small. Each has an impact on the community in which it is based, by providing employment, investment and other benefits, but also having an impact on the environment.

All these aspects present unique challenges and opportunities, ranging from employment and education to social welfare and support for local and national organizations.

As a responsible and often prominent member of the communities in which we operate, we believe it is important to be involved actively by leveraging our core business and management resources to help to address local issues.

Aims and objectives

We want our operations to function in healthy, thriving communities and to be seen as a good neighbor to those communities. We know that if we want to operate effectively and to be able to expand or change when the time is right, we need the goodwill that comes of being an active supporter of the community.

The local communities throughout the world in which the NSG Group operates are the foundation of our business and the lives of employees. Without a relationship of mutual benefit with these communities, the Group as a whole could not sustain its operations.

We carefully monitor the impact of our operations on the local communities in which we operate. We work hard to minimize potentially negative effects, such as pollution, noise and traffic congestion.

In addition to our business investments, helping to sustain local operations, we also invest in the communities in which we operate. We aim to help through direct cash donations to charities and other projects or through in-kind resources – to improve the health of the community or tackle specific social issues. We operate programs that assess and manage the impacts of our operations on communities, including entering, operating and exiting.

We also involve our staff in providing a lead in developing our relationships with the communities in which we operate. This can take the form of matching contributions raised by staff or allowing staff time to make personal contributions of time and effort in local projects

Highlights of our community action over the past year

Community exchanges and volunteer work

- PR support for Eco-Glass at the Sakura Night Festa in Sagamihara, (Japan).
- Educational activities for elementary and junior high-school students in Yokkaichi City (Japan).
- In Poland, the Sandomierz Foundation, linked to our operations in the town, launched a new series of 15 training courses, to help local people affected by the economic downturn.
- Employees of VASA in Argentina carried out building repair work at local schools (Argentina).

Support for education and training

- Sponsors of the Royal College of Art Vehicle Design Award (UK).
- Nippon Sheet Glass Foundation for Materials Science and Engineering (Japan).
- Asian research students of the Japan International Cooperation Agency (JICA) attachment to the Yokkaichi City Plant (Japan).
- Sponsors of the Arkwright Scholarship scheme for students of technology (UK).

Support for sport and the arts

- Sponsorship of The World of Glass museum, St Helens (UK).
- Co-sponsorship of international music festival in the City of Sandomierz, (Poland).

Staff from our VASA business in Argentina volunteered to help refurbish a local school.

The World of Glass museum and visitor attraction in St Helens, UK, teaches children and other visitors how glass is made and how it has changed the world. We have supported the museum since its establishment in 1999.

United Way
PILLAR AWARD COMPANY

Our operations in Toledo OH, in the US, have been recognized as Pillar Award supporters of the nationwide United Way charitable organization.

Natural disaster assistance and social welfare activities

- Donation to Red Cross Aid for Sichuan earthquake in China.
- Assisted earthquake-stricken areas in Abruzzi regions (Italy).
- Supported eradication of drug abuse in Sweden.
- Funded Agam, a social service institution dedicated to children (Brazil).
- Sponsored Aeta Community in Sapang Bato, Angeles City (Philippines).

Public support for a low-carbon society

- Sponsored an energy summit for sustainable buildings.
- Popularized Eco-Glass through the Flat Glass Association of Japan.

Cooperation with business groups

- Supporter of the Sumitomo Foundation (Japan).
- Membership of Business in the Community (UK).
- Nippon Keidanren 1 percent Club member (Japan).

Employee involvement

Our employees are encouraged to participate in their local communities and appropriate community organizations, either on an individual basis or with help from the Group. As needs vary from community to community, each of the Group's business units has some flexibility to identify the most appropriate way to grow with their respective communities.

We believe that, as well as generating goodwill in the community, involving employees in community projects can also help their development as potential managers and team leaders.

Impact of the economic downturn on our communities

Like many companies, we have been affected over the past year by the unprecedented global downturn, which has significantly impacted our trading and investment. We have also had to restructure the Group to match our capacity and output to that of our customers. That has led to over 6,000 people leaving the Group since June 2008, with inevitable consequences for individuals and the communities in which they live.

Where we have sold businesses to other companies as going concerns, the impact on employment has been relatively low. However, in some parts of the world we have had to announce the closure of whole plants or, in some cases, 'mothballed' lines, awaiting the upturn. In all cases, we have made special efforts to mitigate the effects, through counseling and special assistance in relocation for staff leaving the Group and direct support for communities affected.

Although the global disruption in trade has required us to reduce our overall investments, we nevertheless invested around ¥43 billion in plant, machinery, training and upgrades in our operations in FY09, benefiting not only the efficiency and effectiveness of our operations, but also the communities in which we operate.

We made direct contributions to local communities totaling ¥112,890,000 in FY09

In FY09, we made contributions worth around ¥112,890,000 (approx. €868,385) to our local communities. Our grants helped the arts, medicine, welfare, job creation and urban renewal. This is very slightly down on the total in the previous year. By region, Europe and Japan accounted for 72 percent of this total. The bulk of the remainder was spent on activities in South America.

These contributions complemented the efforts of employees around the world who have supported voluntary programs by raising money and providing their time and skills for education and community welfare purposes.

Global Reporting Initiative (GRI) Index

As a global business, we have chosen to assess our performance against the GRI (Global Reporting Initiative). The GRI aims to promote common conventions and to enable comparability, such as currently exist in financial reporting, in corporate reporting on economic, environmental, and social performance.

The NSG Group is among some 1,000 organizations in over 60 countries that have announced their decision to use the GRI Reporting Framework for sustainability reporting, including a growing number of Japanese corporations publishing CSR reports.

We believe the GRI approach is consistent with our aim to make steady incremental progress on improving our sustainability performance and its criteria are a good match with our own sustainability objectives.

In this, our first Sustainability Report, we have self-assessed our application of the GRI framework to be at level C. Our clear objective is to improve on this rating for our 2010 Sustainability Report, which we will publish in January 2011.

We report our financial, social and environmental performance via three main channels:

- NSG Group Annual Report 2009 (AR)
- NSG Group Sustainability Report 2009 (SR)
- NSG corporate website, www.nsg.com. (Web)

The table below shows where to find information on our performance on the criteria on which we are reporting this year.

GRI Indicator	Criteria	Where to find this information
1	**Strategy and analysis**	
1.1	Statement from the most senior decision-maker of the organization about the relevance of sustainability to the organization and its strategy.	SR Page 2
2	**Organization profile**	
2.1	Name of organization.	Page 41
2.2	Primary brands, products and services.	Page 5
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	Page 4 & AR
2.4	Location of organization's headquarters.	Page 41
2.5	Number of countries where the organization operates, and names of countries	Page 4
2.6	Nature of ownership and legal form.	AR
2.7	Markets served (including geographic breakdown, sectors served, and types of customers/beneficiaries).	Pages 4/5
2.8	Scale of the reporting organization.	AR
2.9	Significant changes during the reporting period regarding size, structure or ownership	AR
2.10	Awards received in the reporting period.	Page 31
3	**Report parameters**	
3.1	Reporting period.	Page 40
3.2	Date of most recent previous report.	Page 40
3.3	Reporting cycle.	Page 40
3.4	Contact point for questions regarding the report or its contents.	Page 41
3.5	Process for defining report content, including: determining materiality; prioritizing topics within the report; and identifying stakeholders the organization expects to use the report.	Page 40
3.6	Boundary of the report.	Page 40
3.7	State any specific limitations on the scope or boundary of the report.	Page 40
3.8	Basis for reporting on joint ventures, subsidiaries, leased facilities, outsourced operations and other entities that can significantly affect comparability from period to period and/or between organizations.	AR
3.10	Explanation of the effect of any restatements of information provided in earlier reports, and the reasons for such restatement.	Page 23
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	Page 22
3.12	Table identifying the location of the Standard Disclosures in the report. Identify the page numbers or web links where the following can be found.	Pages 38/39

GRI Indicator	Criteria	Where to find this information
4	**Governance**	
4.1	Governance structure of the organization.	Page 10
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	AR
4.3	For organizations that have a unitary board structure, state the number of members of the highest governance body that are independent and/or non-executive members. State how the organization defines 'independent' and 'non-executive'.	AR
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	AR
4.14	List of stakeholder groups engaged by the organization.	Pages 2/3 & 28-37
4.15	Basis for identification and selection of stakeholders with whom to engage.	Page 40
EC	**Economic**	
Economic performance		
EC1	Direct economic value generated and distributed, including revenues, operating costs, employee compensation, donations and other community investments, retained earnings, and payments to capital providers and governments.	AR
EC2	Financial implications and other risks and opportunities for the organization's activities due to climate change.	Pages 12/13
EN	**Environment**	
Materials		
EN1	Materials used by weight or volume.	Pages 24/25 & Web
EN2	Percentage of materials that are recycled input materials.	Pages 26/27 & Web
EN3	Direct energy consumption by primary energy source.	Pages 24/25 & 26/27
EN4	Indirect energy consumption by primary source.	Page 24
EN5	Energy saved due to conservation and efficiency improvements.	Web
Water		
EN8	Total water withdrawal by source.	Pages 24/25
Emissions, effluents, and waste		
EN16	Total direct and indirect greenhouse gas emissions by weight.	Pages 26/27
EN17	Other relevant indirect greenhouse gases by weight.	Web
EN19	Emissions of ozone-depleting substances by weight.	Web
EN20	NO_x, SO_x, and other significant air emissions by type and weight.	Page 27
EN22	Total weight of waste by type and disposal method.	Page 26
EN23	Total number and volume of significant spills.	Web

GRI Indicator	Criteria	Where to find this information
EN26	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.	Web
Compliance		
EN28	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations.	Web
Product responsibility		
Customer health and safety		
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures.	Web
Product and service labeling		
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements.	Web
Customer satisfaction		
PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.	Web
Marketing communications		
PR6	Programs for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion and sponsorship.	Page 31
Labor practices and decent work		
Employment		
LA1	Total workforce by employment type, employment contract, and region.	Web
LA2	Total number and rate of employee turnover by age group, gender, and region.	Web
Labor/Management relations		
LA4	Percentage of employees covered by collective bargaining agreements.	Web
LA5	Minimum notice periods regarding operational changes, including whether it is specified in collective agreements.	Web
Occupational health and Safety		
LA7	Rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities by region.	Pages 28/29 & Web

GRI Indicator	Criteria	Where to find this information
Training and education		
LA10	Average hours of training per year per employee by employee category.	Web
LA11	Programs for skills management and life-long learning that support the continued employability of employees and assist them in managing career endings.	Web
LA12	Percentage of employees receiving regular performance and career development reviews.	Web
Society		
Community		
SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating and exiting.	Web
Public policy		
SO5	Public policy positions and participation in public policy development and lobbying.	Web
Anti-competitive behavior		
SO7	Total number of legal actions for anti-competitive behavior, anti-trust, monopoly practices and their outcomes.	AR
Compliance		
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.	AR

Approach to reporting

This report forms part of our non-financial performance communications, and reflects Group, regional and site-level reporting. Our environmental and social performance is of interest to our stakeholders and important to our business success and we have been reporting on these matters since 2002, in successive environmental, social activity, or CSR reports.

The 2009 NSG Group Sustainability Report marks an important change in our approach. We decided to widen our reporting to cover all aspects of sustainability and the changed title of the report reflects this.

In June 2009, we published our Group Sustainability Policy, setting our sustainability agenda, and in December 2009 established a Group Sustainability Committee to direct, coordinate and monitor our efforts to improve our approach to sustainability.

This report should therefore be regarded as transitional, as over the course of the Calendar Year 2010, we will be working to align our targets and performance more closely to the achievement of sustainability.

This report was published in January 2010 and is an annual report, relating to the operations and stakeholders of Nippon Sheet Glass Co., Ltd. (referred to in the Report as the NSG Group, or 'the Group').

All environmental and safety performance data relates to Calendar Year 2008, but financial performance figures are based on the Financial Year 2009, ending 31 March 2009. Unless otherwise stated, the Report covers those businesses that make up the NSG Group.

This Sustainability Report has been prepared in accordance with the Global Reporting Initiative (GRI) G3 Sustainability Reporting Guidelines, which provide a globally recognized framework for reporting on an organization's economic, social and environmental performance and responsiveness. We have self-declared our performance at application level C.

To keep the size of the printed report to a minimum, we have included additional information, charts and tables covering our performance on the Sustainability section of our website.

The printed report can also be downloaded from our website at http://www.nsg.com/sustainability.

Further information

We produce a regular flow of publications intended to provide current and potential investors with as much information as possible about the Group, the industries in which we operate and the organization, strategy, targets and progress of the Group. The range of these publications is shown below.

Publications

Annual Report and Accounts 2009

Published annually in July, covering the financial performance of the Group in the previous financial year. Editions in both English and Japanese.

To our Shareholders

Published twice a year, in June and December, designed to keep shareholders informed of progress against our strategy. Editions in both English and Japanese.

Pilkington and the Flat Glass industry 2009

Published annually in November. Detailed analysis of the world's Flat Glass industry and the NSG Group's position within it. Published in English.

This is Pilkington

General introduction to the Building Products and Automotive businesses of the NSG Group, which account for 90 percent of our turnover. Published in all languages used in the Group.

The Way we do Business

Produced for Group employees in all of the languages in which the Group operates, summarizing the main points of the Group's Code of Conduct.

Company information

Company name: Nippon Sheet Glass Co., Ltd.
Unified global brand: NSG Group
Head office: 5-27, Mita 3-Chome, Minato-ku, Tokyo 108-6321 Japan
Established: 22 November 1918
Capital: ¥96,147 million
Total assets: ¥1,025,221 million
Net sales: ¥739,365 million (consolidated)
Employees: 31,436 (as at 31 March 2009)
NSG Group companies: 254
Web http://www.nsggroup.net/ir/annual.html

Websites

NSG Group Corporate Website (English) **http://www.nsg.com**

NSG Group Corporate website (Japanese) **http://www.nsg.co.jp**

Commercial website (BP and Automotive)
http://www.pilkington.com

This report is printed on Revive uncoated, a 100% recycled paper made from post-consumer collected waste. Revive uncoated is manufactured to the certified environmental management system ISO 14001.

Published by NSG Group Corporate Communications Department
Designed by Likemind
Printed by Royle Corporate Print

NSG
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