



Sustainability Report 2010

**Making a difference to our
world through glass technology**



About this report

During 2010, we made further progress in embedding the principles of Sustainability within the NSG Group.

We appointed our first Director of Sustainability, Nick Shore, who chairs the Group Sustainability Committee, reporting to the Executive Committee and the Board.

We have also defined Sustainability targets for the Group. Our principal targets, and the progress we have made so far towards their attainment, are covered in this Report and on our website.

We report in accordance with the Global Reporting Initiative (GRI) and have self-assessed our reporting level at 'B' for the period covered by this year's Report.

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 www.nsg.com

Making a difference to our world through glass technology

The NSG Group is fully committed to Sustainability. Our aim is to supply high-quality glass products that make an important contribution to improving living standards, to people's safety and well-being and to energy conservation and generation, working safely and ethically.

Over the past year, we published our new Strategic Management Plan, which sets the course for the Company to the end of FY2014. We aim to leverage our global footprint, reduced cost base, technology and brands to meet the growing demand for environmental and other value-added products.

We have also set specific Sustainability targets, which are consistent with our overall strategy, but seek to move our performance forward in a number of important areas relevant to our Sustainability agenda. Our targets and progress to date are shown on page seven of this report.

Glass manufacture is energy-intensive, but our products can make a major contribution to energy conservation and power generation. Our targets seek both to reduce embodied energy and carbon in manufacture and to improve the energy-saving capabilities of our products during their life cycle.

Contents

The NSG Group

- 02 Business lines
- 04 Global operations
- 06 President and Chief Executive Officer's introduction
- 07 Our Sustainability targets

Management

- 08 Our approach to Sustainability
- 12 Corporate governance

Special features

- 14 Glass and climate change
- 16 Embodied CO₂ in Float Glass
- 18 Glass in buildings
- 20 Glass and solar energy
- 22 Glass in vehicles
- 24 Specialty Glass

Environment

- 26 Environmental policies and management
- 28 Energy and resource usage
- 30 Minimizing environmental impact

Stakeholders

- 32 Employees
- 34 Customers
- 36 Shareholders
- 38 Suppliers
- 40 Communities

Basis of reporting

- 42 Global Reporting Initiative (GRI) Index
- 44 Approach to reporting

Business lines

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

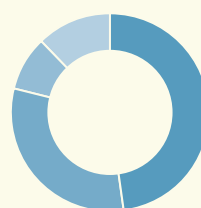
Building products

Glass for the world's buildings and solar energy applications

42%

Contribution to Group sales*
Proportion of Group CO₂ emissions 66%

Sales by region



● Europe	48%
● Japan	31%
● Rest of World	9%
● North America	12%

Main products

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

9,550

Employees in 21 countries

Making windows better at saving energy



Our thermal insulation products combine unrivalled thermal insulation with high light transmittance and lower reflectance for a more neutral appearance. They provide thermal insulation and passive solar heat gain, helping demand for more energy-efficient windows.

*Financial year ending 31 March 2010

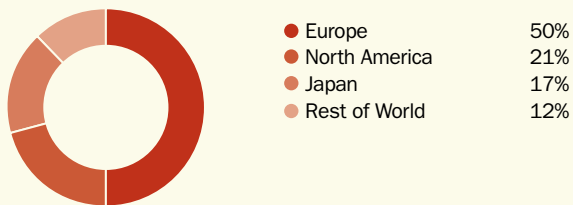
Automotive

Supplying every major vehicle manufacturer in the world

46%

Contribution to Group sales
Proportion of Group CO₂ emissions 30%

Sales by region



Main products

- Solar control glass
- Glazing systems
- Laminated glass
- Toughened glass
- Security glazing
- Lightweight glazing
- Aesthetic glazings

14,200

Employees in 21 countries

Developing value-added vehicle glazing



We play a leading role in the development of value-added vehicle glazing, delivering greater functionality to address Sustainability issues, such as CO₂ reduction, solar control, lighter and more aerodynamic glazing, vehicle end-of-life issues and recycling.

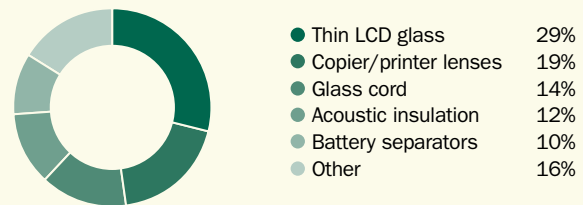
Specialty glass

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

12%

Contribution to Group sales
Proportion of Group CO₂ emissions 4%

Sales by sector



Main products

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

3,800

Employees in five countries

Supplying ultra-thin glass for small LCD applications



Our Ultra Fine Flat Glass products are used in the growing touch panel market, particularly in mobile phones and computers and now expanding into use in vehicles.

Global operations

Our operations support a worldwide customer base. We have principal operations in 29 countries, employing around 28,500 people and marketing our products in over 130 countries.

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

Europe

12,000 employees

- 13 float lines
- Automotive OE plants in seven countries
- BP downstream in 10 countries
- Extensive AGR network
- Specialty Glass operations in UK

Japan

5,200 employees

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

Building products

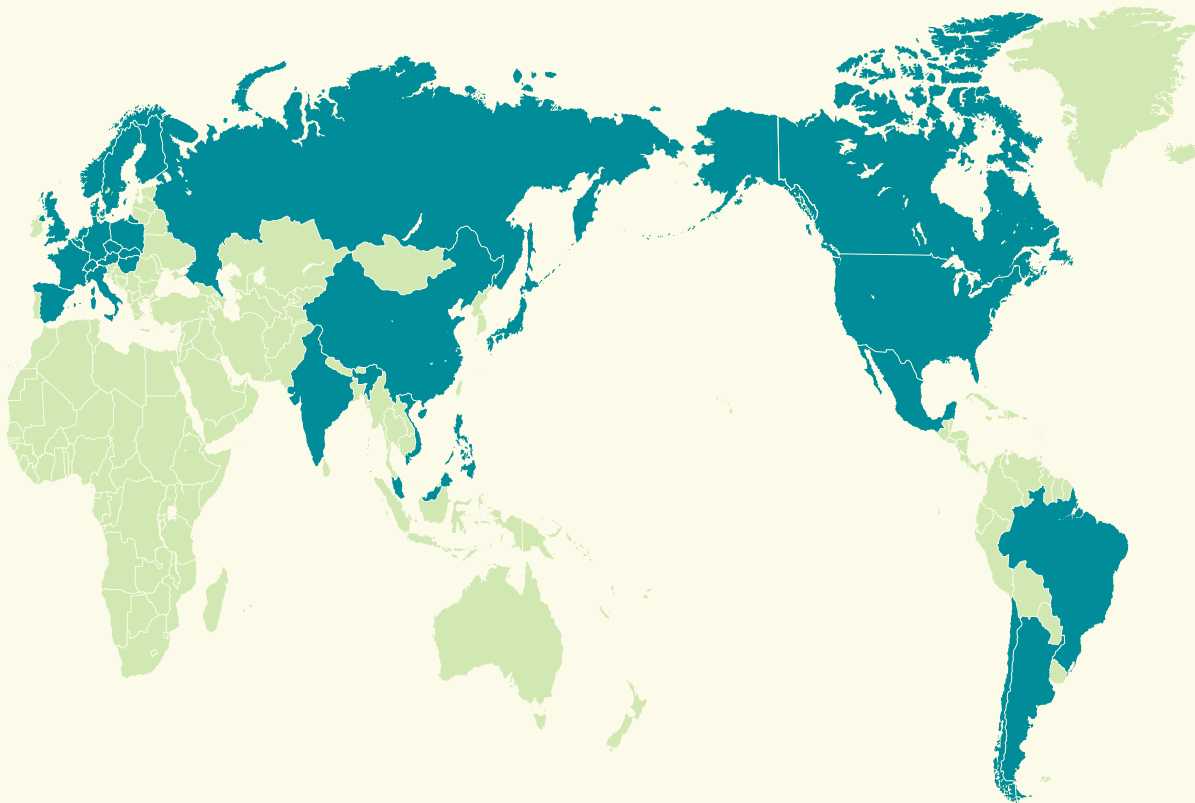
Manufacturing

World leader in float glass technology and coatings

Principal operations in 21 countries. Overall, the Group manages, or has a stake in, 49 Float lines around the world.

Global spread

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



North America

3,900 employees

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

South America

2,400 employees

- Six float lines
- BP downstream operations
- Automotive OE in Brazil, Argentina and Chile
- AGR network

S & SE Asia

3,000 employees

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

China

2,000 employees

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

Automotive

Manufacturing

Supplying the world's leading vehicle manufacturers

Principal fabrication facilities at 31 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.

Specialty Glass

Manufacturing

Producing the world's thinnest float glass

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

Global spread

World leader in thin display glass and optical devices for office machinery and glass fiber battery separators.

The NSG Group is fully committed to Sustainability. Our aim is to supply high-quality glass products that make an important contribution to improving living standards, to people's safety and well-being and to energy conservation and generation, working safely and ethically.

President and Chief Executive Officer's introduction



Craig Naylor
President and CEO
NSG Group

We are fully committed to Sustainability. Our strategy and 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. This report covers our activities and progress over the past year and our targets for the future.

In November 2010, we announced details of our new Strategic Management Plan (SMP), covering FY2012 to FY2014. The plan summarizes the key elements of our strategy to achieve profitable growth and to realize our vision of 'Making a difference to our world through glass technology'.

The Plan announcement followed a major strategic review conducted throughout the Group since my appointment. The Plan sets the course for the NSG Group over the next three years and reflects our commitment to the development of the NSG Group as a sustainable company in all senses of the word.

The objective of the SMP is to take the Group to the next level in its development, by maximizing profitable growth while reducing our net debt/earnings (EBITDA) ratio, ensuring the highest standards of ethics, safety, environmental responsibility and Sustainability in all our activities and being innovative in everything we do.

Our progress

Over the past year, we have further strengthened our Sustainability governance, with the appointment of Nick Shore as our first Director of Sustainability. Nick is a graduate engineer, with 27 years experience in the Company and the international

glass industry. Prior to appointment, Nick managed our Solar Energy business. He chairs the Group Sustainability Committee, which reports to the Executive Committee and the Board.

Within the reporting period, the Board has approved clear Sustainability targets for the Company, to be achieved by 2015. These are shown on page seven opposite.

We have continued in our efforts to strengthen our corporate governance and increase transparency. In November 2010, we announced our intention to be one of the first major companies based in Japan voluntarily to adopt International Financial Reporting Standards (IFRS) for our consolidated financial statements, with effect from 1 April 2011.

We will be an early adopter of IFRS in Japan. The move builds on progress we have made in the appointment of an international board and the adoption of the 'Company with Committees' corporate governance structure.

Glass has a unique role to play in helping to reduce greenhouse gas emissions and mitigating the effects of climate change. At the same time, we are well aware that glass manufacture is an energy-intensive process involving the melting of sand and other raw materials at high temperatures.

The 'energy balance' between manufacture of high-performance glazing products and their use means that the energy expended and CO₂ emitted in manufacture can be paid back through the lifetime of our products. Under the SMP, we will be expanding our portfolio of value-added products concerned with energy conservation and generation. We will also be increasing our exposure to emerging markets, ensuring that our policies reflect the challenges and responsibilities of expanding our operations in such markets.

Looking forward

Our objective over the coming year is to continue the process of aligning all our activities more closely to the principles of Sustainability and embedding these principles into all our activities. We will report on progress on our targets in the next report and on our website.

My aim is to create a thriving, innovative global enterprise, based on the principles of Sustainability. I believe the NSG Group is well placed to leverage its global footprint, reduced cost base, technology and brands to meet growing demand for environmental and other value-added products.

Our Sustainability targets

Targets	Progress/current position	Commentary
Economic		
We aim to achieve a return on equity of low double-digit percent.	As at 31 March 2010, the ratio was approximately zero.	This is a key performance target under our Strategic Management Plan to be achieved by FY2014.
Health & Safety		
Significant Injury Rate 80 percent reduction from 2007 base of 1.38 to 0.3 (10 SI per month, compared to baseline of 50).	As at 31 March 2010, our Significant Injury Rate performance was 0.6.	Focused plans are in place to make our employees ever safer at work.
Energy		
Report specific direct energy usage for eight key products, across all three business lines, and demonstrate improvement by 2015.	Work in this area is the subject of a number of R&D programs in all three business lines.	Baseline data for the selected products will be published in the 2011 report.
Product development		
Report energy payback/life cycle analysis for eight key products, across all three business lines, and demonstrate improvement by 2015.	Work in this area is the subject of a number of R&D programs in all three business lines.	Baseline data for the selected products will be published in the 2011 report.
Supply chain		
100 percent of suppliers to have accepted our Supplier Code of Conduct (SCoC), with 50 percent of key suppliers audited against SCoC by 2015.	Our Supplier Code of Conduct has been translated into 22 different languages and is available on our intranet site. As at 31 December 2010 we had directly communicated our Supplier Code of Conduct to more than 50 percent of our suppliers who represent the highest spend or are located in the highest risk areas.	Suppliers have an impact on our carbon footprint and on the communities and environments in which they operate. It is our intent that suppliers share our values and principles as set out in our Supplier Code of Conduct.
Recycling & waste		
Reduce the waste we send to landfill by 50 percent, from a 2007 base (i.e. from approximately 46kt to 23kt by 2015).	Our waste to landfill figure for 2009 was 28kt.	We have made good progress, but the achievement of further reductions will require significant changes in the way we operate.
People		
All employees to have a training and development review annually, with a target compliance level of 90 percent by 2015.	72 percent of our employees currently receive a development review.	Reaching our target will require the roll out of common global development systems.

Glass has a major part to play in society's efforts to reduce greenhouse gas emissions and to mitigate the effects of climate change. We aim to be the global leader in innovative high-performance glass and glazing solutions, contributing to energy conservation and generation, working safely and ethically.

Our approach to Sustainability



Nick Shore
Director of
Sustainability

For the NSG Group, Sustainability means looking at everything we do to consider its wider impact – and being able to communicate the positive story to our people, customers, suppliers and shareholders. Rethinking risk, maximizing resources, building reputation and competitive advantage through a sustainable business model requires a new approach.

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.

Over the past year, the Board has agreed clear Sustainability targets for the Group. We have committed to achieving these by 2015. The Sustainability Committee, which I chair, comprises senior representatives of the three business lines and key central functions.

Responsibilities have been allocated to ensure that all aspects of the GRI reporting framework are covered and that progress is closely monitored. In parallel, we are working hard to communicate and to embed the principles of sustainable development into all the activities of the NSG Group.

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

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

We are committed to running our business in accordance with the principles of sustainable development. That means meeting the needs of the present without compromising the ability of future generations to meet their own needs.

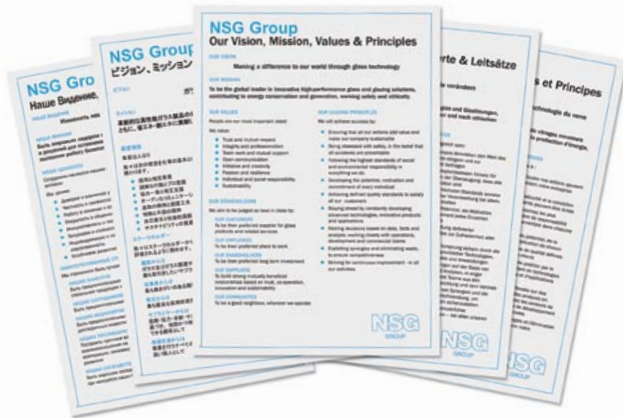
We aim to achieve this by balancing the needs of all our stakeholders, managing our environmental impacts, developing people, encouraging innovation in processes and products, working in harmony with the communities in which we operate – and encouraging our customers, contractors and suppliers to do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

Through our membership of trade associations, standards bodies and other organizations we work to influence legislation, particularly in the area of energy conservation.

Our vision

As a global glass manufacturer, we are using our products and technology to play a positive role in helping to reduce greenhouse gas emissions and mitigating the effects of climate change.

Making a difference to our world through glass technology.



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 suppliers

To build strong mutually beneficial relationships based on trust, co-operation, innovation and Sustainability.

Our communities

To be a good neighbor, wherever we operate.

Our mission

To be the global leader in innovative high-performance glass and glazing solutions, contributing to energy conservation and generation, working safely and ethically.

Our values

People are our most important asset. 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
- Sustainability

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.

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 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 promotes Sustainability. Wherever possible, the Code defines a fair and common sense approach to doing business, with some elements dictated by strict legal requirements.

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 are distributed to all Group employees in their own language. Both the full Code and the summary document can be downloaded from the Group website.

Our vision

Defines our determination to make a positive contribution to Sustainability, through our expertise in glass technology.

Our mission

Describes how we will achieve our business objective, contributing to energy conservation and generation by producing and supplying innovative products in a sustainable manner.

Our values & principles

Define the behaviors we value and intend to follow in all our dealings with our stakeholders.

Our Code of Conduct

Sets out the standards we expect of everyone working in the NSG Group.

Our Group policies and procedures

Detail the procedures everyone in the Group must follow, to achieve sound governance, tight controls, risk management and adherence to legal, ethical and sustainable principles.

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 financial targets*

- Attain 5 percent Compound Annual Growth Rate in Sales
- Double operating profit (before amortization) as a minimum
- Increase EBITDA by 50 percent, as a minimum
- Achieve low double-digit percentage return on equity.

*Strategic Management Plan targets to be attained by end of FY2014

Our management approach

Economic

We are focused on delivering value and growth to all our stakeholders. In the course of 2010, we conducted a major strategic review. This was intended to sharpen the Group's operational focus and ensure that full advantage is taken of the synergies offered by an international Group headquartered in Japan.

The review focused on important growth opportunities, particularly in emerging markets and value-added products addressing climate change. Early investment opportunities were identified in a number of key projects with 12 to 24 month development timescales.

We took quick action to secure funding for these through the Share Offering launched in August 2010. Funding from the share issuance will allow the Group to seize these important investment opportunities in the technologies that will build sustainable futures, leverage its competitive position and strengthen its balance sheet.

Our Strategic Management plan includes clear economic targets to be attained by the end of FY2014. We regard the plan as a 'dynamic' document, on which we intend to update our stakeholders on an annual basis.

Environmental

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. We conduct regular environmental audits designed to achieve continuous improvement, to sustain and raise standards.

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 is certified to ISO 14001 for all our glass manufacturing and automotive manufacturing sites.

We are committed to reporting on our performance both good and bad. 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.

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

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 our business by turnover. The most senior executive with responsibility for environmental aspects is the Group Director of Environment, Health & Safety.

Human rights

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 based on 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. The most senior executive with responsibility for human rights aspects is the Group Human Resources Director.

Labor practice

Our management philosophy values people as 'the most important asset of our company'. Around 28,500 people work in the NSG Group, operating 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. Our human resources strategy aims to ensure we have the right people where they are needed and that we maximize our talent management around the world.

Our safety programs emphasize the importance of appropriate safe behavior and of individuals taking personal responsibility. We regard all injuries at work as unnecessary and avoidable. No matter how minor, each one must be reported and investigated. Details of our progress on safety performance are shown in the Employees section of this Report. The year was overshadowed by two fatal accidents in the workplace, which occurred in calendar year 2010, and we have stepped up our efforts to strengthen the safety culture of the Company.

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.

To attract, motivate, develop and retain high-performing employees, our approach on rewards and retention includes market-based competitive pay and market-based competitive benefit offerings for eligible full- and part-time employees. We have identified specific challenges in attracting and retaining talent, particularly in emerging markets, and we are already putting in place policies to address these.

We work to create a culture that allows employees the opportunity to work without fear of intimidation, reprisal or harassment. We have systems in place to permit employees to raise any concerns in a confidential and timely manner. The most senior executive with responsibility for labor aspects is the Group Director of Human Resources.

Product responsibility

We are committed to the safety of our products and to ensuring they can be effectively handled, fitted and used by our customers. Our product risk review procedures are designed to identify risks and to provide advice to users on safe handling. We communicate these risks through safety data sheets, labels, and Glazing and Handling Guidelines.

Every R&D project developing new products and processes is required to have an Environmental Impact Assessment completed early in the project to highlight any positive or potentially negative implications, so that the project can be managed accordingly. We aim for a cradle-to-cradle life cycle management approach, incorporating environmental health and protection into every step of the life cycle of our products.

Our formal project management processes include thorough intellectual property searches, so that our customers can be very confident that the new products and processes we develop can be used freely without fear of infringing third-party patents. The most senior executives accountable for product responsibility are the heads of the three business lines.

Society

We believe we have a responsibility to be a good steward of the environment and a responsible corporate citizen in the communities in which we operate. We monitor carefully 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. We operate programs that assess and manage the impacts of our operations on communities, in entry, operational and exit stages.

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 also encourage our people to play a part in developing our community relationships. This can take the form of matching contributions raised by employees or allowing individuals time to make personal contributions of time and effort in local projects. The most senior position with responsibility for society aspects is the Head of Corporate Affairs.

Corporate governance is a key element in the Sustainability activities of the NSG Group. We are committed to effective and transparent engagement with all our stakeholders.

Corporate governance

We believe that good corporate governance contributes to sustainable development by enhancing the performance of companies and increasing their access to outside sources of capital.

We aim to maintain high levels of accountability and transparency, disclosing to all our stakeholders business goals and guidelines that clearly demonstrate a responsible management approach.

Our governance structure

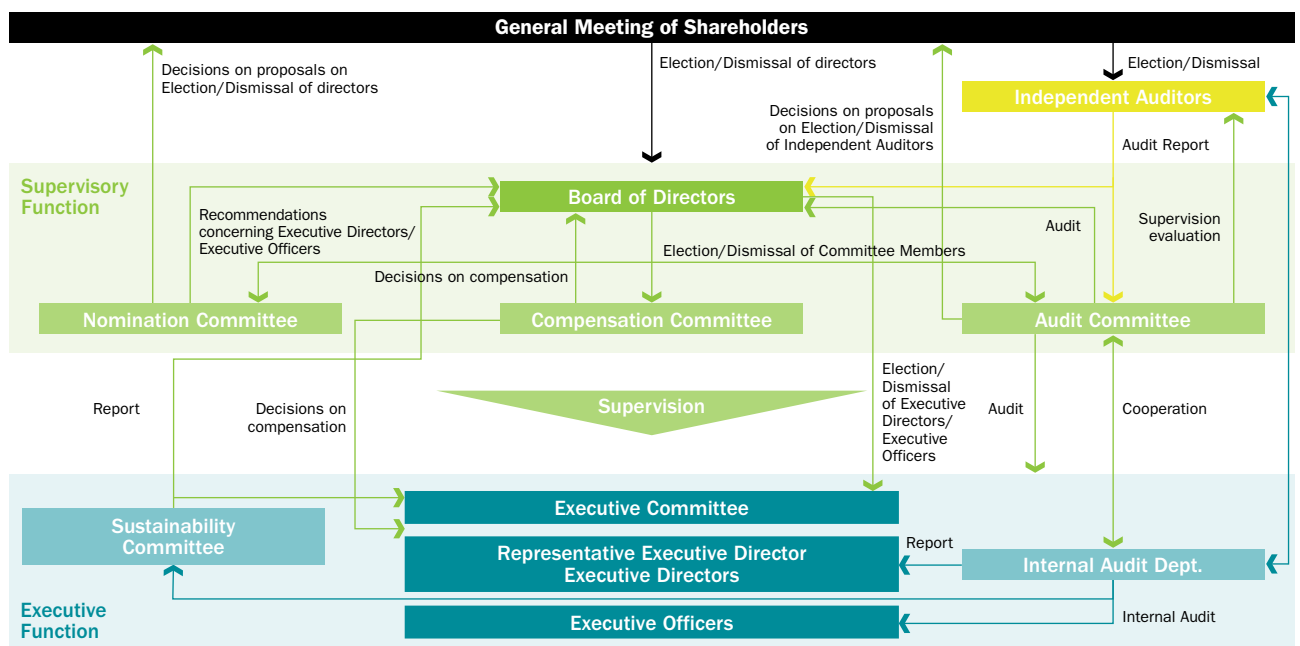
The NSG Group is governed by its Board of Directors, which is appointed by resolution at the General Meeting of Shareholders. The Board comprises the Chairman of the NSG Group, the Vice-Chairman, five executive directors and five external directors. In the fiscal year 2010, the Board of Directors met 15 times.

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

Company with Committees

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 were established.

Open Management System



The 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 eight directors, including five external directors. Its chairman is Katsuji Fujimoto, Chairman of the NSG Group.

The Audit Committee is chaired by the Vice-Chairman of the Group, Tomoaki Abe, and comprises five directors, including three 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.

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

Adoption of IFRS

We have announced our intention to adopt International Financial Reporting Standards (IFRS) for our consolidated financial statements with effect from 1 April 2011. Consequently, our consolidated financial results for the financial year FY2012 and thereafter will be presented in IFRS.

We believe that the use of IFRS in the preparation of our consolidated financial statements is consistent with our international spread of operations and shareholder base.

Behind our decision to be an early adopter is our determination to build a truly international company headquartered in Japan. Enabling the whole Group to use the same accounting language will have clear benefits for the Company's internal decision-making processes and further enhance our corporate governance structure.

Japanese SOX Act (J-SOX)

A project to prepare the Group to meet J-SOX requirements involved the documentation, evaluation, improvement and testing of every major accounting process, including those in sales, purchasing and inventory. The Group successfully met its J-SOX requirements by the 31 March 2009 deadline, and is now submitting its internal control report under Japanese financial reporting rules annually.

Risk management

The scope of our operations introduces potential risks to our business activities, requiring effective risk management. These include the effects of changes in debt market prices, foreign currency exchange rates, credit risks, energy prices, liquidity interest rates and business disruption. 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. For further discussion on our risks and opportunities associated with climate change, see page 14.

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.

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.

The program of compliance across the Group includes self-assessments and independent audits conducted by the relevant Group functions and by Group Internal Audit. 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. Compliance activities have included a training program for people in 'key roles', seen as those most likely to face competition compliance issues in their work, which is 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 architectural glass products is quickly paid back.

Glass and climate change

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 the manufacture of high-performance glazing products and their use means that the energy used and CO₂ emitted in manufacture are quickly paid back through the lifetime of most of our products.

Glass in buildings

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.

Sustainable building rating system initiatives are helping to transform the market for added-value glazing in North America, Europe and Malaysia. In China, legislation is at an earlier stage, but the government has already introduced building regulations to improve the energy efficiency of new buildings.

We work closely with governments and authorities framing building standards to ensure that the energy conservation properties of glass and glazing are taken into account when standards are set.

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 also brings other benefits.

Well-glazed buildings are more comfortable and cheaper to run for the owner and occupier. 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.

CO₂ emissions and low-e double glazing

The potential for low-e glass (double and triple glazing) to cut CO₂ emissions from new and existing buildings has been analyzed by the Dutch scientific institute TNO in a study undertaken for the trade association Glass For Europe of which NSG Group is a member.

It found that up to 90 million tonnes of CO₂ emissions could be saved annually by 2020 if all Europe's buildings (existing and new residential and non-residential buildings) were fitted with double-glazed low-e insulating glass units. An additional seven million tonnes of CO₂ emissions could be cut through a greater use of triple-glazed low-e insulating glass units for new buildings, where appropriate.

To maximize energy efficiency all year round, often the ideal glazing solution balances both solar control and low-emissivity performance. Our products offer two ways in which this can be achieved: by applying a single product that provides both solar control and low-emissivity in an insulating glass unit, or by using both a solar control product and a separate low-emissivity product within an insulating glass unit.



When used in building façades, Pilkington Optiwhite™ low-iron glass offers higher light transmission than conventional float glass.

CO₂ emissions and solar control glazing

In hot conditions or for buildings with high internal loads, solar control glass is used to minimize solar heat gain by rejecting solar radiation and to help control glare. In more temperate conditions, it can be used to balance solar control with high levels of natural light. The issue of air-conditioning is a major concern to building designers and architects. Often, more energy is used to operate air-conditioning systems during the summer months than to heat the building in winter thereby increasing its carbon footprint. It is therefore essential to improve the energy efficiency of buildings during the summer as well as in the winter.

A study undertaken by TNO for Glass for Europe concluded that between 15 and 80 million tonnes of CO₂ emissions annually – roughly between 5 percent and 25 percent of the EU's target – could be saved by the year 2020 by optimal use of solar control glass.

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 CO₂ 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.

Climate change: Our 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.

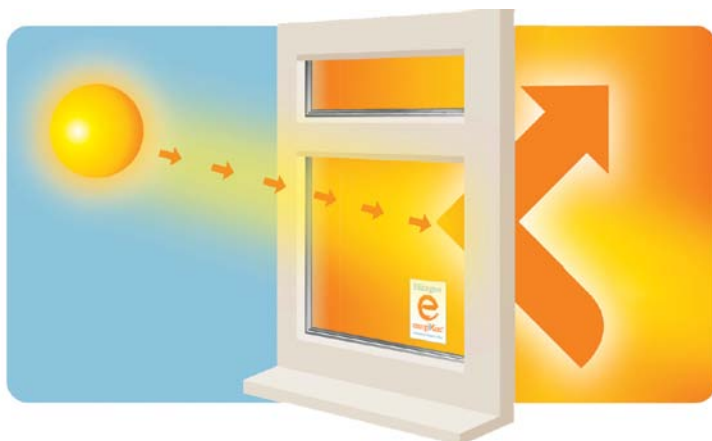
Price and availability of fossil fuels is also a risk for us, which we seek to minimize through energy conservation and the use of alternative energy sources for our processes. Our waste reduction programs seek to reduce our consumption of all resources used in the execution of our business.

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.



Low-e insulating glazing can be a net contributor to energy conservation in buildings

Low-e glass is a value-added product that has a transparent coating on one surface. This reflects heat back into the building, thereby reducing heat loss through the window.

It also reduces the heat transfer from the warm (inner) pane of glass to the cooler (outer) pane, thus further lowering the amount of heat that escapes from the window.

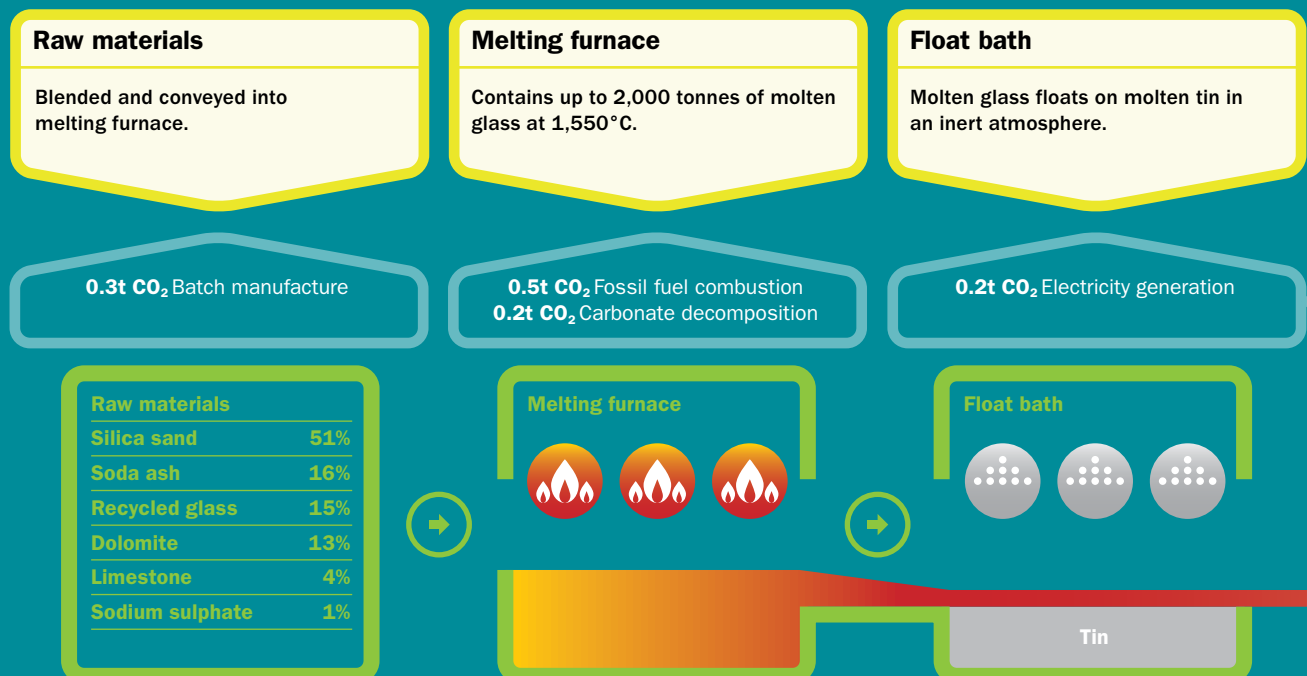
The coating also allows large amounts of free solar energy to enter the building, thereby heating it passively.

Low-e double glazing reflects heat back into buildings, thereby reducing heat loss through the window.

Glass manufacturing is an energy-intensive process and results in significant CO₂ emissions. However, the overall CO₂ balance is favorable when large operational energy savings are considered.

Embodied CO₂ in Float Glass

The diagram below shows analysis of CO₂ emissions from a typical European float line.

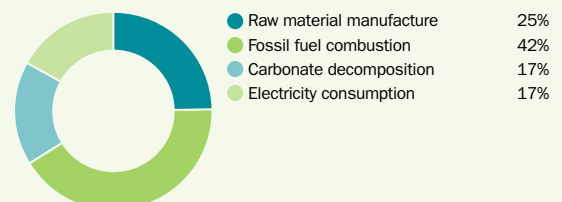


In the Float Glass Process, raw materials and energy are the single largest elements of cost. Silica sand is the main component by weight of the 'batch' (raw material mixture). Soda ash is one of the most expensive raw materials used in glass manufacturing. It represents about 16 percent of batch weight, but around 60 percent of batch cost and approx 75 percent of embodied CO₂ in raw material manufacture.

Recycled glass (cullet) represents, on average, around 15 percent of the materials used. Cullet usage of 10 percent leads to a 3 percent furnace energy reduction.

Since the 1960s the glass industry as a whole has reduced specific energy consumption by approximately 1.5 percent per year.

Average float embodied CO₂



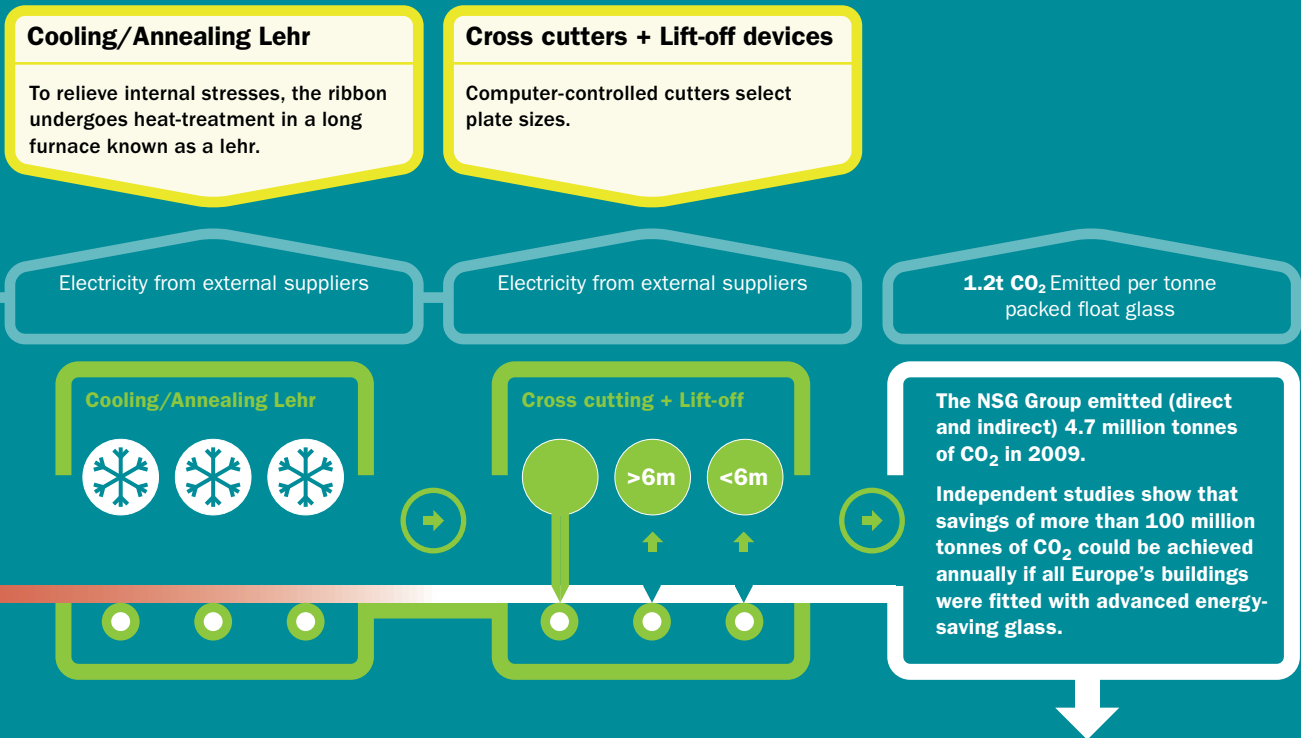
- In total, the manufacture of 1 tonne of packed float glass results in the emission of approx 1.2 tonnes of CO₂.
- Quarrying and processing of raw materials results in supplier emissions of approx 0.3 tonnes CO₂ per tonne glass packed.⁽¹⁾
- Natural gas and heavy fuel oil are used to melt the raw materials. This combustion process emits approx 0.5t CO₂ per tonne of float glass.⁽²⁾
- Carbonate raw materials decompose when heated to emit approx 0.2t CO₂ per tonne glass.
- The electricity required to heat the float bath and annealing lehr emits approx 0.2t CO₂ per tonne glass at the electrical suppliers' generation site.
- Modified properties can be produced by means of surface coating (on or off-line). On line coating contributes an additional 0.7kgCO₂ per m² (1m² of 4mm float glass weighs 8kg).

- 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.
- The carbon emissions for these additional processes are not listed here but will be the focus of next year's Sustainability Report.

Notes

1. External data.

2. European Emission Trading Scheme – externally verified CO₂ emission data.



Float glass and environmental impact

Glass and CO₂

The manufacture of one square meter of low-e double glazing leads to the emission of 25 kg of CO₂.

However, industry studies show that the CO₂ 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 CO₂ 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.

*For more information go to www.glassforeurope.com

Effects of reducing CO₂ emissions of buildings

Study covering 25 EU member states*

765 million tonnes

CO₂ emissions from buildings

100 million tonnes

CO₂ saved annually if all European buildings were fitted with advanced energy-saving glazing

5 million tonnes

CO₂ generated by European glass industry

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

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. CO₂-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. Fire-resistant glass has an important role to play in promoting the sustainability of communities.

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.

Our products play a vital role in improving energy efficiency and reducing CO₂ 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

Buildings account for almost 50 percent of the energy consumed in developed countries. Increased focus is being placed on legislation and policies to improve their energy efficiency.

Initiatives such as the environmental building rating system (LEED®) in the USA and the Building Research Establishment Environmental Assessment Method (BREEAM) in the UK are helping to transform the market for added-value glazing, and this will continue. Both are increasingly being used to rate the environmental performance of buildings across the globe.

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.

Similar opportunities are anticipated in Europe, for example, through the recast of the EU Directive on Energy Performance of Buildings and 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. We work with all relevant stakeholders to help frame policies and regulations that help make buildings more energy efficient through the use of glass.

Energy consumed

50%

proportion of energy consumed in developed countries by buildings.



Increased focus is being placed on legislation and policies to improve the energy efficiency of 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, Pilkington **Energy Advantage™**, Pilkington **K Glass™** and Pilkington **Optitherm™**, combine unrivalled thermal insulation with high light transmittance and lower reflectance for a more neutral appearance. They provide thermal insulation and passive solar heat gain, helping 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.

Our Pilkington **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 in which the original frames can be retained.

Solar control – keeping heat out of buildings

Globally, increasing attention is being given to air-conditioned buildings, in order to reduce energy usage and CO₂ emissions, thereby creating opportunities for solar control glass. Products such as Pilkington **Suncool™**, Pilkington **Solar-E™** and Pilkington **Eclipse Advantage™** have special coatings applied to their surface that reflect up to 75% of the solar heat whilst transmitting the majority of the visible light.

This allows a bright and cool environment to be maintained inside a building with reduced requirement for air-conditioning. Products such as this can earn up to ten times the revenue per square meter of basic float glass. Their use will increase as climate change results in increased ambient temperatures, thus imposing greater demands on air-conditioning in buildings.

Fire Protection Glass

Buildings that are vulnerable to fire are fundamentally unsustainable and fire damage can have knock on effects on lives and communities through destruction of jobs and public assets. Combining fire safety and integrity with transparency and the ability to bring light into buildings presents significant technical challenges.

Our fire-resistance glasses, Pilkington **Pyrostop®**, Pilkington **Pyrodur®**, Pilkington **Pyroclear®**, and Pilkington **Pyroshield™ 2** are well respected globally and used in a variety of building, marine and rail transport applications around the world. 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 latter provides not only protection against flames and smoke, but also a high degree of protection against the heat of a fire, and heat transfer mechanisms.

These glazings offer energy and cost savings. They can be combined with other products to offer added functionality, including solar and thermal control, sound insulation and impact safety. Unlike systems that depend on external energy sources and water availability, our fire-resistant products offer passive and sustainable protection, with a long-lasting life cycle and reliability.



A Range of Remarkable Fire Resistance and Fire Protection Glasses

Where solid roofs, doors and walls block out views and natural light, our range of state-of-the-art fire resistance and fire protection rated glazings can be used to provide a protected and comfortable environment based on natural lighting and clear vision, without sacrificing fire resistance or fire protection properties.

Pilkington **Pyrostop®**, 60-101 fitted in an Aluminum Curtain Wall FireFrame in the Ryan Education Center, Chicago Art Institute Modern Wing, Chicago USA. (Photo: HGEsch)

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

Glass and solar energy

Over the past few years, legislation has been introduced around the world to address the issue of renewable energy, spurred on by the Kyoto protocol and subsequent national targets. It is increasingly recognized that a move from hydrocarbons is essential as supplies are finite and global warming is a reality.

Solar energy panels offer alternative solutions for a range of energy requirements, from small scale domestic applications to large scale solar power stations, from cloudy northern rooftops to hot sunny deserts.

Depending on the type, a photovoltaic panel will typically produce enough power in around two years to offset the energy used in manufacture. In other words, the input energy is equivalent to only 6.6 percent of the total output of the panel. During its life cycle, a solar panel can produce over 15 times the amount of energy used to make it.

Between 2000 and 2009, global PV demand grew at a compound annual rate of 44 percent, rising from 280 MW to over 7 GW (EPIA). Despite the global downturn and reductions in some government incentives, solar volumes actually increased in 2009/2010. This was in the main due to the reduced cost of solar electricity, but also driven in part by our technological advances, helping our customers manufacture increasingly efficient modules.

Glass is an integral and important element of photovoltaic solar panels. To increase efficiency, low-iron glass, which is more expensive, but clearer than ordinary glass, is increasingly specified. Anti-reflective coatings can also increase the amount of usable solar energy. Our high-quality products are used in the three leading solar technologies aimed at converting solar energy into electricity: thin film photovoltaics, crystalline silicon photovoltaics and concentrated solar power applications.

In addition to the generation of electricity, our glass products are also used in solar applications that generate hot water.

We have been closely associated with the leading companies within the crystalline silicon and thin film photovoltaics industries for a long time. This collaboration has come about, in part, as a result of the historical expertise in on-line coating of both Pilkington and NSG, which has enabled us to become the worldwide leading producer of high-quality, high-volume TCO glass, with manufacturing sites in all main regions. We have been a technological leader in low-iron glass compositions for 25 years.

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.

During its life cycle, a solar panel can produce over 15 times the amount of energy used to make it.

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.

The United States and the European Union in particular, are encouraging the production of renewable energy. In December 2008 the EU published the Renewable Energy Directive. Carbon-trading schemes encourage CO₂ reductions, adding further impetus to the development of renewable energy options. US government schemes designed to encourage 'green' industries also play an important part in establishing renewable technologies.

Our products support the three leading solar energy technologies.

Government subsidies are increasingly playing a role in encouraging solar generation. Feed-in tariffs in countries such as Germany, Spain, Italy and Greece make it economic for solar generators to feed power into the national grid systems. The authorities in Japan are currently providing support for homeowner solar installations.



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.

Thin film photovoltaic solar modules

Thin film photovoltaic modules produce power at low cost per watt. They are ideal for large scale solar farms, as well as Building Integrated Photovoltaic applications (BIPV). They benefit from generating consistent power, not only at elevated temperatures, but also on cloudy, overcast days and at low sun angles.

Thin film photovoltaic (PV) modules consist of a stack of extremely thin photosensitive layers sandwiched between a top Transparent Conductive Oxide (TCO) coating and a back contact. The photovoltaic layers are laminated between a TCO coated front glass such as NSG **TEC**[™], and a low cost backing material, such as standard or thermally strengthened Pilkington **Optifloat**[™] clear glass.

With our 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

Developed from the microelectronics technology industry, crystalline silicon (c-Si) is the most widely used solar technology. Due to their high efficiency crystalline silicon modules are best suited to applications where space is at a premium.

The glass type normally used for this technology is low-iron rolled glass such as Pilkington **Sunplus**[™], often in toughened form, combined with an anti-reflective coating, to ensure that the maximum solar radiation reaches the PV cells. It is also possible to use low-iron float glass such as Pilkington **Optiwhite**[™].

Concentrated solar power applications

Concentrated solar power technology uses mirrors to concentrate sunlight. The high performance mirrors are manufactured using metallic reflective coatings and weather protective paints deposited onto very high-performance low-iron float glass. Pilkington **Optiwhite**[™] S 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.



Thin film photovoltaic solar modules

Thin film photovoltaic modules produce power at low cost per watt.

They are ideal for large scale solar farms, as well as Building Integrated Photovoltaic applications (BIPV).

They benefit from generating consistent power, not only at elevated temperatures, but also on cloudy, overcast days and at low sun angles.

Mehring Höhe solar park, Germany
(Photo: juwi Solar GmbH).

We are taking a leading role in the development of value-added vehicle glazing, delivering greater functionality to address Sustainability issues, such as CO₂ reduction, solar control, lighter and more aerodynamic glazing, vehicle end-of-life issues and recycling.

Glass in vehicles

The global automotive industry is increasingly addressing the Sustainability agenda. The shift to electric vehicles and plug-in hybrids marks a new era, with CO₂ 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 meet their Sustainability requirements.

Demand is increasing from vehicle manufacturers for glazing solutions that meet the challenge to design cars that are kinder to the environment.

Vehicle manufacturers are looking towards the supply base to develop and deliver products that can harness the concepts of energy reduction, energy generation and recyclability.

The concept of energy reduction is critical. Our efforts are centered on the need to reduce the energy used during the manufacture of products and to increase their contribution to Sustainability during their lifetime. The scope of opportunities to support the vehicle manufacturers includes technologies such as windscreens that do not mist, reducing overall weight, reducing the need to operate air-conditioning, and coated glazing that helps keep the cabin cool in summer and warm in winter.

Hybrid and electric vehicles

The increasing global emphasis on fuel economy and the need to mitigate the effects of transportation on the environment, have accelerated demand for vehicles that deliver better environmental performance. Combining a conventional internal combustion engine with an electric propulsion system. The importance of hybrid and electric vehicles is growing, as consumers seek out more environmentally-friendly models.

We are working with a variety of established automotive manufacturers and new entrants to develop new vehicles that are greener by design. This is placing increasing demands on the vehicle glazing. Glass in vehicles is not only important for creating a modern exterior design, it can also contribute significantly to the feeling of space inside the car and all-around visibility.

Popular in the smaller car segments is the use of modular glazing systems, fully-integrated or multi-panel rooflights and backlight quarter-light combinations. These inevitably bring with them more complex shaping requirements that the NSG Group, through its experience of designing and delivering processes and products; from the float-glass process to proprietary glass-bending technology, is well placed to address.

Lightweight glazing

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

Through continuous developments in our glass-shaping capability to enable asymmetric windshield constructions, Pilkington Automotive is contributing to the future of automotive glazing products.

With our in-house developments for 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.

Vehicle glass

30%

of vehicle heat enters cars through the windshield.

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.



Control of heat energy entering vehicles has a direct impact on air conditioning usage, helping to reduce fuel consumption and CO₂ output.

Solar control technology

The relationship between high-performance solar control glazing and vehicle CO₂ emissions reduction has long been recognized. It has been 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 CO₂ output. Our advanced solar control glass can make a significant 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.

Pilkington Automotive 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.

Glazing systems

We develop and supply not only glass but also glazing systems that are used to mount and seal the products in vehicle apertures. Pilkington Automotive is 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.

Glass and end-of-life vehicles

Glass typically constitutes around 3 percent of the composition of an average car. We are actively involved in work on the elimination of harmful materials in glass, ink, solder and other components used for automotive glass products.

Variable light transmission glazing

Tinted windows that darken at the touch of a button are to become reality for motorists; thanks to NSG Group technology.

Our new Pilkington Sundym Select™ will be launched in a vehicle rooflight in 2011. It will be the first time that variable light transmission technology has been available in a mass production car.

The product offers a range of benefits. It removes the need for a mechanical blind system, reducing weight and increasing the car headroom. Solar control and acoustic interlayers can be incorporated to increase passenger comfort even further.

Shown fitted in a car rooflight, Pilkington Sundym Select™ can be switched instantly from clear (bottom) to tinted (top) mode.



Our Specialty Glass business operates in a range of niche markets, contributing to energy conservation and Sustainability. These include ultra-thin glass for displays and touch-panel technology, LED print heads for more efficient office machinery, battery separator technology for electric and hybrid vehicles, and glass fiber timing belts, making engines more efficient.

Specialty Glass

Our patented optical products are used in the new generation of LED printer heads, offering the advantages of low power consumption, miniaturization, and low-noise operation. Our expertise in the manufacture of ultra-thin float glass is helping to develop the next generation of touch-screen devices, enhancing mobile communications.

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. Its use in vehicle timing belts helps improve fuel consumption.

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

The NSG Group is a world leader in the development of advanced glass products for use in battery separators. Our 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.

Initiatives to achieve a low-carbon society have focused the automotive industry on the development of more fuel-efficient vehicles. The Idling Stop and Start (ISS) system, which stops the engine during idle time and restarts only when necessary, requires advanced performance batteries.

Our R&D is focused on improving the capacity, stability, power and safety margins of the next generation of batteries. Enhanced performance characteristics can enable the use of smaller and more powerful batteries in future lower emission vehicles. Our sales of separators for these new batteries are expanding rapidly.

We are developing and expanding sales of separators for smaller and more powerful batteries for use in future 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 (including new tablet models) and now expanding into use in vehicles.

This technology helps reduce the need for additional peripheral equipment, such as keyboards and pointers, saving manufacturing resources, raw materials and energy. Mobile communications devices also help reduce the need for face to face interaction and travel.

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 provides an image quality equal to or surpassing more conventional laser scanning units, but with the added advantages of miniaturization, low power consumption and low-noise operation.

Glass cord engine timing belts – helping to reduce fuel consumption

Alongside the development of battery and hybrid vehicles, the automotive industry is focusing on improving the efficiency of conventional vehicles. Timing belts still play a crucial role in maintaining optimal engine performance and fuel efficiency. Our advanced glass cord, developed by our glass fiber businesses in

the UK and Japan is used in a new generation of belts. Our 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.

Glass sound insulation – reducing noise pollution

Increases in traffic levels alongside built-up areas have boosted demand for acoustic screening to enhance the quality of life of inhabitants. 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.

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



Ultra-thin glass for touch screens

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 and now expanding into use in vehicles.

Our Ultra Fine Flat Glass (UFF) products are increasingly being used in the growing touch-panel market.

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

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.

Our Environmental Policy

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.

Our environmental management system is certified to ISO 14001 for all our glass manufacturing and automotive manufacturing sites.

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

We are committed to reporting on our performance both good and bad. In 2006, NSG acquired Pilkington. Since then, a great deal of effort has been put into integrating and rationalizing our environmental controls and data systems.

Calendar year 2007 is our chosen starting point for reporting on the progress of the enlarged Group. Environmental performance is monitored and reported for manufacturing operations that are under the direct control of NSG 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, by sites under NSG operational control 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).

ISO 14001

70%

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

In addition to the collection of environmental emissions and resource usage data, the Airweb™ 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.

Monitoring performance

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.

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.

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 and now have 69 certified sites around the world, representing 70 percent of our business by turnover.

Our Automotive business line was one of the first companies in the automotive industry to achieve a corporate certificate for environmental management.

A single ISO 14001 certificate from TÜV SÜD Management Service GmbH covers central functions and the vast majority of our Automotive plants worldwide.



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

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

We own or operate 49 float lines globally and have major automotive fabrication facilities in 31 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. This began in January 2009 and was completed in March 2010.

The objective was to reduce our production capacity to match customer demand.

The effect on our manufacturing base in 2009 was dramatic. Some of our float lines were put on hot hold (maintaining working temperature, but not producing glass). Others were mothballed (closed down with a view to restarting when markets improve). Our Automotive and Specialty Glass operations were similarly affected, with an unusual number of shutdowns and restarts.

As we report our energy and resource usage on a calendar year basis, the full effects of this disruption in production are only now becoming evident in the following figures, which relate to calendar year 2009.

Initiatives to reduce resource usage

Sites were able to reduce consumption significantly to minimal levels commensurate with maintaining the safety of the plant. Consequently, absolute consumption was reduced in part due to lower production, but for the same reason specific consumption increased.

The automotive business has continued to follow an energy management system to deliver the identified 3-5 percent reduction in energy usage. The focus has been on auditing and benchmarking with identification and roll out of efficiency projects and best practices across the operations.

A number of focus projects were identified in key areas of high energy consumption, which typically require some significant investment to deliver targets. One example is improvements in heat recovery from the automotive furnace operations across the Group. This heat can be recovered from the furnace chimney utilizing heat exchangers to provide useful energy to other process areas.

In Europe, the downstream Business Products business has reduced its electricity consumption per IGU by over 15 percent.

Overall water usage has reduced due to lower production volumes. A focus project to improve water management was carried out in San Salvo to increase the quantity of recycled water back into the process. The result was an average 60 percent improvement in water consumption efficiency.

Our energy usage

Natural gas

For both environmental and financial reasons and wherever possible, 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 929 million cubic meters of natural gas in 2009.

This equates approximately to 32.7 PJ of energy, a 10 percent reduction 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 282 million liters of heavy fuel oil in 2009, or 11.2 PJ; a 5 percent reduction on the previous year.

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, natural gas. Diesel oil is also widely used to power small engines and boilers.

In 2009, our consumption of diesel oil was 22.5 million liters, or 0.8 PJ (down 56 percent on 2008) and that of liquid petroleum gas 9.7 k tonnes or 0.5 PJ (representing an 8 percent reduction on 2008).

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 2009, we consumed 8.0 PJ (2.2 TWh) of delivered electrical energy (a 13 percent reduction on 2008).

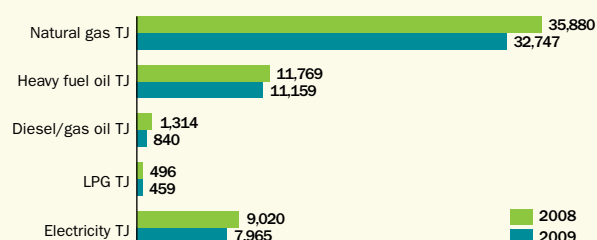
The total energy used by the NSG Group in 2009 was 53.17 PJ (14.77 TWh). This represents a 10 percent reduction on 2008.

Total energy used by the Group in 2009

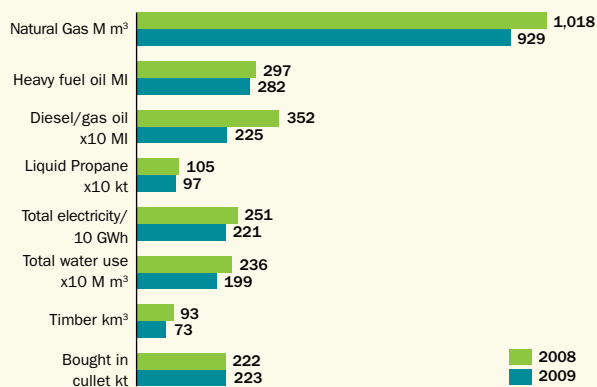
53.17 PJ

The total energy used by the NSG Group in 2009 was 53.17 PJ (14.77 TWh).

NSG Group energy usage



NSG Group resource usage



Our resource usage

Renewable resources

Some electrical power is directly generated on-site from waste gases or using co-generation installations. In 2009, we received 236 GWh from combined heat and power.

We expect our usage of renewables to increase significantly over the next few years, with projects under way to install photovoltaic arrays and wind generation at some of our facilities.

Other resources

Timber

In Europe, much of our glass is transported on steel stillages without packaging utilizing specialist vehicles known as 'Floatliners'.

Outside 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 73,000 cubic meters of timber in 2009, mainly in the transportation of glass (down 29 percent on 2008).

Water

In the glass-making process, water is used for cooling, 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.

Across the Group water consumption can vary considerably according to process and product demands as well as water quality. Typically, ~2m³ are required to manufacture 1 tonne of float glass. ~90 liters are required to process each square meter of automotive product.

We used a total of 19.9 million cubic meters of water in 2009. This was a reduction of 18 percent on 2008 data, reflecting water-saving measures and a reduction in production.

Recycled glass

Some cullet (recycled glass) is bought in from external sources and remelted to form new glass, so closing the recycling loop.

In 2009, we bought in 223,000 tonnes of cullet to supplement cullet from our own internal recycling.

Glass manufacture is an energy-intensive process, involving the melting of raw materials at high temperatures. Principal emissions from the process are to air and arise as products of the combustion of fuel and as CO₂ from the decomposition of soda ash, dolomite and limestone used in the process.

Minimizing environmental impact

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

In the operation of our float plants, heavy oil to natural gas conversion has helped to reduce carbon emissions by around 50 percent over the past 40 years, and a combination of design and operational innovations has made further progress.

Recycling

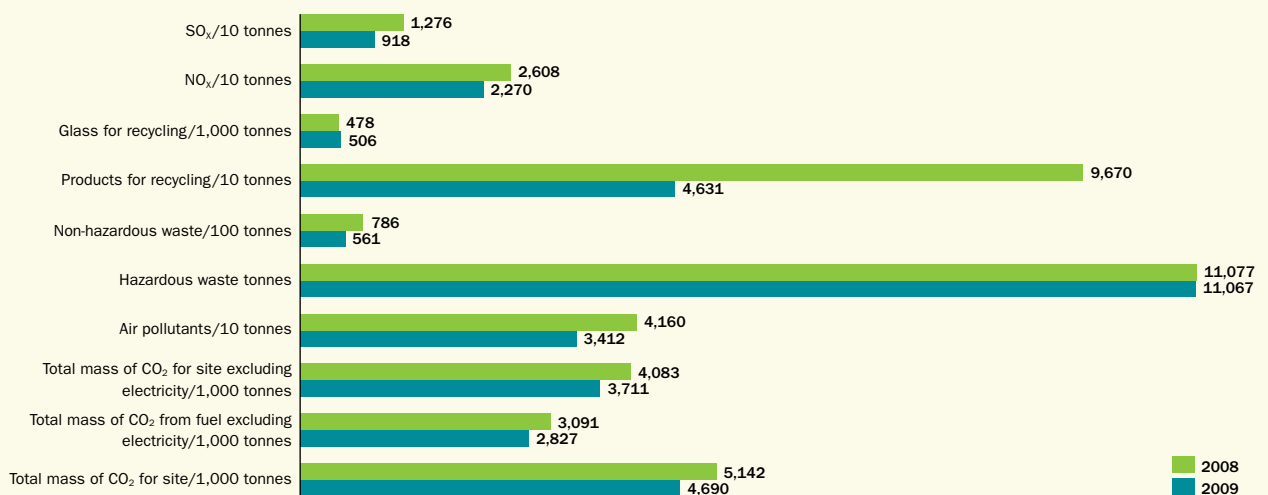
Glass for recycling is a valuable resource. Wherever quality allows, we recycle any glass off-cuts or cullet within our own glass melting lines. Glass from our downstream operations and from our customers represents a potentially useful resource to us.

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. 10 percent cullet use saves 3 percent furnace energy and leads to reductions in CO₂ emissions.

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.

In 2009, we sent 506,000 tonnes of glass for recycling and bought in 223,000 tonnes. 14,000 tonnes of glass could not be successfully recycled so was sent for disposal (59 percent reduction on 2008).

Principal emissions from the NSG Group during 2009



Recycling

506,000

In 2009, we sent 506,000 tonnes of glass for recycling and bought in 223,000 tonnes of recycled product.

Waste

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 that cannot be blended and packaging waste.

If glass is produced that cannot be remelted on-site, it is sent, where practicable, for external recycling. 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 52,731 tonnes of non-glass waste (a 26 percent reduction on 2008), of which 1,301 tonnes of hazardous (an 83 percent reduction on 2008) and 23,387 tonnes of non-hazardous waste (an 11 percent reduction on 2008) were sent to landfill. We disposed of 11,067 tonnes of hazardous waste in 2009. This remains high due to the production of LCD glass units at Suzhou, with used acid being treated off-site rather than within 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 some 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, especially that readily available in Japan. 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 detailed on our website.

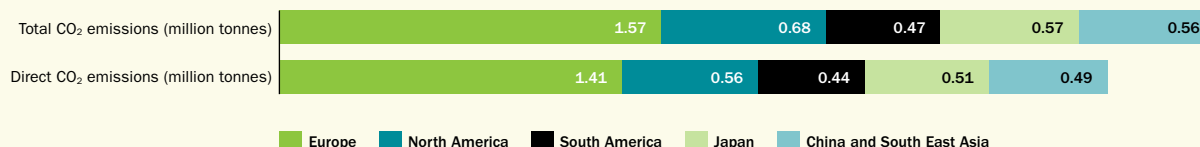
Reducing carbon emissions

In 2009, the NSG Group was responsible for the direct and indirect emission of 4.7 million tonnes of CO₂. This represents a 10 percent reduction on 2008, but is mainly due to reductions in production levels.

Our direct emissions were 3.7 million tonnes (a 10 percent reduction on 2008). Direct emissions occur from our furnaces and from fuel used in bending and toughening furnaces in Automotive and Building Products. In Europe, externally verified, direct 2009 CO₂ emissions from the Emission Trading Scheme were reduced by 17 percent compared to 2008.

In the operation of our float plants, heavy oil to natural gas conversion has helped to reduce carbon emissions by around 50 percent over the past 40 years, and a combination of design and operational innovations has made further progress.

NSG Group glass melting carbon emissions 2009



Our management philosophy values people as ‘the most important asset of our company’. We have around 28,500 permanent employees, working in 29 countries. Safety, Quality and environmental responsibility underpin everything we do, with the principle of ‘open communication’ central to our employment policies.

Employees

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 human resources strategy aims to ensure we have the right people where they are needed and that we maximize our talent management around the world.

As a consequence of the restructuring program launched in 2009, employee numbers have been reduced, with 6,700 people leaving the Group between June 2008 and March 2010. We took special measures to mitigate the effects on both those employees leaving the Group and those remaining, providing outplacement services for departing employees and increased communications across the Group.

Employee engagement is a high priority. We invest in the training of our managers and supervisors to ensure they have the communications skills necessary to keep employees well informed of developments. Supporting our managers and supervisors also involves providing them with detailed briefings on developments, such as changes to health and safety practices or programs that promote the health and well-being of our people.

Our new Strategic Management Plan identifies further expansion into emerging markets as a priority. We are aware that this will present challenges in terms of human resources planning, and we are already addressing issues such as recruitment, retention and specialist and language training to ensure that we attract the best talent available.

Safety performance

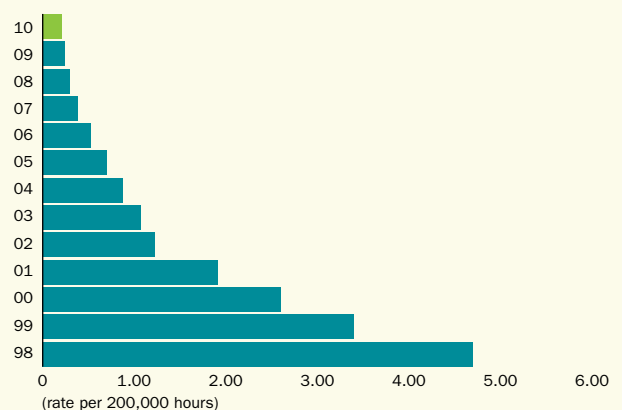
Our safety programs emphasize the importance of appropriate safe behavior and of individuals taking personal responsibility. All injuries at work are regarded as unnecessary and avoidable. No matter how minor, each one must be reported and investigated. Only by investigating and learning from such incidents will the desired levels of safety performance be achieved.

Although this Report covers the calendar year 2009, we regrettably have to report that two fatal accidents occurred within Group operations in 2010. The underlying causes of these incidents have been carefully analyzed and the lessons learned communicated. A new Group-wide initiative to further strengthen Safety Culture within the Group is underway, with Health and Safety performance now a part of the annual Management Incentive Plan. We have launched a Safety Culture Leadership Team, which includes two members of the Executive Committee, to drive the process of culture change in this important area. We have also launched a recognition program that awards sites with outstanding Health and 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 Group employees. We have also introduced a number of proactive measures of safety performance, targeted at changing behavior.

Lost Time Injury Rate (LTIR)



Group Employee Survey

87%

Results from the 2009 Group Employee Survey showed that a total of 87 percent of employees participated – up 7 percent from the 2007 survey. Individual Commitment was up and Loyalty was unchanged against 2007.

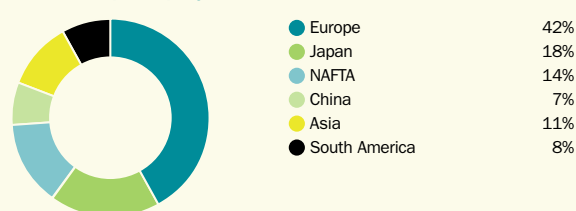
Diversity

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 policies 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 based on 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.

We operate a multi-cultural management system. Four nationalities are represented in Executive Committee and seven at business management board level. We have established a regional talent management program that aims to bring more visibility to local talent.

NSG Group employee distribution



Consultation and open communication

We operate a comprehensive system of regular communication and briefing within all businesses, including effective mechanisms for two-way communication. Everyone receives regular updates on Group and local business objectives, targets, results and best practice at central and business line levels. This includes monthly briefings from the heads of the respective business lines.

All employees also receive 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 and consult unions and employee representatives on Group operations and future plans, as appropriate to local circumstances and requirements.

Group-wide employee survey

We conduct a Group Employee Survey every two years. Results from the 2009 survey showed that a very high proportion (87 percent) of employees took part. This was 7 percent higher than in the 2007 survey and compares well against industry benchmarks.

Responses show we have made improvements in several areas, particularly Health, Safety and Environment. More than 80 percent of respondents felt that the Group 'really cares' about the health and safety of its employees, more than in the 2007 survey, and significantly more employees said that Health and Safety issues are always discussed at briefing sessions. The results for Satisfaction and Motivation, usually reflecting short-term impacts, is slightly lower than industry benchmark data, due to the recent restructuring. However, Loyalty, which reflects a long-term commitment, is at a high level far above benchmark level.

Two areas identified by the 2007 survey as needing improvement – personal development and communication – also earned a more positive response. A communications training initiative, Project Messenger, was launched in direct response to the 2007 results. Overall, employees indicated a continuing high commitment to the Group, with 85 percent stating that they show enthusiasm for the company and their work.

Maximizing the potential of individuals

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.

During 2009, a mentoring program for middle managers was launched. Over 70 percent of employees were covered by the annual review of regular performance and career development process. Our aim is to increase this proportion to 90 percent by 2015.

High quality and service standards are key features in building relationships with our industry customers and end-consumers. We are committed to the safe use of our products, ensuring they can be effectively handled, fitted and used by our customers.

Customers

We aim to be the supplier of choice of our customers. This means that all our businesses must be the most efficient, most reliable, most responsive and most sustainable. Our objective is to produce a wide range of effective, innovative and sustainable products in all our business and our R&D effort is focused on product and process development to support this objective.

Most efficient means having the lowest delivered unit cost of what we supply and using the minimum resources and energy to produce and process them.

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.

To be the most sustainable supplier means ensuring that we set high standards and adhere to them throughout the supply chain, from our own suppliers, through manufacturing, transport and delivery. We aim to achieve an economic performance that ensures the long-term viability of the Company.

Product responsibility

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.

We are well aware that glass products generally require careful handling. We are committed to the safety of our products and to ensuring they can be effectively handled, fitted and used by our customers. Our product risk review procedures are designed to identify risks and to provide advice to users on safe handling. We communicate these risks through safety data sheets, labels, and Glazing and Handling Guidelines.

Highest quality

Quality is a key factor, 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.

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 we are actively contributing to the development of new global product standards that meet Sustainability requirements, through collaboration with working groups set up by organizations such as the International Standards Organization. We work closely with our customers, trade associations, governments and standards-setting bodies to ensure that our products meet and where possible exceed local energy performance standards.

Our Automotive Original Equipment business 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 solar energy 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.

Product Innovation

The NSG Group is a global leader in manufacturing excellence and innovation, notably in the areas of glass melting, glass forming by the float process, online coating and complex shaping technology, especially for automotive windshields and backlights. The Group invested ¥12,071 million in R&D in FY2010.

The Group owns or controls approximately 4,000 patents and patent applications, predominantly in the fields of float glass production and processing and automotive glazing and also in the Information Technology field, and has access under license to patents held by third parties. The Group has also been active in selective licensing of its patents and technology, in the areas of online coating, encapsulation (of automotive glazing) and rain sensors for automotive glazing.

Awards for quality and marketing

Building Products

- Certified LEED® Gold Award: for Huntington Center Toledo OH (USA)
- G09 Awards Health & Safety initiative of the Year (UK)
- Pilkington **energiKare™** Highly Commended in the Housebuilder Awards 2010 (UK)
- Best of the Best 2010 award for brand design to Cebrace joint venture (Brazil)

- Building products Brazil – Modern Customer – Excellence in Customer Services award: in the Home and Building category (Brazil)
- Building Products UK – G09 Awards Glass Project of the Year for Pilkington Planar™ in Dragon Hall (UK)
- Pilkington China – finalist in the Sustainability category of the British Business Awards Expo 2010 (China)

Automotive

- Ford award 'Best South America Supplier for Exterior and Stamping' in 2010 (Brazil and Argentina)
- Toyota cost excellence performance award and cost achievement performance certificate (Brazil)
- VW-Group Formel-Q qualification and 'A-Level Supplier' awarded to Pilkington Automotive Aken (Germany)
- 2010 Honda Development Award for the Complex WS Development (Japan)

Specialty Glass

- Tarui site awarded ISO9001/14001 certification (Japan)
- Nanox Philippines – Clark award for investment innovation (Philippines)
- NEC infrontia best supplier award to Nanox (Philippines)



US 'Green Building' Award

A combination of Pilkington Solar-E™ and Pilkington Energy Advantage™ – Low-E in its exterior façade units helped the Huntington Center, in Toledo, Ohio, earn LEED® Gold status from the US Green Building Council in 2010.



The LEED® green building certification program is the nationally accepted benchmark for the design, construction, and operation of green buildings in the United States.

Huntington Center, Toledo OH, USA.

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

In communicating with our shareholders, potential investors, the financial community regulatory authorities and the media, our aim is to report in a transparent, timely and accurate manner.

Our overriding 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 stakeholders 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.

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 strategy

In November 2010, we announced our Strategic Management Plan that sets the course for the NSG Group over the next three years. It replaces the Medium-term Plan issued in November 2006, which is now coming to the end of its term. The new Plan covers FY2012 to FY2014, but we are beginning implementation immediately.

The objective is to take the NSG Group to the next level of its development, building on progress on our 'Phase 1' priorities and leveraging our technology into growth opportunities. The Plan places important emphasis on our commitment to Sustainability and our intention to develop a sustainable enterprise.

Around 200 financial analysts attended a briefing session held in Tokyo in November at which Craig Naylor, President and CEO, presented and explained the Plan. We regard the Strategic Management Plan as a 'dynamic document' and will update the market annually on progress.

Strategic Management Plan objectives

To take the NSG Group to the next level in its development, by:

- Maximizing profitable growth while reducing our net debt/earnings (EBITDA) ratio
- Ensuring highest standards of ethics, safety, environmental responsibility and Sustainability in all our activities
- Being innovative in everything we do

Communicating our performance

We report our results on a quarterly basis. 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, we arrange visits to our operations, to enable analysts to see for themselves.

Over the past year, we have continued our focus on non-financial aspects of our performance relating to Sustainability. The current report is an important channel for communicating our progress. Our Sustainability Report is made available to shareholders in both English and Japanese versions, with additional data available on our website.

International shareholder base

35%

of our shareholders are based outside Japan.

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

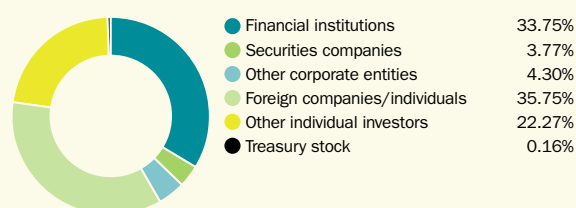
Evolving shareholder composition

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.

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

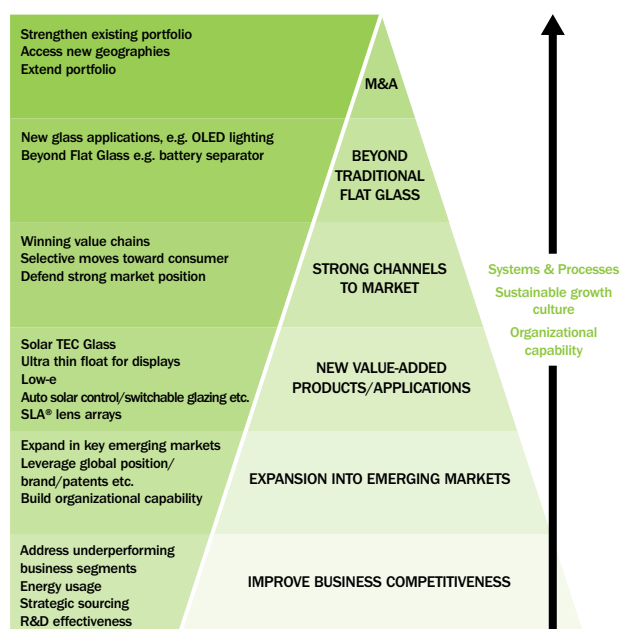
We have consequently expanded our global IR effort to meet the requirements of shareholders and potential investors around the world, including a range of additional publications, some of which are published in both Japanese and English. Details can be found on page 45 of this Report and on our website. We organize 'road shows' for analysts, investors and potential investors outside Japan, when appropriate.

Distribution of NSG Group shareholders (as at 30 September 2010)



Strategic Management Plan

Key elements



We purchase materials, goods and services from over 20,000 suppliers worldwide. Our Supplier Code of Conduct and related audits help ensure that our suppliers understand and comply with our standards.

Suppliers

As part of our Sustainable Procurement Program, we operate a Supplier Code of Conduct. It outlines behaviors, processes and procedures which we observe as the standards we expect from our suppliers.

Our manufacturing processes use materials, products and services procured from around 20,000 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.

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.

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

Key elements of the code now form part of our supplier audits. A team of 10 supplier development engineers, covering all regions, is responsible for validating compliance. Around 120 selected suppliers have been audited this year and have been subjected to these additional checks.

During 2010 we launched an audit program and in 2011 it is our intention to more than double the size of our Supplier Development function to further accelerate this program.

Selected suppliers currently being audited

120

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.

More details on our Supplier Code of Conduct can be found at www.nsg.com/sustainability

Around 10 percent of those audited have been found to fail to meet our expectations on some of the criteria. These suppliers have now been requested to implement an improvement plan that will be subject to validation within a maximum of 12 months. Those that fail to implement the agreed action plan will be removed from our supplier list.

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 our 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 the same 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) 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.

Silver Pastes

We use silver pastes in our Automotive Business Line as an electrical conductor on automobile backlights. We have introduced recycling schemes in all manufacturing plants for the cloths and containers used with the silver paste. Our suppliers are able to reclaim a significant amount of the waste silver for reuse in their own production operations.

Transportation

Glass is a bulky material and transport between locations is a significant contributor to CO₂ emissions. We are working with transportation providers to ensure that they operate cleaner and more efficient trucks to reduce the environmental impact. We are increasing our weighting of environmental factors when selecting our transportation partners.

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. In 2010 around 2,000 tonnes of PVB trim was returned to our suppliers or other recyclers to be reused.

Packaging

We use a significant quantity of wooden packaging in our operations. Wood is seen as a sustainable material and we are working with all our suppliers of wooden packaging to ensure that they have programs to ensure the responsible re-planting of timber and that they have recognized certifications for chain of custody for timber. We also work with our suppliers to design our wooden packaging so that it can be reused in our operations.

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. In 2010 we repaired more than 3,000 spare parts rather than buying new components.

Water management

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

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.

Communities

We employ around 28,500 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 over 500 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.

An important element of our Strategic Management Plan is further expansion into emerging markets. The effects of such investments on our communities are generally beneficial, bringing additional employment and economic benefits. For every investment we make, an impact assessment is conducted to ensure we understand and manage the likely effects on the community, the environment and the local economy.

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.

For every investment we make, an impact assessment is conducted to ensure we understand and manage the likely effects on the local community, the environment and the local economy.

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.

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.

Community action

Disaster relief

- In Poland, the NSG Group made a significant donation to the Sandomierz Foundation, for the relief of families affected by severe flooding in the area.
- A fundraising campaign was organized by employees across South America to help families affected by the 2010 Chile earthquake with donations of food, clothing and furnishings.
- Employees at the Group's plant Mexicali went to the aid of local families left homeless by a major earthquake which hit Mexico and Southern California in April.
- In Italy, our San Salvo employees have raised €70,000 to help rebuild a school devastated in the L'Aquila earthquake of April 2009.

Support for education and training

- NSG Group sponsored a delegate from Japan to the 2010 'One Young World' summit, held in London (UK).
- Sponsors of the Royal College of Art Vehicle Design Award (UK).
- Nippon Sheet Glass Foundation for Materials Science and Engineering (Japan).
- Sponsors of the Arkwright Scholarship scheme for students of technology (UK).

Cooperation with business groups

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



Our business in Argentina, VASA, sponsors the "Fundación Impulsar" charity, helping young people build their own businesses. In 2009, the Prince's Youth Business Initiative named Juan Ramón Nuñez, Young Entrepreneur of the Year. He received the award from HRH The Prince of Wales.

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 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.

We made direct contributions to local communities totaling around ¥1 billion in FY10

In FY10, we made contributions worth around ¥99,903,000 (approx. €799,224) to our local communities. Our grants helped the arts, medicine, welfare, job creation and urban renewal. This is down by 11.5 percent on the total in the previous year. By region, Europe and Japan accounted for 84 percent of this total. The bulk of the remainder was spent on activities in South America and South East Asia.



Community action in Sandomierz, Poland

In May 2010, our plant at Sandomierz in Poland was surrounded by flood water when the river Vistula burst its banks. The local town was inundated to a depth of more than five meters and more than 150 of our employees lost almost everything they owned as the waters rose to roof level.

We subsequently made a substantial donation to the Sandomierz Foundation to help with rebuilding and the rehousing of all families affected by the floods in the area.

The Group's Sandomierz facility at the height of the flooding. The plant has since resumed normal operations.

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.

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.

We have self-declared our reporting to be Application Level B (Self-declared). We intend to be able to report further progress in our 2011 Sustainability Report, to be published in early 2012. We report our financial, social and environmental performance via three main channels:

- NSG Group Annual Report 2010 (AR)
- NSG Group Sustainability Report 2010 (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 6
1.2	Description of key impacts, risks and opportunities	Pages 6-9, 15 & Web
2	Organization profile	
2.1	Name of organization.	Page 45
2.2	Primary Brands, products and services.	Page 2
2.3	Operational structure of the organization, including main divisions, operating companies, subsidiaries, and joint ventures.	Pages 2, 3 & AR
2.4	Location of organization's headquarters.	Page 45
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 35
3	Report parameters	
3.1	Reporting period.	Page 42
3.2	Date of most recent previous report.	Page 42
3.3	Reporting cycle.	Page 44
3.4	Contact point for questions regarding the report or its contents.	Page 45
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 44
3.6	Boundary of the report.	Page 44
3.7	State any specific limitations on the scope or boundary of the report.	Page 44
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 re-statements of information provided in earlier reports, and the reasons for such re-statement.	Not applicable
3.11	Significant changes from previous reporting periods in the scope, boundary, or measurement methods applied in the report.	Pages 6, 7

GRI Indicator	Criteria	Where to find this information
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 42, 43
3.13	Policy and current practice with regard to seeking external assurance for the report.	Self declared at GRI Application Level B. No external assurance was pursued for this reporting period.
4	Governance	
4.1	Governance structure of the organization.	Page 12
4.2	Indicate whether the Chair of the highest governance body is also an executive officer.	Page 12 & 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 & Web
4.4	Mechanisms for shareholders and employees to provide recommendations or direction to the highest governance body.	Pages 33, 36
4.5	Linkage between compensation for members of the board, senior managers, and executives and the organization's performance.	Web
4.6	Processes in place for the board to ensure conflicts of interest are avoided.	Web
4.7	Process for determining the qualifications and expertise of the members of the board for guiding the organization's strategy on economic, environmental, and social topics.	Web
4.8	Statements of mission or values, codes of conduct, and principles relevant to economic, environmental, and social performance and the status of their implementation.	Pages 8, 9
4.9	Board procedures for overseeing the organization's identification and management of economic, environmental, and social performance, including relevant risks and opportunities, and adherence or compliance with internationally agreed standards, codes of conduct, and principles.	Pages 12, 13 & Web
4.10	Processes for evaluating the board's own performance.	Web
4.11	Explanation of whether and how the precautionary approach or principle is addressed by the organization.	Web
4.12	Externally developed economic, environmental, and social charters, principles, or other initiatives to which the organization subscribes or endorses.	Web

GRI Indicator	Criteria	Where to find this information
4.13	Memberships in associations or advocacy organizations.	Web
4.14	List of stakeholder groups engaged by the organization.	Pages 8, 9, & 32-41
4.15	Basis for identification and selection of stakeholders with whom to engage.	Pages 8, 9, 44
4.16	Approaches to stakeholder engagement, including frequency of engagement by type and by stakeholder group.	Pages 32-41
4.17	Key topics and concerns that have been raised through stakeholder engagement, and how the organization has responded to those key topics and concerns, including through its reporting.	Pages 32-41
Economic		
	Disclosure on management approach.	Page 10
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.	Page 15
Environment		
	Disclosure on management approach.	Page 10
Materials		
EN1	Materials used by weight or volume.	Pages 28, 29 & Web
EN2	Percentage of materials that are recycled input materials.	Pages 28, 29 & Web
EN3	Direct energy consumption by primary energy source.	Pages 28, 29
EN4	Indirect energy consumption by primary source.	Web
EN5	Energy saved due to conservation and efficiency improvements.	Web
Water		
EN8	Total water withdrawal by source.	Web
Emissions, effluents and waste		
EN16	Total direct and indirect greenhouse gas emissions by weight.	Page 31
EN17	Other relevant indirect greenhouse gases by weight.	Web
EN19	Emissions of ozone-depleting substances by weight.	Web
EN20	NOx, SOx, and other significant air emissions by type and weight.	Page 31
EN22	Total weight of waste by type and disposal method.	Page 30
EN23	Total number and volume of significant spills.	Web
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		
	Disclosure on management approach.	Page 11
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

GRI Indicator	Criteria	Where to find this information
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.	Web
Labor practices and decent work		
	Disclosure on management approach.	Page 11
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 32, 33 & Web
Training and education		
LA10	Average hours of training per year per employee by employee category.	Web
LA11	Programs for skills management and lifelong 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
Human rights		
	Disclosure on management approach.	Page 10
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening.	Web
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.	Page 38
Society		
	Disclosure on management approach.	Page 11
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, and 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. Unless otherwise stated, the Report covers those businesses over which the NSG Group has management control.

Data relating to the environmental performance of Group operations covers 31 float and five rolled glass sites. Joint venture sites where we do not have operational control are excluded. All Building Products, Automotive and Specialty Glass downstream processing are also included in the reporting. Safety statistics shown cover our 'workforce' (employees and permanent contractors).

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.

We published our first Sustainability Report in 2009, when we decided to widen our reporting to cover all aspects of Sustainability. 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.

In 2010, the Board agreed specific Sustainability targets for the Group. These are shown on page seven of this Report, along with an account of our progress towards them.

In the past year, Nick Shore was appointed as the Group's first Director of Sustainability. Nick Shore chairs the Sustainability Committee, which is leading our efforts to ensure that the principles of sustainable development are embedded in all of the Group's activities. We will report further on our progress in our 2011 Sustainability Report, which will be published in early 2012.

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 B.

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 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 2010

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



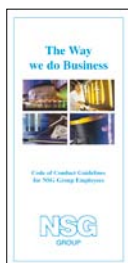
To our Shareholders

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 2010

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



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

(as at 31 March 2010)

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 (see note)

Total assets: ¥933,721 million

Net sales: ¥588,394 million (consolidated)

Employees: 28,500

NSG Group companies: 243

Web www.nsggroup.net/ir/annual.html

Note: ¥116,449 million as at 30 September 2010, following share issuance

Websites

NSG Group Corporate website (English)

www.nsg.com

NSG Group Corporate website (Japanese)

www.nsg.co.jp

Commercial website (Building Products and Automotive)

www.pilkington.com

Sustainability contact

www.nsggroup.net/contact



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 Corporate Edge

Printed by Royle Corporate Print



Nippon Sheet Glass Co., Ltd.

Head Office: 5-27, Mita 3-chome, Minato-ku,
Tokyo 108-6321 Japan

Telephone: +81 3-5443-9477

Email: www.nsggroup.net/contact

www.nsg.com