



# Sustainability Report 2011

Responsible Performance & Growth





CRH is an international leader in the building materials sector and is committed to sustainably and responsibly managing all aspects of its operations relating to employees, customers, neighbours, local communities, shareholders and other stakeholders.

Sustainability and Corporate Social Responsibility concepts have been embedded as integral components of CRH's performance and growth strategy.

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CRH reports annually on its performance in this area and this is CRH's ninth such Report.

This Report relates to activities in 2011.

Data from 100% of Group Subsidiaries is included in this Report.



Data from joint ventures and/or associates is noted as appropriate on a percentage shareholding basis where relevant.



Sustainability in Action: A delivery of alternative fuels to Cementownia Ożarów, Poland, is taken by Krzysztof Filak and Robert Kurpias. Currently, energy from alternative fuels provides 30% of the energy used at the plant, replacing fossil fuels with a sustainable, locally-sourced material that would otherwise require disposal. Cementownia Ożarów, which has ISO 14001 certification of its environmental management system and OHSAS 18001 certification of its safety management system, is fully committed to the sustainable development of its business activities.

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## A Message from the CEO

**"Our latest report reflects our appreciation of the wider sustainability and responsibility areas that relate to our group of businesses. We are pleased that our strong track record continues to be reflected by our high rating amongst prominent Socially Responsible Investment (SRI) rating agencies."**



Myles Lee

### Welcome

This is our ninth report describing our approach to sustainable development and corporate social responsibility (CSR) within our Group. Since our first report was published, we have progressed in all areas of sustainability and ensured CRH remains an industry leader within our sector. The backdrop to this has been the ever increasing societal expectations in all areas of sustainability, together with greater scrutiny of businesses. We have responded to this by creating and developing policies, enhancing our management systems and organisational structures, further developing our sustainable products and processes, measuring and assessing our performance and entering into dialogue with our key stakeholders at all levels of our Group and throughout our businesses. As a core member of the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development ([www.wbcsdcement.org](http://www.wbcsdcement.org)), we also work with our industry peers in promoting sustainability.

Our latest report reflects our appreciation of the wider sustainability and responsibility areas that relate to our group of businesses. We are pleased that our strong track record continues to be reflected by our high rating

amongst prominent Socially Responsible Investment (SRI) rating agencies. We continue as a constituent member of the Dow Jones World and STOXX Sustainability Indexes and the FTSE4Good Index. In addition, many Group companies have won high-ranking accolades for excellence in sustainability achievements.

### Key Aspects of our Performance

#### Health & Safety

Health and safety remains the core focus of our operations. Our key health and safety metrics for 2011 continued to show significant improvements. In comparison with the previous year, the number of accidents across the Group decreased by 10%, our accident frequency and severity rates both showed falls of 12% and the number of serious accidents fell by 29%.

However, despite this, we deeply regret that seven fatalities (four employees and three contractors) occurred within our Subsidiaries during 2011. We have further intensified our efforts to eliminate fatalities from our operations. We ensure that each and every incident is thoroughly understood, circumstances promptly identified and recommendations

## A Message from the CEO

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communicated and implemented across the Group. Our Fatality Elimination Plan continues to receive the highest priority across the Group and we introduced further new initiatives during the year.

We are committed to a relentless advancement in health and safety throughout our operations. New acquisitions are also fully integrated into our safety systems, procedures and culture.

### Environment & Climate Change

On environmental matters we promote a proactive approach to all environmental issues and climate change and our compliance with the applicable environmental laws and regulations remains at a very high level. We have continued to apply our well established environmental due diligence procedures to new acquisitions and any improvement recommendations are followed up promptly.

We have entered into public commitments concerning reductions in carbon dioxide and other emissions to air as part of our membership of the CSI. We have invested significantly in process efficiency and environmental improvements across our operations. As a result, substantial progress towards these commitments has been made and we remain on target to achieve these. An important element of this was the commissioning of the Podilsky dry process cement plant in Ukraine during 2011.

### Governance

CRH has long been admired for a strong commitment to governance and business ethics. As we develop a more diverse global corporate footprint, it is vital that we maintain a consistent approach to this area.

In 2011 we therefore took further steps to ensure we remain at the forefront of responsible business behaviour and ensure that CRH continues to lead with integrity. These included strengthening our risk assessment and compliance & ethics structures, updating our Code of Business Conduct and related policies, and enhancing our compliance-related training programmes.

### People & Community

CRH believes that continued sustainable business success depends on the excellent relationships maintained with stakeholders—employees, customers, suppliers, neighbours and others. Our companies continue to work with local communities and regulatory authorities to ensure that we remain good neighbours and are fully aware of our responsibilities. We contribute positively to the economies and societies in which we operate in many ways. Our companies support a wide variety of community initiatives and charitable partnerships. Examples of these are profiled in this Report. We held a total of 402 open days in 2011, demonstrating the importance of local community initiatives to our businesses.

### Communication

We attach great importance to communications with all stakeholders and in 2011 maintained our open door policy on stakeholder engagement. During the year, we communicated regularly with key stakeholder groups on a broad range of issues, including sustainability and responsibility commitments and performance.

We continue to highly value the external independent verification of our Sustainability and CSR activities and reporting. This 2011 Report has been verified in its entirety by Det Norske Veritas (DNV) to Global Reporting Initiative (GRI) A+ level.

### Conclusion

Our sustainable development performance is deeply rooted in our overall business strategy and we are committed to meeting our stakeholder expectations year on year. I would like to acknowledge the dedication and efforts of everyone around the Group who, despite the challenging markets of recent years, have demonstrated significant commitment to continuously developing our sustainability and responsibility performance and have enabled our many achievements in this area. We welcome feedback from all our stakeholders and we will continue to keep you informed of our sustainability and responsibility progress.



The distinctive folded structure gives the new Mülimatt sports training centre in Brugg (Switzerland) its special character. Three CRH companies were involved in this project: Element AG Switzerland produced and assembled the complex precast concrete elements, Jura Cement, which uses significant quantities of alternative fuels and materials, supplied the cement, while the construction accessories were provided by Halfen.

# Sustainability in CRH

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Sustainable business development is a fundamental objective of CRH. This section profiles CRH's approach to integrating sustainability and corporate social responsibility concepts into all aspects of its operations. It outlines CRH's history, distinctive culture, unique geographic, segmental and market balance and its global range of activities across 36 countries at approximately 3,600 operating locations.

Further information on CRH's activities and performance is available in the CRH Annual Report 2011 and in the CRH 2011 Annual Report on Form 20-F filed with the US Securities & Exchange Commission, both available on [www.crh.com](http://www.crh.com)

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## CRH Profile

**CRH's strategic vision is clear and consistent – be a responsible international leader in building materials delivering superior performance and growth.**

CRH has embedded the twin concepts of Sustainability and Corporate Social Responsibility (CSR) as integral components of its business strategy and is committed to managing all aspects of its activities in a responsible way.

CRH is a diversified building materials group which manufactures and distributes a wide range of building materials. CRH employs approximately 76,000 people at 3,600 operating locations in 36 countries, mainly in Western Europe and North America as well as in developing economies in Eastern Europe, South America, the Mediterranean basin, China and India.

CRH plc was formed through a merger in 1970 of two leading Irish public companies, Cement Limited (established in 1936) and Roadstone, Limited (established in 1949). The newly-formed group was originally called "Cement Roadstone Holdings", later abbreviated to CRH. Today, CRH is one of the five largest international groups in its sector and has its headquarters at Belgard Castle in Dublin, Ireland.

CRH's strategy is to sustain and grow a geographically diversified business with exposure to all segments of construction demand, enabling CRH to achieve its vision of being a responsible international leader in building materials delivering superior performance and growth.

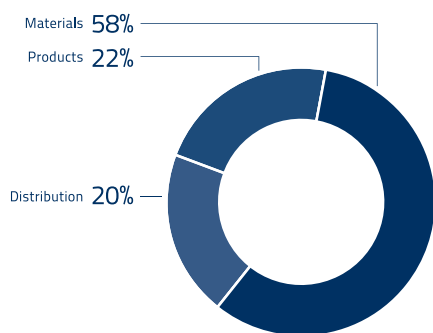
CRH excels in its business operations, develops its people and builds regional market leadership positions across an actively managed portfolio. Its federal structure effectively combines large company resources with local company entrepreneurship. The portfolio is balanced across geographies, sector end-uses, and both new and repair, maintenance and improvement (RMI) construction, thus providing exposure to multiple demand drivers which help smooth the effects of varying economic cycles.

With a rigorous approach to capital allocation and a strong focus on cash generation, CRH reinvests in its existing assets and acquires well-run, value-creating businesses while seeking exposure to new development opportunities and creating platforms for future growth. In a fragmented industry, CRH typically acquires small to mid-sized companies which complement the existing network; augmented from time to time with larger transactions.

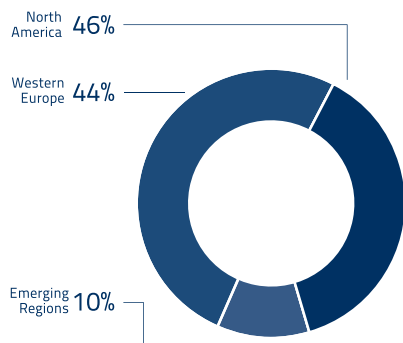
This business model and overall strategic approach has enabled CRH to deliver superior long-term performance through the business cycle.

Note that the breakdown shown in the graphs below is by annualised Earnings Before Interest, Tax, Depreciation and Amortisation (EBITDA), which includes joint ventures on a percentage shareholding basis.

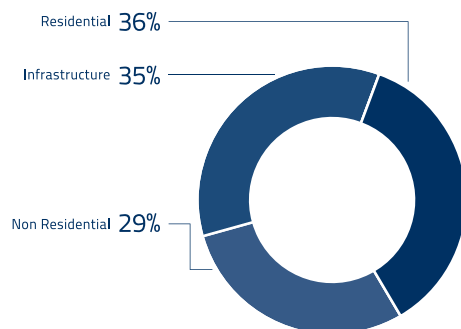
Product Balance



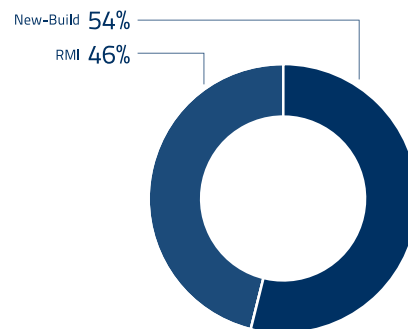
Geographic Balance



Product End-Use Balance



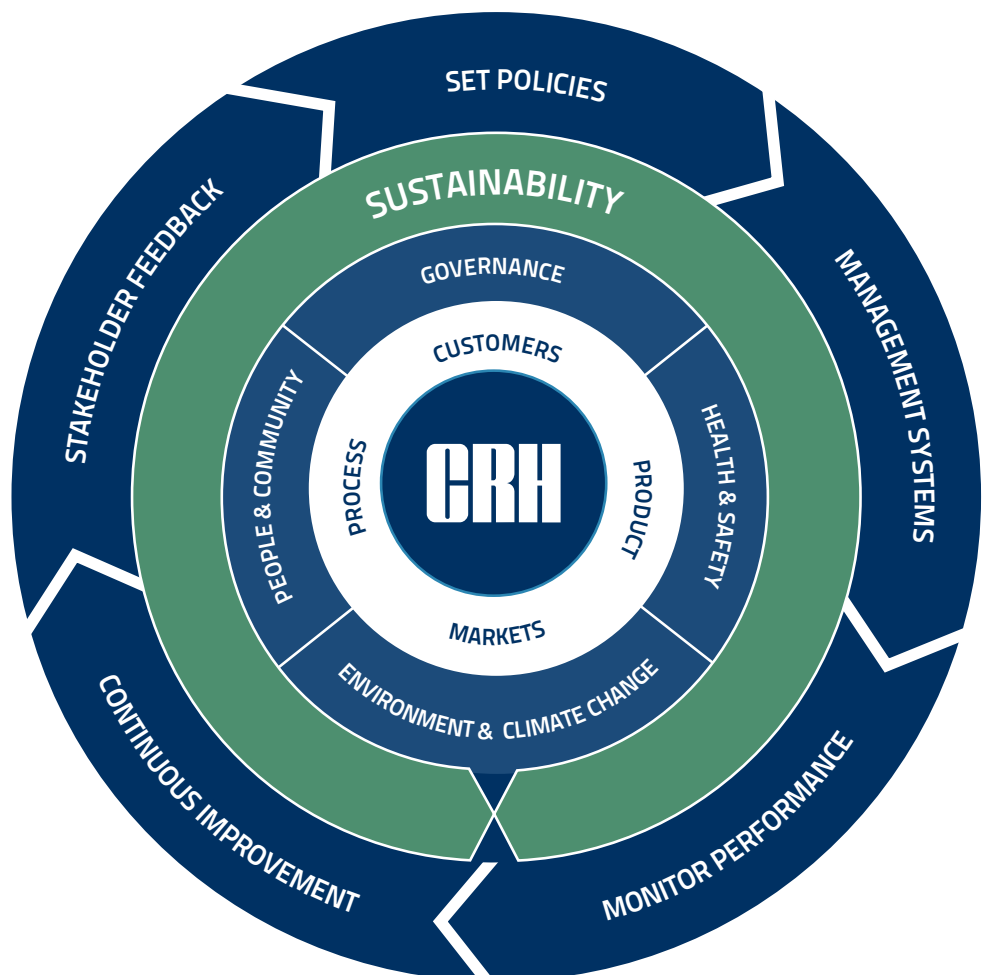
Product End-Use Balance



## Developing Sustainability

CRH has operated successfully for over 40 years. This success has been based on a solid foundation and commitment to fundamental aspects of business – strong customer and supplier relationships, value added products, efficient processes and targeted markets, balanced across both sectoral and geographic areas. These fundamentals of business are managed within a strong framework and focus on health & safety, environment & climate change, people & community and corporate governance. In all of these areas, CRH sets policies, implements management systems, monitors performance and incorporates stakeholder feedback at each stage aiming for continuous improvement across its activities. The chart below illustrates this approach to sustainable business development.

At a global level, as society at large considers the impacts of resource scarcity, climate change and changing population demographics, CRH can contribute to addressing these challenges while also generating business opportunities through continued, investment, development and innovation across its range of products and throughout its processes. The Group continues to review and improve its measurement criteria and monitoring systems to ensure the highest standards of performance are maintained in all aspects of its businesses. In these ways, CRH continues to be an industry leader and to create long term value for all its stakeholders.



# Areas of Sustainability Impact and Opportunity

## Key Sustainability Areas

The table below outlines the key sustainability topics within each of the four main areas of sustainability performance: health & safety, environment & climate change, governance and people & community. In addition, stakeholder dialogue is also included due to its importance to CRH in developing, implementing and continuously improving its policies covering the sustainability and corporate social responsibility aspects of its business.

The progress to date in each of these key sustainability topics, together with future objectives, is outlined below. These represent the main material focus items for CRH at Group and company level and encompass all that is material to the scope of the Group's performance and reporting in terms of sustainability and corporate social responsibility. They also reflect the interests of all stakeholders.

Health & Safety		
Topic	Progress to 2011	Future Objectives
<b>Policy Implementation</b>	Health & safety policy fully embedded throughout the organisation.	Continue to refine & roll out to acquisitions as soon as possible.
<b>Review Process</b>	Annual review carried out & results for 2011 reported to Board.	Continue to refine process, improve efficiency, further increase accuracy of data.
<b>Safety Management</b>	Achieved a 12% reduction in accident frequency rate compared to 2010. Key management focus.	Aim for zero fatalities & ultimately zero accidents.
<b>Fatality Elimination</b>	Fatality Elimination Plan developed, implemented and audited. Remains a central focus of health & safety activity.	Continue implementation and audits of Fatality Elimination Plan.
<b>Initiatives</b>	New initiatives implemented in 2011 as shown on page 26.	Continue to develop safety management initiatives.

Environment & Climate Change		
Topic	Progress to 2011	Future Objectives
<b>Policy Implementation</b>	Environmental policy fully embedded throughout the organisation.	Continue to refine & roll out to acquisitions as soon as practicable.
<b>Review Process</b>	Annual review carried out & results for 2011 reported to Board.	Continue to refine process, improve efficiency, further increase accuracy of data.
<b>Climate Change</b>	On target to reduce specific cement CO <sub>2</sub> emissions by 15% (2015 vs 1990).	Continue progress towards achieving target.
<b>Air Emissions</b>	On target to reduce specific cement dust emissions by 50% & NO <sub>x</sub> by 10% (2015 vs 2006) while maintaining low SO <sub>x</sub> .	Proceed with investments that will ensure these targets are met.
<b>Energy, Water, Waste, Recycling</b>	Progressive improvements being achieved on all parameters.	Continue to reduce specific energy consumption, specific emissions & increase recycling.
<b>Quarry &amp; Pit Reinstatement, Biodiversity</b>	96% of sites now have reinstatement plans. Biodiversity plans continue to be developed.	Continue to develop reinstatement plans for all quarries & pits. Continue to develop biodiversity plans where appropriate.
<b>Sustainable Products</b>	Many products have environmental benefits and applications both in production and use.	Continue to develop and promote products to benefit the built environment.

# Areas of Sustainability Impact and Opportunity

## Governance

Topic	Progress to 2011	Future Objectives
<b>Compliance</b>	Further strengthened compliance structures, reporting continued to meet all requirements.	Ensure ongoing highest standards of corporate governance.
<b>Risk Management</b>	Significant review of risk management framework.	Continue to proactively manage all risks, including new risks.
<b>Code of Business Conduct</b>	Code revised, policies continued to be developed based on the Code.	Continue to refine & roll out to acquisitions as soon as possible.

## People and Community

Topic	Progress to 2011	Future Objectives
<b>Policy Implementation</b>	Social policy fully embedded throughout the organisation.	Continue to refine & roll out to acquisitions as soon as practicable.
<b>Review Process</b>	Annual review carried out & results for 2011 reported to Board.	Continue to refine process, improve efficiency, further increase accuracy of data.
<b>Employee Development</b>	Programmes rolled out throughout the Group.	Continue to be an employer of choice.
<b>Management Development</b>	Management development programmes continued.	Extend the development programmes to continue to supply the depth & breadth of skills for a global organisation.
<b>Knowledge Transfer</b>	Best practice activities continued in all key activities.	Continue to drive horizontal knowledge-sharing.
<b>Supply Chain</b>	Ethical Procurement Policy implemented, sustainable supply chain management work continues.	Continue to develop policies, drive sustainability improvements in supply chain.
<b>Customers</b>	Extensive customer relationship management continued.	Continue to be the supplier of choice.

## Stakeholder Dialogue

Topic	Progress to 2011	Future Objectives
<b>Stakeholder Communications</b>	Extensive communication programmes continued with employees, investors, local NGOs & other interested parties.	Continue to communicate openly with stakeholders & respond to their feedback.
<b>Community Liaison</b>	Extensive programmes continued at local & community levels.	Continue to grow these programmes in all regions of operation.
<b>Awards</b>	Continued high number of awards.	Continue to promote awards.
<b>SRI Rating Agencies</b>	Positive reviews received from leading Agencies.	Maintain high level position.
<b>GRI Guidelines</b>	Adopted the GRI G3 guidelines, achieved the "A+" level.	Continue to achieve "A+" application level, prepare to report to GRI G4 guidelines that are currently in preparation.
<b>External Verification</b>	2011 Report verified by DNV.	Maintain CSR external verification, improving annual reporting.

# Sustainability across a Diversified Business

**Sustainability is a fundamental objective for CRH in all its businesses from materials extraction through the production of value-added building materials and products to final delivery to the customer.**

## Materials

CRH operates strong vertically-integrated primary materials businesses which have strategically located long-term reserves, balanced end-use exposure and leading market positions in all its major markets. The Group's position is underpinned by long-term permitted reserves which totalled 15 billion tonnes at the end of 2011. CRH continuously invests in plant and equipment for quality, efficiency and customer service while also seeking out value-creating expansion opportunities via greenfield development and acquisitions in selected markets.

Materials businesses, particularly cement and lime activities, are the larger energy users in the CRH Group. Carbon emissions from energy use and from decarbonation bring about a focus on emission reduction, improving energy efficiency and increasing the use of alternative fuels and biofuels throughout the materials businesses.

The production of lower carbon cements is a priority.

In addition, alternative technologies, such as warm mix asphalt (WMA) production, are being progressed. The use of alternative materials, waste management and recycling represent significant business opportunities and in addition contribute to efficiencies in resource use.

With large land holdings around quarries and pits, through appropriate site management, materials businesses can have a positive impact on biodiversity, both during normal operations and in restoration of worked out quarries and pits. Working with the local community is thus also a focus for materials businesses.

1. Materials: The "Cotrans 8", a 1,000 tonne capacity barge, sustainably delivering gravel to Cementbouw's Zouterwoude readymixed concrete plant in western Netherlands.



2. Products: A crane places a concrete pipe as part of the Weber River Outfall Project in Utah, US one of the many sustainable water management projects to which Oldcastle Precast supplied precast concrete structures.



3. Distribution: Bauking, CRH's leading distribution brand in Germany, provides a range of sustainable products and utilises a transport optimisation system for product delivery.



# Sustainability across a Diversified Business

**CRH's successful business model combines excellence in health & safety, environment & climate change, governance, people and community aspects.**

## Products

CRH manufactures products for use in residential, non-residential and infrastructure construction applications. These include building systems and engineered concrete solutions for use in the electrical, transportation, and communications industries; architectural concrete products to enhance the façades and surroundings of buildings; and construction accessories to assist in the construction process. Complementary value-added exterior products include architectural glass, aluminium glazing systems, clay brick and block, and entrance control products. Focused on growth opportunities in stable markets, these businesses offer customers a broad range of engineered products and innovative building solutions to service both new build and the growing repair and maintenance demand in mature economies.

Improving energy efficiency is a key focus for brick and concrete operations. Recycling, both of internal by-product and externally sourced secondary materials, is being progressed. Products with environmental applications have been developed and many are suitable for use in climate change mitigation and adaptation.

## Distribution

CRH distributes building materials to general building contractors and DIY customers in Europe and to professional roofing/siding and interior products contractors in the United States. The business model centres on building an extensive network of locations that penetrate major metropolitan areas, which together with well-recognised brands and strong logistics management, maximise the franchise potential. With a network of close to 760 branches in Europe and approximately 190 branches in the United States, CRH is a leading international player in building materials distribution with exposure to the growing RMI markets in Europe and the United States.

CRH's distribution businesses put the customer first and deliver products and services desired by and of benefit to the consumer. The businesses manage their direct potential impacts by focusing on energy efficiency, transportation efficiencies and recycling. Distribution businesses are increasingly promoting environmentally-driven products in the marketplace.

## Annualised Production Volumes

MATERIALS	PRODUCTS	DISTRIBUTION
Cement 15.6 million tonnes	Precast, Pipe & Prestressed Concrete 8.3 million tonnes	Builders' Merchants 522 branches
Aggregates 169.8 million tonnes	Architectural Concrete 13.4 million tonnes	DIY 241 stores
Asphalt 42.3 million tonnes	Clay 2.9 million tonnes	Exterior Products 142 branches
Readymixed Concrete 16.1 million cubic metres	Fencing and Security 13.5 million lineal metres	Interior Products 50 branches
Lime 1.0 million tonnes	Construction Accessories 22.7k tonnes	
Concrete Products 6.0 million tonnes	BuildingEnvelope™ 8.4 million square metres glass, 17.7k tonnes aluminium	

Note: These annualised production volumes include subsidiaries and joint ventures on a percentage shareholding basis. CRH's share of cement (c. 8.9m tonnes) and readymixed concrete (c. 0.7m tonnes) attributable to associates Uniland in Spain (26%), Mashav in Israel (25%) and Yatai Building Materials in China (26%) are excluded.

## Organisation Structure

**Experienced operational management is given a high degree of individual autonomy and responsibility.**

CRH is organised on a federal basis and there is strong management commitment to both the local company and to the CRH Group, supported by best practice and operational excellence teams that share experience and know-how across products and regions.

This dual citizenship motivates local entrepreneurship, while maintaining and benefiting from Group synergies. Experienced operational management is given a high degree of individual autonomy and responsibility to accommodate national and cultural needs and to leverage local market knowledge, consistent with key centrally defined policies and requirements.

CRH plc is the parent company of an international group of businesses which are organised into six business segments; Europe Materials, Europe Products, Europe Distribution, Americas Materials, Americas Products and Americas Distribution, as illustrated in the organisation chart below.

Guidance, support, functional expertise and control are provided as appropriate by lean

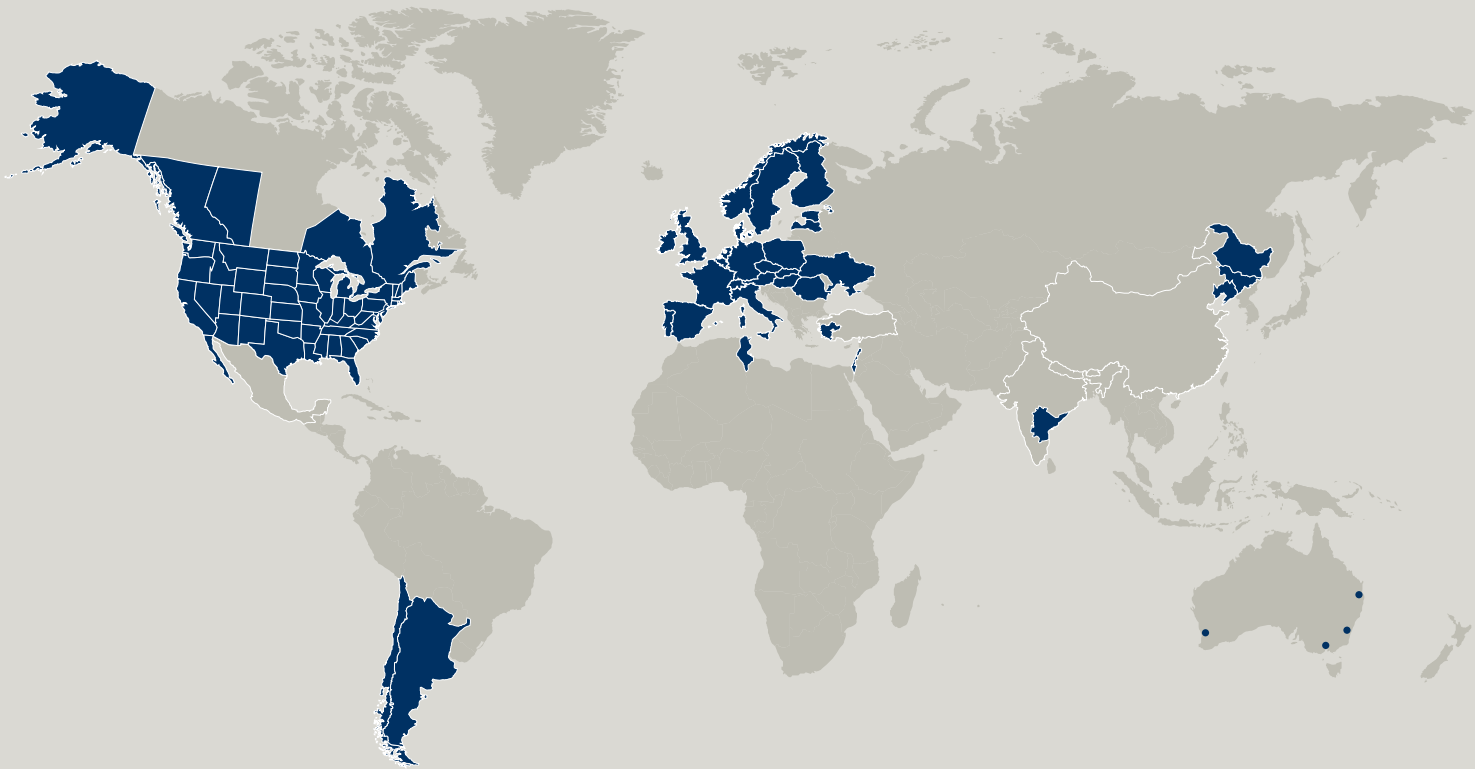
Group headquarter teams in areas including finance, risk management, human resources, investor relations and sustainability.

Policies related to sustainability and CSR are defined at Group level and implemented systematically in each of the six business segments by line management, assisted by safety officers, environmental liaison officers and human resource managers in the operating companies. Group sustainability performance is monitored and reported at business level and also centrally by the Group Sustainability Manager and a small support team.

CRH is incorporated and domiciled in the Republic of Ireland and is a public limited company operating under the Companies Acts of Ireland 1963-2009 and the Investment Funds, Companies and Miscellaneous Provisions Act 2006, each as amended. CRH shares are listed on the London Stock Exchange (primary listing since November 2011) Irish Stock Exchange and on the New York Stock Exchange (NYSE) in the form of American Depositary Receipts (ADRs). CRH is a constituent of the FTSE 100 Index.



## Responsible International Leader



### United States

No. 1 Asphalt  
No. 3 Aggregates  
Top 3 Readymixed concrete  
No. 1 Concrete products  
No. 2 Construction accessories  
Top 3 Roofing/siding distributor

### Europe

Top 10 Cement  
Regional leadership in aggregates and readymixed concrete  
No. 1 Concrete Products  
No. 1 Construction accessories  
Top 3 Building materials distributor

### Developing Economies

No. 1 Building Materials in Poland  
No. 1 Cement in northeast China  
(26% CRH share)  
No. 2 Cement in Andhra Pradesh,  
India (50% CRH share)

## Performance 2011

**The positive profit outcome for 2011 demonstrates the advantages of CRH's product and sectoral end-use balance and the benefits of the extensive restructuring measures implemented in response to the challenging markets of recent years.**

CRH has a proven record of superior performance and strong Total Shareholder Return. However, the global financial and economic crisis continued to impact trading conditions in CRH's main markets during 2011. Against this background the Group recorded a profit before tax of €711 million and earnings per share of 82.6c after restructuring and impairment costs. The profit and earnings per share outturns represent increases of 33% and 35% on 2010 levels and are regarded by CRH as a good result in the prevailing circumstances.

Trading in the early months of 2011 benefited from a much more favourable weather backdrop than at the start of 2010. With increased strains in financial markets, the pace of underlying growth, particularly in core Eurozone markets, slowed through the third quarter while heavy September rainfall in parts of the United States also had an adverse impact. A strong finish to the year, with mild November/December weather conditions, resulted in an overall sales increase for the year.

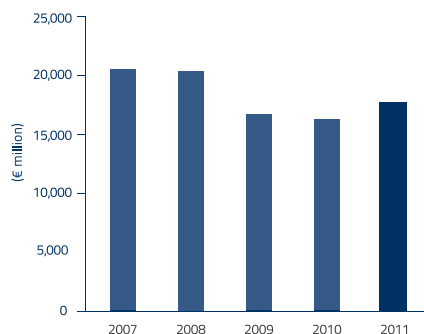
Earnings before Interest, Tax, Depreciation and Amortization (EBITDA) amounted to €1,656 million, a €41 million increase on the €1,615 million reported for 2010. EBITDA is stated after charging costs of €61 million (2010: €100 million) associated with the Group's

ongoing restructuring initiatives. The market capitalisation of CRH as of 31 December 2011 was €11.0 billion.

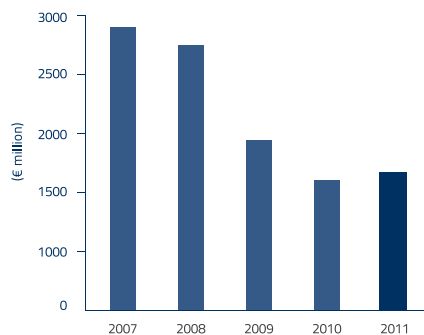
The ongoing cost reduction initiatives delivered incremental savings of €154 million in 2011, bringing cumulative annualised savings under the cost reduction programme to approximately €2 billion since 2007, of which over 40% is permanent in nature. CRH continues to seek opportunities to generate sustainable savings, which will improve its operational performance and enhance its competitive position in the light of current market conditions.

During 2011, CRH's ongoing proactive approach to portfolio review was reflected in the completion of a number of business divestments. These, combined with the ongoing disposal of surplus land, plant and equipment, generated total proceeds from disposals of almost €0.5 billion. The Insulation and Climate Control divestments were completed in the first half of 2011, as was the disposal of the 35% associate investment in the Trialis distribution business in France. Also, in September 2011, CRH sold Premier Periclase, the seawater magnesia operation in Ireland. These divestments were in areas which were considered to be non-core businesses for CRH, or where there was limited potential for market leadership positions.

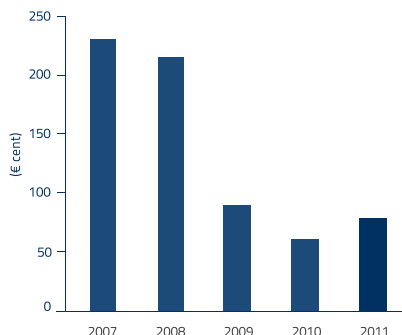
### Sales



### EBITDA

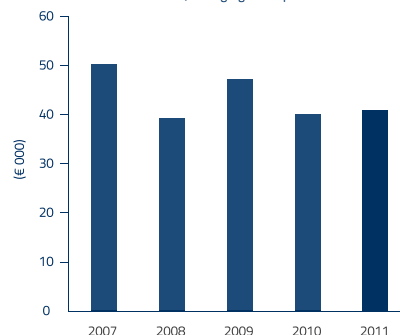


### Earnings per share



### Total Shareholder Return

Total Shareholder Return calculated at each period end on an initial €100 investment in 1970. (Averaging 15.8% per annum since 1970).



## Recent Development Activity

**CRH continues its rigorous approach to acquisition evaluation. Companies joining the CRH Group as subsidiaries are integrated into health & safety, environmental, social and Code of Business Conduct reporting systems, together with CRH governance systems.**

All potential acquisitions are carefully examined for material Sustainability and Corporate Social Responsibility issues and matters that may affect both the valuation of the purchase and the reputation of the Group.

For acquisitions in developing economies, due diligence also covers human rights and other ethical issues.

In acquisitions where CRH does not have full management control, the Group encourages its partners to introduce similar compliance and reporting systems.

Total development spend in 2011 amounted to €610 million. This included acquisitions in all six operating segments, strengthening existing market positions and adding valuable and well-located aggregate reserves.

VVM Group which was acquired in August, added two cement grinding mills in Belgium with a combined capacity of 1.5 million tonnes in addition to two readymixed concrete plants in Belgium and France. VVM uses significant quantities of alternative material in the production of its eco-efficient cements, as described on page 33 of this report.

In the Ukraine, two transactions were completed which enhance CRH's market presence when combined with the recently commissioned energy-efficient cement plant at Podilsky Cement in western Ukraine.

The Europe Materials division also invested further in northeastern China through the 26% holding in Yatai Building Materials.

Americas Materials invested approximately US\$0.3 billion on 19 transactions which added over 0.5 billion tonnes of long-term reserves and expanded its geographic footprint across 15 states.

Europe Distribution continued the build-out of its Sanitary Heating and Plumbing (SHAP) activities in Belgium, doubling to 20 the number of stores operated.

Americas Distribution was also active in adding to its branch network, particularly its exterior products segment. This included the acquisition of a 15-branch exterior products distributor in the Northern Plains region with branches in Minnesota, Wisconsin, the Dakotas and Nebraska.

1. In September 2011, CRH acquired Central Supply, which operates six readymixed concrete plants, a concrete block plant and five building supply stores in northern West Virginia, USA.



2. Schrauwen, which has 8 Sanitary, Heating and Plumbing (SHAP) distribution locations in Belgium, was acquired by CRH in December 2011.



## Communications

**CRH maintains an open door policy on stakeholder engagement and communicates regularly with all stakeholder groups on a broad range of issues, including its sustainability commitments and performance.**

CRH attaches great importance to its communications with all stakeholders. The company welcomes enquiries from those interested in increasing their knowledge of CRH and its activities.

Stakeholders are identified as including employees, shareholders, the investment community, socially responsible investment rating agencies, legislative and regulatory authorities, industry peers, government representatives, contractors, customers and suppliers, as well as neighbours, local NGOs and community groups.

CRH and its companies engage as appropriate with relevant associations and individuals. At company level, CRH is in regular dialogue with customers, suppliers, neighbours and local communities.

Communications with legislative and regulatory authorities are handled at company and regional level as appropriate. In addition, company representatives maintain a range of contacts with educational institutions, particularly universities, throughout the countries in which CRH companies operate.

At Group level, CRH engages with shareholders and the investment community, third-party survey and assessment organisations and other interested parties. In 2011 key topics discussed were: CRH's performance in the context of the current global economic environment, cost reduction programmes and sustainability policy implementation.

Communications with shareholders and the investment community are promoted through the Investor Relations (IR) team, based at Group headquarters at Belgard Castle. The quality and openness of CRH's IR activities has been highly acclaimed and CRH has won many awards for the quality of its communications with the investment community. IR data is downloadable from the CRH website ([www.crh.com](http://www.crh.com)), which has been specifically designed with the investor in mind and which offers an automatic alert facility.

The Community section of this Report provides examples of the many ways in which CRH and its companies engage with stakeholders at many levels of the organisation with the overall aim of being a good neighbour in the many communities in which CRH companies operate.

1. Mary McAleese, President of Ireland, visited the Northstone Farrans Skainos construction site, Belfast, Northern Ireland, in Summer 2011. The €24 million urban regeneration project includes social and affordable housing, retail and commercial space, a day nursery, café and church.



2. As part of a Cement Sustainability Initiative tour of European Cement Plants by representatives from Chinese member companies, Jura Cement hosted the delegation at its Wildeggen cement plant in Switzerland. Markus Bollinger (Production Manager) explains the use of alternative fuels to members of the Chinese delegation.



## Communications

Internal communications make a valuable contribution to CRH's success in the competitive environment of the building materials industry. Divisions, regions and product groups have strong traditions of regular and open communication.

The employee voice within CRH is heard directly through a variety of representative structures depending on the business or country concerned. Mechanisms exist throughout the Group for informing and consulting employees on matters impacting on them directly and on the businesses in which they work.

In the European Union, the CRH Euroforum (in compliance with the European Works Council Directive) provides a regular opportunity for employee representatives to discuss a wide range of business and social issues, including sustainability strategies, with company management.

In 2011, approximately 88% of all Group companies held regular formal employee briefings. In addition, smaller companies provided information on a more informal basis. This reflects the ongoing open dialogue across the organisation.

The CRH internal newsletter "Contact" is produced annually in ten languages from articles submitted by individuals and companies throughout the Group. Additionally, 40% of companies have their own newsletters with many opting for electronic newsletters, which can be disseminated more rapidly and efficiently.

The CRH Group website and extensive internal intranet provides an effective means of information sharing, learning and communication on a variety of subjects including health & safety, technical best practice, sustainability, business ethics and other areas.

1. Participants at the Annual Euroforum, where a wide range of business and social issues were discussed by employee representatives from European countries and CRH company management.





Employees at Tilcon's Mount Hope Facility, New Jersey, USA, working with the recently purchased portable skid mounted fall protection system, which provides a solution for areas that require temporary fall protection.

# Health & Safety

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The health and safety of those working for CRH continues to receive the highest priority across all operations globally. This section describes CRH's Health & Safety Policy and how it is implemented throughout the Group. The Fatality Elimination Plan, with a target of zero fatalities, is a key objective. The annual review process is described and the results for 2011 are summarised.

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**20** Annual Review Process  
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## Health & Safety Policy

### Implementation

Health and safety management is a daily priority of line management in every CRH company and location. This line responsibility continues up to Divisional Managing Director, the Chief Operating Officer, the Chief Executive Officer and ultimately to CRH Board level. Line managers are supported at operating company level by a network of Safety Officers. These Safety Officers assist the line managers in developing safety management and improving safety performance. They work closely with other Safety Officers, as well as the Group Sustainability Manager and his team.

Line management is responsible for ensuring that the CRH Health & Safety Policy is strictly adhered to and that site managers and employees understand health and safety risk analysis and accident prevention principles.

Contractor management also receives high priority. CRH's experience indicates that contractors have a higher risk of fatalities than employees. Contractor safety performance evaluations and management procedures are, therefore, being progressively strengthened.

During the year, CRH intensified its efforts to eliminate fatalities from all operations, and introduced enhanced procedures to ensure that circumstances surrounding such events are promptly identified, and that lessons learned are communicated throughout the Group as a matter of urgency. The elimination of fatalities remains a key objective across CRH.

### Policy

CRH's Health & Safety Policy, applied rigorously across all Group companies, is to:

- Comply, at a minimum, with all applicable legislation and continually improve our health & safety stewardship towards industry best practice.
- Ensure that our employees and contractors respect the Group's health & safety guidelines.
- Ensure that our companies provide a healthy and safe work place for all our employees and contractors and take due care of customers and visitors at our locations.
- Require all our employees and contractors to work in a safe manner as mandated by law and industry best practice.

1. CRH Europe Materials launched its Contractor Safety Campaign for Finland at the Rudus safety park in Espoo.



## Annual Review Process

**This review process ensures a culture of continuous improvement in safety performance at all Group companies.**

At each year-end, Safety Officers across the Group together with the Group Sustainability Manager and his team carry out a detailed assessment of health and safety performance. Every Group company completes and submits a detailed health & safety questionnaire by mid-January each year and by the end of March a comprehensive report is reviewed by the CRH Board.

The annual review process has developed significantly over the last number of years. An on-line questionnaire system, which makes the reporting process more efficient, was developed and rolled out across the Group. Many companies can now submit their data directly from their own online systems.

The year-end review addresses key areas including:

- Implementation of CRH's safety policy.
- Analysis of all fatalities focusing on direct and root causes.
- Implementation of the Fatality Elimination Plan.
- Analysis of all lost time injuries focusing on trends in root cause, injury type and employed person's profile.
- Safety management relating to employees and contractors, including use of personal protective equipment, recording of near misses, minor injuries and recordable incidents, frequency of safety meetings, hours of safety training, use of disciplinary measures and incentives to reduce accidents.
- Details relating to internal and external safety audits and risk assessments.
- Workplace hygiene and employee health management.

The results of this review are fed back to operating companies through the network of Safety Officers and through safety best practice groups during the year. The 2011 review confirmed that all CRH locations have appropriate safety management systems in place.

In addition to these internal checks, during 2011, 79% of CRH locations were formally audited in respect of health and safety. The data below demonstrates the progress being achieved on several safety management indicators.

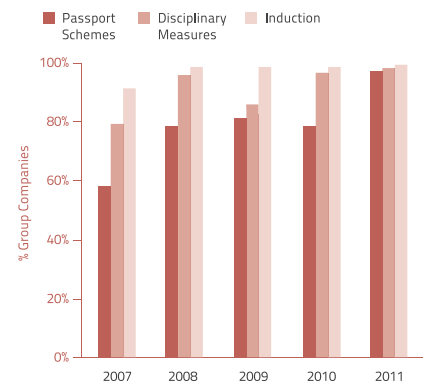
### Safety Management



### Employee Safety Management



### Contractor Safety Management



## Safety Record

**The Accident Frequency and Severity Rates are at historic lows, down 12% on the previous year.**

### Accidents

The 2011 review demonstrated further improvement in safety management and practice across the Group with a further 10% reduction on the number of accidents across the Group. The 2011 Accident Frequency Rate (combining both employees and contractors) improved to 3.0 lost time accidents per million manhours, down 12% on the 2010 figure. The Accident Severity Rate improved to 67 lost working days per million manhours again down 12% on the 2010 figure.

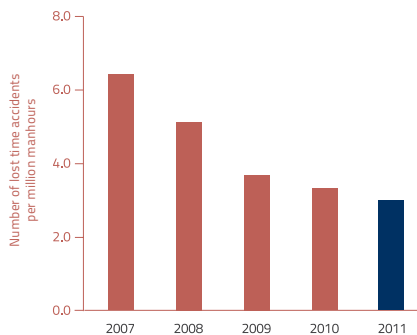
Over the last decade, Group Accident Frequency and Severity Rates have been reduced by an average of 14% and 12% respectively per annum, a significant improvement over the period. There is a particular focus on bringing acquisitions up to Group safety standards, and while most of the 2011 acquisitions already had good safety performance, this remains a particular challenge where CRH does not have full management control.

Some 87% of CRH active locations were accident-free in 2011. CRH continuously strives to improve this figure through ongoing intensive safety management, training and sharing of safety best practice. Operations with poorer safety performance continue to be subject to intense management focus for improvement.

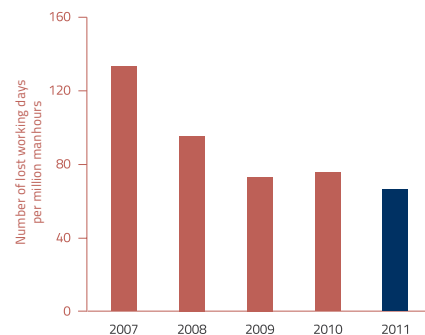
The Accident Frequency Rate for joint ventures and associates, where CRH does not have full management control, (if counted on a 100% basis) was 4.4 and the Severity Rate was 130, reflecting a generally poorer performance than subsidiaries.

Safety best practice is also actively shared on an industry-wide basis through the CSI Health & Safety Task Force. All CSI Members are strongly committed to improving the safety performance of the industry, with specific initiatives currently being rolled out relating to mobile plant and contractor safety management.

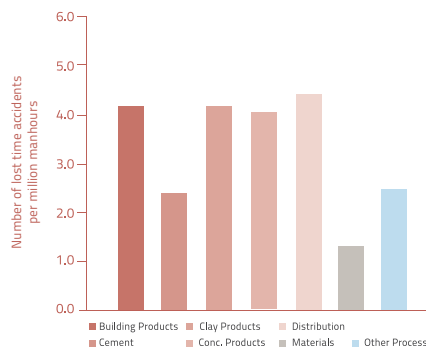
### Group Frequency Rate



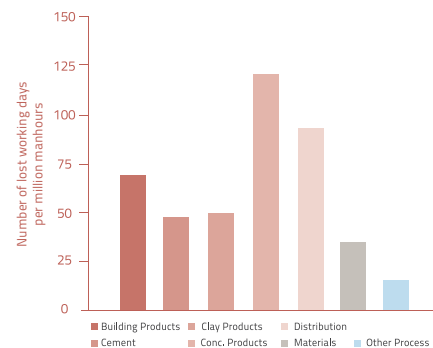
### Group Severity Rate



### Frequency Rate by Activity



### Severity Rate by Activity



Note: All Frequency and Severity Rates quoted here are on a million manhour basis, in accordance with CSI definitions. Internally, CRH continues to use a 100,000 manhour basis, the corresponding rates being of lower magnitude by a factor of ten.

## Safety Record

### Accident Causes

Each year, CRH extensively analyses all accidents by direct cause, root cause and type of injury and also age, length of service and job category of those injured, in order to better structure training and accident prevention programmes.

The data from 2011 indicated that the three main accident causes continued to be falling and moving objects, slips, trips and falls on the same level and lifting or overload. The most frequent injuries were to the legs, feet, arms and hands. Trends in 2011 were similar to previous years. In 2011 accident prevention measures continued to include focused training programmes, toolbox talks and safety awareness programmes such as safety meetings with employees together with the circulation of safety alerts. Detailed analysis of near misses and incidents are carried out to further enhance risk awareness. A continued focus remains to progress initiatives on risk assessment, lock out tag out / isolation, transportation safety and contractor safety.

### Fatalities

Despite the very considerable focus on safety, CRH deeply regrets that there were 7 fatalities (4 employees and 3 contractors) in 2011 across subsidiaries in Ukraine (2), the Netherlands (2) and the United States (3).

These fatalities correspond to Fatality Rates

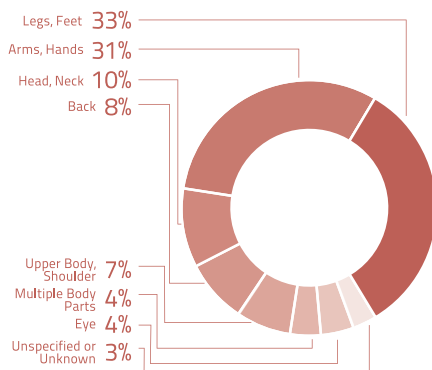
(number of Fatalities per 10,000 employed) of 0.53 (0.28 in 2010) for employees and 2.92 (3.90 in 2010) for contractors, equivalent to 0.82 (0.74 in 2010) on a combined basis. There were no third-party fatalities reported in 2011.

In addition to the figures reported for subsidiary companies CRH also deeply regrets to report 6 fatalities in joint venture and associated companies, (1 employee and 5 contractors) in India (2) Israel (2), Tunisia and the United States CRH strives to ensure that all joint ventures and associates adopt the Group's strong commitment to effective safety management.

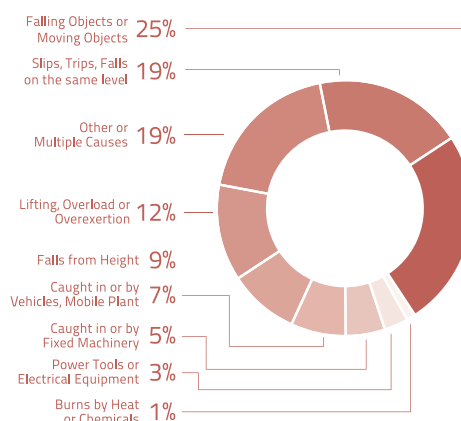
Zero fatalities is the only acceptable figure and the Group wide Fatality Elimination Plan is being rigorously pursued.

Fatalities over the last decade have been thoroughly examined. During 2011 a specific protocol was developed and rolled out across the Group for the implementation of fatality elimination actions. Over the decade the three main causes of fatalities have been identified as mobile plant movements, failures by individuals to abide by established plant isolation (Lock Out/ Tag Out) procedures and falls from height. The examination has also highlighted the higher risk of contractors being involved in fatal accidents.

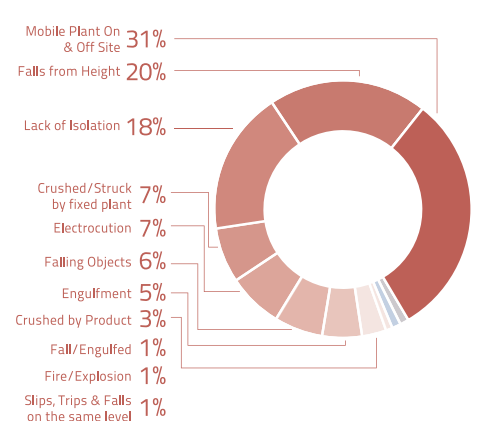
Accidents by Injury Type 2011



Accidents by Cause 2011



Fatalities by Cause 2002-2011



## Safety Management

**Safety is a core value and is the responsibility of all working in CRH.**

Companies throughout the Group have extensive safety management systems in place. These systems cover all aspects of health and safety and incorporate comprehensive safety procedures and risk assessment. These systems also ensure that safety induction programmes are in place for new employees, that employee participation in safety is facilitated through safety meetings, that accidents & near misses are investigated with follow up actions implemented and that safety alerts are circulated. Safety management is coordinated throughout the Group by the network of Company Safety Officers.

Regular safety meetings with employees took place at all companies during 2011. In addition, independent of normal training and operational meetings, 59% of all Group employees were involved either directly or indirectly in formal joint management/worker safety dialogue in 2011.

Safety improvement forms an integral part of discussions with trade unions at local company level where applicable. Employees are involved in safety through active participation in safety meetings both formal and informal.

Training of CRH employees at all levels throughout the Group is an essential element

to the safety management system and to developing competency. Training programmes are focused and presented in a concise and understandable manner. Over the last three years employees at CRH have received, on average, 41 hours training specifically on health and safety. In many companies safety performance is incentivised, while any safety negligence identified is subject to disciplinary action. Internal safety award schemes are operated on a Divisional basis across the Group. Many companies have received external awards and these are outlined on page 69. These recognition schemes promote excellence in safety performance and support the sharing of best practice.

Driver training also receives high priority. Specific training programs have been developed across the group in addition to the implementation of the industry developed CSI guidelines on driver safety. Technical improvements to increase driver safety awareness have also been introduced.

There is a strong focus on the integration of the CRH safety management culture into acquisitions as rapidly as is possible. This can present significant challenges in countries and regions that traditionally have a poor safety culture, but CRH remains fully committed to this policy.

1. Employees involved in safety discussions during an internal safety audit at Staker Parson, Utah, USA.



2. Employees at Oldcastle BuildingEnvelope's Mississauga, Ontario, Canada location celebrate 1,000 days without an accident in 2011.



## Safety Management

**Contractor safety is of the utmost importance and there are extensive contractor management systems in place.**

### Contractors

Contractor pre-qualification systems are in place for vetting the safety record of contractors before selection. In addition Contractor safety inductions and formalised evaluation and disciplinary procedures are also in place across the Group. Companies throughout the Group are also implementing the Recommended Good Practice Guidelines for Contractor Safety developed by the CSI.

CRH strives to promote its safety philosophy across all joint ventures and associates although challenges remain where the Group does not have direct responsibility for safety management. In most cases CRH partners actively embrace Group safety policy, report safety data and willingly participate in CRH best practice activities.

In 2011, CRH companies incurred several minor fines totalling €204k with over three quarters of these occurring in the United States, mostly resulting from OSHA and MSHA inspections. All deficiencies notified have been rectified.

CRH has invested approximately €130 million over the last five years on upgrades on all aspects of health and safety across the Group. The level of spending underlines a dedication to improvements in safety, ergonomics, and general workplace conditions.

### Employee Health

The 2011 review captures extensive data on employee health and well-being and indicates that workplace hygiene monitoring is taking place across the Group in accordance with local and national requirements as appropriate.

There was a very low incidence of occupational illness claims recorded in Group companies in 2011, indicating a positive position in occupational health across the Group.

In the EU, relevant companies participate in the European Social Dialogue Agreement (ESDA) on respirable crystalline silica exposure. Where necessary, CRH companies have also actively planned upgrades to comply with developing legislative requirements.

Furthermore, 60% of Group companies provide well-being programmes for their employees. These typically include smoking cessation, weight control, vaccinations and drug and alcohol rehabilitation programmes. In addition, 72% of Group companies offer assistance on employee health insurance.

1. The Europe Materials Contractor Safety Campaign is being implemented through a variety of initiatives including practical on-site training sessions such as this, at Beton Catalan's Montcada plant Barcelona, Spain.



2. The Free Mega Health Camp arranged by My Home Industries, Mellacheruvu, India, was attended by 350 people. Health care is one of seven areas on which the Company targets its sustainability and CSR activities.



## Case Study

# Fatality Elimination

### The Fatality Elimination Plan is fully embedded in day to day operations across the CRH Group.

There continues to be a relentless focus on fatality prevention at Group, Divisional and Company level following the introduction of the CRH Fatality Elimination Plan in July 2009. The plan is a Group-wide initiative aimed at eliminating fatalities from operations. It is based on the implementation of 11 Fundamentals for Fatality Elimination relevant to Group operations, which are mandatory across the Group.

The Fundamentals for Fatality Elimination were developed to target the identified causes of fatalities, which have been shown to be different to the causes of accidents. This focus has continued since the launch of the Plan.

Each Division has developed specific programmes focusing on the 11 Fundamentals and during 2011 further initiatives have been developed across the Group. These have encompassed company led initiatives and complete programmes implemented across individual Divisions. The Fundamentals are

on the top of the agenda at every operational meeting across the Group.

Auditing of the implementation of the Fatality Fundamentals is ongoing and audits were completed across all Divisions in accordance with an agreed Plan in 2011. The audit process has been very positive and has assisted in maintaining focus on the Fundamentals and has further enhanced sharing of specific safety best practice throughout the Group. The audits carried out to date indicate a high level of Plan implementation across the Group and significant management attention on a daily basis. Deficiencies identified during the audit process are addressed by local management and implementation of improvements reinforced through follow up audits or inspections.

A Group-wide Fundamental Safety Alert continues to be distributed every month through the Divisional Safety Directors to supplement ongoing initiatives within the four Divisions.



Europe Products & Distribution launched a Division wide Mobile Plant initiative in 2011. This initiative complemented the existing mobile plant safety programmes already in place but brought a specific focus on mobile plant and pedestrian segregation. As part of this initiative a comprehensive training programme was developed. A Training DVD was produced in 13 different languages and distributed to all locations within the Division. The DVD contained specific modules for drivers and pedestrians. It demonstrated the restricted vision drivers of fork trucks and other larger vehicles have and showed how pedestrians are often not visible to the drivers. This message was re-enforced through practical examples. The programme is being shared within safety best practice across the CRH Group. (Photo taken at Ibstock Brick, Dorket Head, UK).

## Safety Initiatives

**Throughout 2011 all CRH Divisions continued to expand and develop the existing safety systems with extensive programmes and initiatives.**

### Eliminating Fatalities

During 2011 the CRH Group continued to strengthen the existing safety systems with the aim of achieving world class performance in all areas of safety. These safety management initiatives and programmes were rolled out through a combination of top down centralised Divisional initiatives and tailored company or product group programmes.

### Risk Assessment

Extensive risk assessment systems are in place throughout the Group. These robust systems were further enhanced with individual companies or regions adapting their systems to include the following: Cross functional audit and risk assessment teams, work groups and extension of safety advocacy groups. Many companies continued to promote and expand active safety committees with employees been encouraged to participate in "Local Area Risk Assessment" (LARA).

### Lock out tag out (LOTO) / Isolation

In 2011 all companies in the Group continued to focus on LOTO / Isolation systems. Stand downs, were a feature for certain companies in 2011 with operations being temporarily suspended and employees attending short training sessions to discuss LOTO / Isolation at their work location. A protocol of inspections

and testing of the isolation systems including interlocks, with senior management sign off, was implemented in particular business units.

### Transportation

Several transport initiatives have been rolled out across CRH in 2011. Companies have focused on vehicle pedestrian segregation, with various Divisions producing DVDs on mobile plant safety including fork lift truck operation and pedestrian / mobile plant separation. A GPS driver monitoring system has been installed or trialled in company vehicles across Europe and the United States. These devices track the vehicle, record how safely the driver is driving and can also alert the driver or management to unsafe behaviours.

### Contractor Guidelines

In 2011 Contractor Safety Initiatives were developed and rolled out in Europe and the United States. In Europe the initiative involved a top down senior management led review of all contractor activities. The initiative was also supported by a comprehensive information pack which contained training material including DVDs. In the United States a comprehensive Contractor Guidance document was developed and rolled out to every company with implementation set as a priority.

1. Tilcon Connecticut, USA, keeps the focus on Fatality Elimination on a daily basis, promoting the philosophy in many ways, such as these sweatshirts featuring Fundamentals graphics.



2. Noise-reducing systems, developed by an employee working group, have eliminated the need for ear protectors in the bagging plant at Oldcastle Lawn & Garden, Quakertown, Pennsylvania, USA.





Irish Cement implements a Biodiversity Management Plan at its Limerick Cement plant in Ireland. The Plant is adjacent to the flooded Bunlicky Clay Pit, now a proposed Natural Heritage Area, protected for its biodiversity.

# Environment & Climate Change

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CRH is committed to the highest standards of environmental management in all its activities and is proactively addressing the challenges of climate change. This section describes the Group's Environmental Policy and how it is implemented. It also describes how environmental performance is systematically reviewed and reported each year. CRH's responses to the challenges of climate change in cement and other activities are addressed and detailed environmental performance data from across the Group is presented and reviewed.

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33	Climate Change: Reduction Commitment	43	Water Management
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38	Climate Change: Energy Use and Efficiency		

## Environmental Policy

**CRH continues to focus on achieving the highest standards of environmental management and control.**

### Implementation

Company and plant managers throughout CRH are responsible for implementing the Environmental Policy and achieving its objectives. This line responsibility continues right up through company Managing Directors to Divisional Managing Directors, the Chief Operating Officer, the Chief Executive Officer and ultimately to the CRH Board.

Line managers in each Group company are assisted by a designated Environmental Liaison Officer (ELO). The ELOs are familiar with all relevant environmental legislation, and advise line managers how to achieve compliance and excellence in environmental management.

In each region, the ELOs network with each other and the Group Sustainability Manager and his team in the sharing of environmental best practice.

Acquisitions are systematically integrated into the ELO network as soon as is practicable.

Companies are required to have an appropriate environmental management system, the scope of which will depend on the type of operating activity concerned and the specific demands of the local permitting regime.

The total number of Group locations with ISO14001 certification is now 487 (461 in 2010) and 80% of CRH's subsidiary cement plants are also certified. It should be noted that ISO Environmental Certification is not common in industrial operations in the United States.

An overview of the various environmental impacts associated with CRH activities is provided in the table below. All of these impact areas are addressed in the sections which follow.

### Policy

The CRH Environmental Policy, applied across all Group companies, is to:

- Comply, at a minimum, with all applicable environmental legislation and to continually improve our environmental stewardship towards industry best practice.
- Ensure that our employees and contractors respect their environmental responsibilities.
- Proactively address the challenges and opportunities of climate change.
- Optimise our use of energy and all resources.
- Promote environmentally-driven product and process innovation and new business opportunities.
- Be good neighbours in every community in which we operate.

ENVIRONMENTAL IMPACTS BY ACTIVITY	CLIMATE CHANGE/CO <sub>2</sub>	OTHER AIR EMISSIONS	WATER	WASTE	REINSTATEMENT	BIODIVERSITY	TRANSPORT
Cement	■	■	■	■	■	■	■
Other Process	■	■	■	■	■	■	■
Materials	■	■	■	■	■	■	■
Concrete Products	■		■	■			■
Clay Products	■	■	■	■	■	■	■
Building Products	■			■			■
Distribution	■			■			■

## Annual Review Process

**The 2011 review confirmed that there was excellent environmental compliance.**

1. Roadstone Wood Environmental Manager, Colin Doyle with the Quality and Technical Manager, Diarmuid Mc Carthy, carrying out an environmental audit at Belgard Asphalt plant, Dublin, Ireland. Roadstone Wood runs a countrywide series of internal audits at all locations, encompassing its ISO 9001 Quality Management System, IS EN 16001 Energy Management System and IS EN 13108 Factory Production Control.
2. Oldcastle, the parent company for CRH's operations in the USA, has a cross-product group Environmental Committee which aims to enhance Sustainability programmes through sharing of information and determination of best practices in key areas such as energy efficiency, emission reduction, recycling and waste management.

At each year-end, the ELOs together with the Group Sustainability Manager and his team carry out a detailed assessment of environmental performance in all Group companies. Every Group company is required to complete and submit a detailed environmental questionnaire by mid-January, and by end-March a comprehensive report is reviewed by the CRH Board. The review process also annually updates CRH's environmental database. Acquisitions are systematically introduced to the process to ensure that all subsidiaries are covered each year. Most joint ventures and associates also actively participate in the review process.

The information from this environmental review has been used to provide the environmental performance information in this Report. The pages that follow summarise the key 2011 data and compare performance with that in previous years. The year-end review encompasses the following key areas:

- Compliance with Group environmental policy, local regulations and national legislation.
- Environmental audits and certification.
- Environmental upgrades and improvements.
- Mitigating climate change and minimising energy and fuel usage.
- Improving air quality.
- Water and waste management.
- Recycling activities.
- Biodiversity and restoration activities.
- Environmentally-driven product developments and opportunities.

- Local stakeholder and community engagement.

As part of this process, any compliance deficiencies are actively addressed and resolved. Fines from regulatory authorities in 2011 amounted to €97k. These fines related to relatively minor issues and none of the non-compliances caused significant environmental impact. In addition, 83 Group companies were satisfactorily externally audited during 2011.

The environmental review process ensures environmental risks are being managed appropriately. There were no significant fuel spills and unprotected underground fuel storage tanks continue to be phased out in accordance with Group policy. The small number of locations with electrical equipment containing polychlorinated biphenyls (PCBs) and with a potential for Legionnaire's disease are being well managed. Audits of all locations for asbestos containing material (ACM) are progressing well with identified risks being managed appropriately.

No new significant risks of an environmental nature, which have not already been previously well documented, have been identified. Sites with historical contamination or landfill issues are well understood and are being managed as appropriate.



## Environmental Investment

**€53m**  
invested in  
environmental  
improvement  
processes.

As part of its continuous environmental improvement process, CRH regularly invests in processes which improve performance or that offer innovation opportunities. In 2011, CRH invested €53m (excluding major cement plant capital expenditure), an increase on 2010, in a wide range of environmental projects and upgrades that encompassed all the Group's activities and countries of operation. This figure includes investment in specific environmental projects and an appropriate proportion of expenditure on other major investment projects. This level of expenditure has been sustained over recent years to ensure CRH operates at industry best practice, despite the economic downturn.

The total environmental expenditure in 2011, excluding major cement plant capital expenditure, for CRH subsidiary companies and

joint ventures and associates, when included on an equity share basis, was €60m.

Significant areas of expenditure (with the associated % of the 2011 spend) were:

- Reduction in emissions to air (18%).
- Restoration, landscaping, paving and other location upgrades (4%).
- Reduction of water usage and discharges (11%).
- Improved waste reduction and management (25%).
- Energy reduction and process optimisation (5%).
- Increased use of alternative materials and fuels (9%).
- Monitoring and licensing (28%).

1. Jura Materials installed an aggregate recovery facility for returned readymixed concrete at Birmensdorf, Switzerland, resulting in improved waste reduction.
3. Douterloigne installed a noise barrier at its Beerse precast concrete plant in Belgium, resulting in reduction of environmental noise.

2. Oldcastle BuildingEnvelope has an energy-efficient lighting upgrade programme. Shown is the Wausau Metals facility in Wisconsin, USA.
4. At Central Pre-Mix's Yakima location, Washington, USA, a new readymixed concrete truck wash facility was installed, to reduce water usage and discharges.



## Climate Change: A Key Challenge for CRH

### CRH remains fully committed to addressing the challenges of climate change.

CRH recognises that climate change is a major challenge facing humanity and is committed to playing its part in developing practical solutions at national, regional and global level. Like other responsible players in the building materials sector CRH is very actively addressing the challenges of climate change through specific CO<sub>2</sub> reduction programmes in its worldwide operations.

The majority of CRH Group CO<sub>2</sub> emissions arise from cement and lime production. In these processes, CO<sub>2</sub> arises both from the high temperature chemical decarbonation of the limestone raw material, and also from fuel combustion. Group CO<sub>2</sub> emissions also arise from the firing at high temperatures of clay and ceramic products, as well as from lightweight

aggregate production and from the drying and heating of raw materials in asphalt mixing plants. Minor CO<sub>2</sub> emissions arise from fuel use in other activities and from transport.

Climate change also presents opportunities for CRH. Group products are ideally suited to making a meaningful contribution to climate change mitigation (e.g. concrete thermal mass, lightweight aggregates) and adaptation (e.g. flood defence and stormwater systems) and are actively being promoted in this context.

The table below summarises some of CRH's many approaches towards reducing specific CO<sub>2</sub> emissions (CO<sub>2</sub> per tonne of product) in all of its activities.

### Addressing the Challenges of Climate Change

#### CEMENT

- Optimally operating cement plants.
- Reducing clinker factor by producing blended cements (low carbon "green" cements).
- Using alternative fuels where available and permitted.
- Reducing power consumption.
- Investing in new and replacement state-of-the-art plants.
- Research into new cement/concrete technologies.

#### OTHER PROCESS

- Lime – optimising existing plants and investing in new state-of-the-art plants.
- Lightweight aggregates – optimising plant operation.

#### MATERIALS

- Optimising quarrying, aggregates crushing and recycling activities.
- Optimising mix design in readymixed concrete.
- Using cementitious by-products where commercially available.
- Optimising asphalt mixing plant operations.
- Using recycled asphalt pavement (RAP) and alternative fuels.
- Pioneering warm mix asphalt technology.

#### TRANSPORT

- Optimising logistics and modes of transport.

#### CONCRETE PRODUCTS

- Optimising mix design in all products.
- Using the heat of reaction in curing.
- Using recycled materials where practicable.
- In precast products, pioneering the use of carbon-fibre reinforcement.

#### CLAY PRODUCTS

- Optimising plant operation and fuel usage.
- Using alternative fuels where available and permitted.
- Insulation of brick kilns to minimise heat loss.
- Progressively upgrading plants to latest technology.
- Introducing unfired bricks for certain indoor applications.

#### BUILDING PRODUCTS

- Developing innovative energy-saving solutions.

#### DISTRIBUTION

- Optimising product distribution logistics.
- Promoting environmentally-positive products.

## Climate Change: Reduction Commitment

**15%**  
reduction in  
cement  
specific CO<sub>2</sub>  
by 2015

As part of the implementation of its environmental policy and in line with its membership of the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development, CRH publicly committed, in 2007, to a 15% reduction in specific CO<sub>2</sub> cement plant emissions by 2015 compared with 1990.

The commitment covers the portfolio of plants under management control on 1st January 2007.

CRH is well on target to meet this commitment.

Excellent progress towards achieving this target reduction has been made and CRH is on-track to meeting its public commitment by the 2015 target date. The 2011 specific emissions (0.674t CO<sub>2</sub>/t cementitious product) were 10% lower than 1990 emissions (0.750t CO<sub>2</sub>/t cementitious product). This is on-track for the 2015 target (0.638t CO<sub>2</sub>/t cementitious product).

The reductions in specific emissions are being achieved through four parallel approaches:

- Major investments in modern kiln technology. New kilns at Lappeenranta in Finland, Platin in Ireland and Podilsky in Ukraine were commissioned in 2007, 2008 and 2011 respectively.
- A constant drive towards optimal operational efficiency in Group cement plants, such as minimising unplanned kiln stops and optimising energy consumption.
- Progressively reducing the clinker: cement ratio, through moving production towards

blended ("low carbon") cements.

- Increasing the use of alternative fuels of all types, which have a lower or zero carbon rating compared to primary fuels.

These approaches are implemented through CRH's operational excellence programmes where line management is specifically charged with achieving best possible performance from all cement plants.

The new dry process line at Podilsky cement plant in Ukraine, commissioned at the end of 2011, is making a significant contribution to sharply reducing specific CO<sub>2</sub> emissions further, as will the ongoing clinker: cement ratio reduction and alternative fuel programmes across the Group.

CRH is confident, that due to the many current plant upgrade investments and ongoing focus on energy management, specific CO<sub>2</sub> emissions in all activities will continue to reduce in the years ahead.

1. VVM manufactures cementitious products at its locations in Belgium using raw materials such as ground granulated blast furnace slag, fly ash and other alternative raw materials.



## Climate Change: Emissions

Total CRH direct CO<sub>2</sub> emissions (designated as Scope 1 under the Greenhouse Gas Protocol) from all wholly-owned subsidiaries amounted to 10.3m tonnes in 2011, compared with 9.8m tonnes emitted in 2010. The increase in 2011 is mainly due to increased production of cement clinker in some countries.

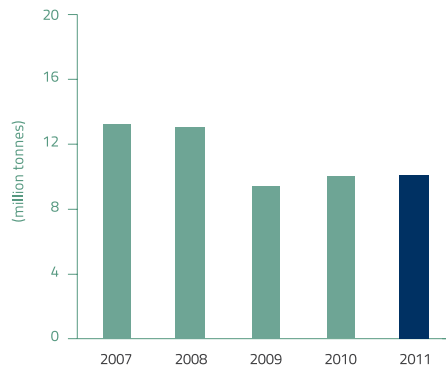
The breakdown of CO<sub>2</sub> emissions by activity was broadly similar to the previous year, as was the breakdown of CO<sub>2</sub> emissions by source. Cement accounted for 62% of direct Group emissions, which is reflected in the fact that decarbonation is the largest single source of direct CO<sub>2</sub> emissions in the Group. Specific CO<sub>2</sub> emissions (per tonne of product) are reported for cement activities only (including joint ventures and associates on a percentage shareholding basis) in accordance with CRH's CSI charter commitments on Page 71. Progress towards

meeting this commitment is addressed on page 33.

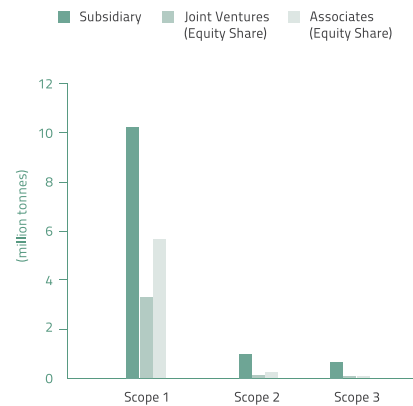
Scope 2 2011 CO<sub>2</sub> emissions, calculated on a total electrical energy usage of approximately 2.9TWh, are estimated to be in the order of 1.3m tonnes. Scope 3 emissions for contracted transport are estimated to be of the order of 0.9m tonnes.

As indicated above, this data relates to wholly-owned subsidiaries. If joint ventures and associates were included on a basis proportionate to CRH's shareholding, the combined Scope 1 emissions would amount to 19.1m tonnes. The combined Scope 2 and 3 emissions would correspondingly be estimated to be in the order of 1.74m tonnes and 1m tonnes, respectively.

### CO<sub>2</sub> Emissions by year (Scope 1)

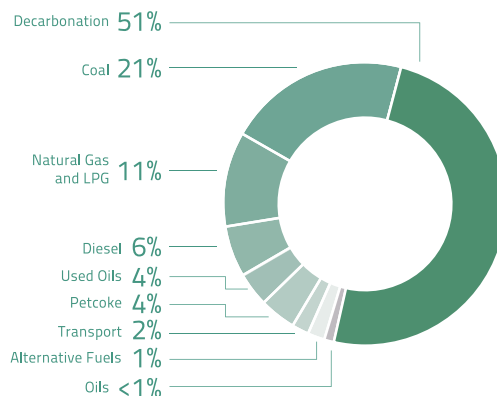


### CO<sub>2</sub> Emissions (Equity Basis)



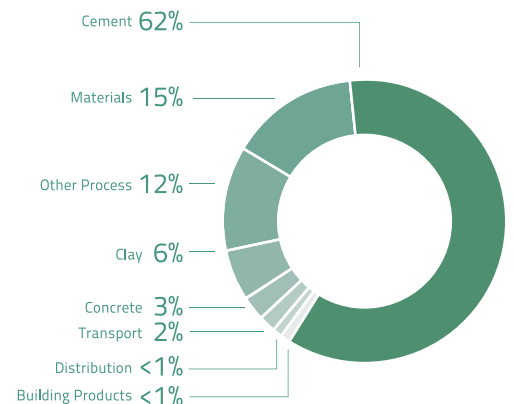
### CO<sub>2</sub> Emissions by Source (Scope 1)

Total: 10.3m tonnes



### CO<sub>2</sub> Emissions by Activity (Scope 1)

Total: 10.3m tonnes



**CRH's strategy is to continue to increase the use of alternative materials and fuels as far as practicable in the years ahead.**

## Climate Change: Cement

### Alternative Fuels

Approximately 40% of the CO<sub>2</sub> generated in the production of cement clinker arises from the carbon content of the fuels used. This arises due to the traditional reliance on fossil fuels within the industry. The remaining CO<sub>2</sub>, from decarbonation, is the product of a chemical reaction and cannot be decreased. Therefore, the use of alternative fuels, together with energy efficiency, is key to reducing CO<sub>2</sub> emissions in the production of clinker and ultimately, cement.

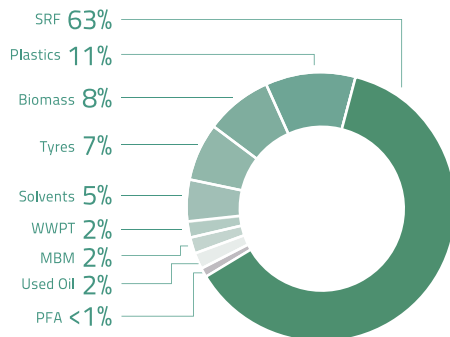
In CRH plants, initiatives being adopted include:

- Use of biomass alternative fuels, such as sawdust, waste water treatment plant (WWTP) outputs and meat and bone meal (MBM), which are carbon neutral.
- Use of other alternative fuels, such as solid recovered fuels (SRF) (which can have a significant biomass content), tyres and solvents, thus making beneficial use of waste materials that would otherwise go to landfill or incineration.

Alternative fuels used in Group cement plants in 2011 amounted to 340k tonnes, an increase on the quantity used in 2010. In the broader context of all Group activities, in 2011 the total usage of alternative fuels was 483k tonnes, a 40% increase on 2010.

### Alternative Fuels used in CRH Cement Plants

Total: 340K tonnes



### Alternative Materials

Increasing the portion of alternative raw materials, both in the raw meal kiln input and in the production of blended cements has many environmental benefits.

Initiatives progressively being adopted in Group cement plants include:

- Use of alternative materials to replace virgin quarried raw materials in the kiln raw meal, thus conserving resources.
- Use of alternative materials (such as ground limestone, fly-ash (PFA) and slag) in so far as permitted by technical standards to replace a proportion of clinker in cement (thereby proportionately reducing the CO<sub>2</sub> per tonne of cement).

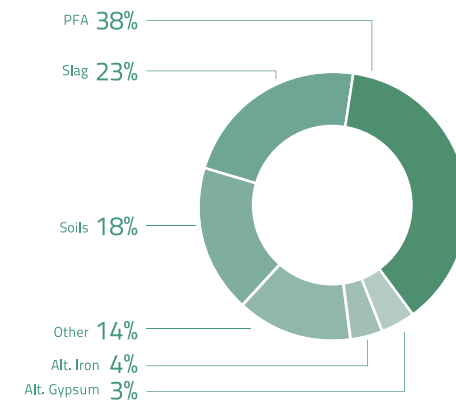
In 2011, a total of 1.5m tonnes of alternative materials were used in Group cement plants. Considering all CRH Group activities, in 2011 the total usage of externally sourced alternative materials amounted to 18.4m tonnes.

### Clinker Factor Reduction

CRH is committed to reducing its clinker factor to the lowest possible figure consistent with market requirements for specific products.

### Alternative Materials used in CRH Cement Plants

Total: 1.5m tonnes



## Climate Change: Cement

### Working With Peers

CRH is a member of the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development. The CSI is a voluntary initiative by 24 major global cement players to address the sustainability challenges of the industry in consultation with a wide range of stakeholders.

Within the European Union, the European Emissions Trading Scheme Phase 2 (2008-2012) National Allocation Plans (NAPs) prepared by Member States and approved by the European Commission dictate the emission caps that currently apply to operations and CRH is striving to work optimally within the Phase 2 NAPs.

In relation to operation of the EU ETS in the 2013-2020 period, during 2011 CRH actively supported work by the EU industry through CEMBUREAU with the EU Commission and member states, through which agreement was reached on an appropriate 'benchmark' for the industry.

As regards the longer-term, CRH has supported CSI work on modelling how a 'sectoral approach' might contribute globally to emissions reductions.

### CSI Key Performance Indicators

CRH Reports on the agreed CSI performance indicators (KPIs) as shown on page 71. The 2011 specific cement emission KPIs, on both a gross and net basis, decreased in comparison with the previous year. The increased use of more alternative fuels and alternative materials resulted in a decrease in specific emissions. The new dry process plant at Podilsky will be significant in driving further emission reductions in future years.

The KPI on alternative fuels, which expresses alternative fuels as a percentage of the fuel mix, increased and energy efficiency also improved marginally. Alternative materials as a percentage of clinker and cement increased, due to increased market demand in some markets for cement blends containing secondary cementitious materials.

It should be noted that many of these KPIs include subsidiaries in addition to joint ventures and some associates on a percentage shareholding basis and the resultant figures should be reviewed separately from those relating to the commitments noted on page 33 and the total Group CO<sub>2</sub> emissions.

1. Eco-efficient CEM 2 cement, manufactured by Irish Cement, was the first product in Ireland to be certified independently to BES 6001, the BRE Environmental and Sustainability Standard. Between 10% and 20% of the clinker is being substituted by ground un-burnt limestone in the final cement product.



## Case Study

## Climate Change: Other Activities

22%

of asphalt production  
by Oldcastle Materials  
was warm mix asphalt.

Reducing specific CO<sub>2</sub> emissions is an imperative in all CRH's activities, not just in cement operations.

The Group wide specific CO<sub>2</sub> emission from lime production in 2011 was approximately 1.0t/t product, in line with previous years. This level reflects the Group fuel mix portfolio and the significant investments in modern technology in recent years when CRH progressively invested in high efficiency lime kilns which are over 20% more efficient than older kilns.

In the production of asphalt mixes, CRH in the United States has pioneered "warm mix" technology which can reduce energy usage and CO<sub>2</sub> emissions by up to 30% compared to conventional "hot-mix" technology. The use of warm mix asphalt is growing, and at the end of 2011, Oldcastle Materials had over 185 warm mix asphalt plants producing over eight million tonnes of warm mix asphalt per annum.

Recycled asphalt pavement (RAP) can be used in warm mix asphalt production, the quantities depending on local permitted standards, further enhancing the sustainability of the product.

In the production of clay bricks and ceramic tiles, CRH has recently modernised many kilns, each investment yielding significant energy efficiency improvements and CO<sub>2</sub> emission reductions.

Several innovations are also coming through in the production of concrete products and readymixed concrete, all leading to greater efficiency in the use of cement, hence reducing the carbon footprint of concrete operations.

Energy efficiency and climate change mitigation is a driving force in process and product development in all CRH's activities. Examples of environmentally-driven products are illustrated on page 46 of this report.



Warm-mix asphalt (WMA) enhances the already sustainable aspects of asphalt paving through reduced fuel usage, reduced emissions, enabling increased use of recycled materials and improved mixture and pavement quality. The lowering of production temperatures by up to 28°C, enables the use of reduced fuel quantities to heat raw materials to mixing temperatures. Marked reductions in emissions of CO<sub>2</sub>, SO<sub>2</sub>, VOC, CO and NO<sub>x</sub> have been achieved through the use of WMA technologies, improving the environment around asphalt plants and paving operations. Lowering the mixing temperature has the positive impact of less oxidation and aging of the virgin asphalt during production resulting in the ability to use higher percentages of recycled materials, such as RAP. This conserves both virgin liquid asphalt and aggregates. In addition, the improved mixture and pavement quality results in pavements with enhanced service lives. Shown is an APAC Central plant in Florida, USA.

# Climate Change: Energy Use and Efficiency

## Energy Use and Management

Total Group energy usage in all subsidiaries was 22.6TWh (81.3PJ) in 2011, compared with 20.2TWh in 2010, reflecting increased production in some activities. The breakdown of energy usage by fuel type was similar to previous years. Energy efficiency improvements are being rigorously pursued at all CRH's production locations globally and specific energy management teams have been established. Formal energy management systems are continuously being investigated and rolled out in many companies. Energy from renewable resources is actively pursued by many companies through use of alternative fuels and purchase of electricity generated from renewable resources.

Cement operations accounted for 42% of energy use across the Group. Specific (per tonne of product) energy efficiency data for cement production is given for 2011 and previous years on Page 71, where CSI KPIs are reported for cement activities (including joint ventures and associates on a percentage shareholding basis).

## Transport

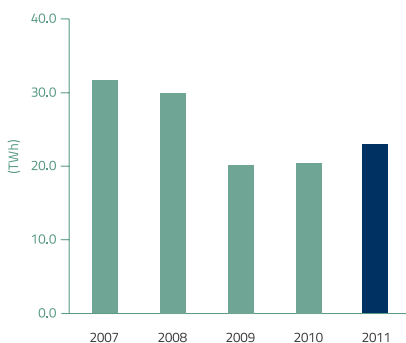
CRH Companies are focusing on optimising transport to reduce fuel usage and correspondingly their overall carbon footprint. Transport optimisation also has the benefit of reducing other air emissions. Transport by road is the most common mode, driven by the imperatives of timely delivery to a diverse and local customer base. Where possible, Group companies use fuel-efficient rail, boat or barge transport. These modes are ideal for larger bulk consignments over generally longer distances to fixed destinations. In the United States CRH has invested specifically in rail, boat and barge transport companies.

Most CRH Group companies have initiatives in place to optimise transport through, for example, use of GPS in route planning, ensuring full loads, fleet management, engine idling alerts and maximising back-loading. These initiatives, not only reduce emissions, but also contribute towards improved customer service and reduced delivery costs.

1. The Shelly Company receives material at its Cleveland location, Ohio, USA, from distant quarrying operations using fuel-efficient rail transport, which is ideal for moving large quantities of materials to markets.

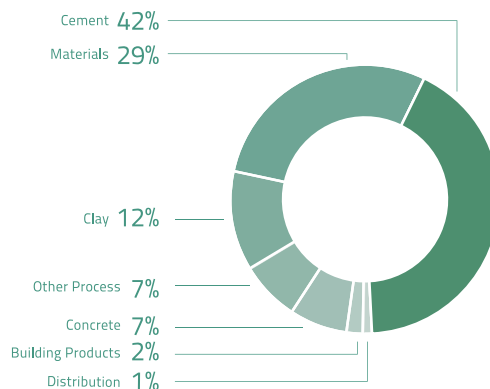


## Energy Use



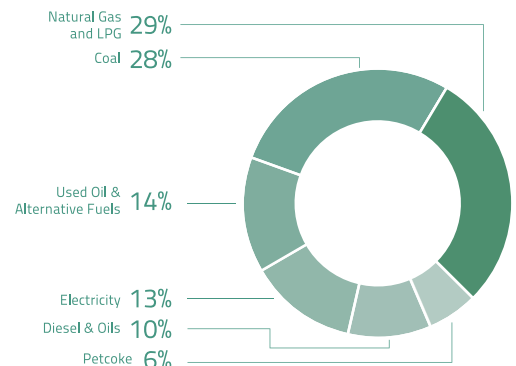
## Energy Use by Activity

Total: 22.6TWh (81.3PJ)



## Energy Use by Source

Total: 22.6TWh (81.3PJ)



## Other: Air Reduction Commitment

**50%**  
reduction in  
cement  
specific particulates  
by 2015.

**10%**  
reduction in  
cement  
specific NO<sub>x</sub>  
by 2015.

As part of its strategic vision of being a responsible leader in building materials and in line with its CSI sustainability obligations, CRH has committed to reducing emissions from cement production. In 2008, CRH made the following commitments:

- 50% reduction in the mean specific particulate emissions by 2015 compared with the 2006 specific emissions.
- 10% reduction in the mean specific NO<sub>x</sub> emissions by 2015 compared with the 2006 specific emissions.

As CRH is already at a very low SO<sub>x</sub> level, it is not technically practicable to attain further decreases; accordingly a reduction commitment is not appropriate.

The commitment covers the portfolio of plants under management control on 1st January 2007.

Particulate emissions at many cement plants have already been reduced significantly as a result of filter upgrades and plant optimisation. With the coming on-stream of the new dry process line at Podilsky Cement in Ukraine, particulate emissions are already decreasing. This and other investments will ensure the commitment on particulate emissions reduction will be met by 2015.

NO<sub>x</sub> emissions for the cement plants within the commitment are reducing, with the reduction being achieved following installation of Selective Non-Catalytic Reduction (SNCR) equipment on many kilns and other performance improvements. In 2011, a NO<sub>x</sub> reduction of 15% on the base year has already been achieved, with 2011 specific emissions at 1,477g/tonne clinker.

1. The energy-efficient dry process line at Podilsky Cement in Ukraine, which was commissioned in 2011, incorporates sophisticated air abatement equipment which includes several energy saving features and results in very low stack particulate emissions.



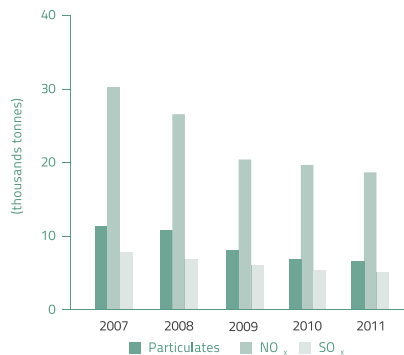
## Other: Air Emissions

For the entire CRH Group, particulate emissions in 2011, at 7.8k tonnes, were lower than in 2010. This was due to continuing investment in improved abatement systems across the Group's activities.

NO<sub>x</sub> emissions in 2011 decreased on 2010 at 17.4k tonnes. SO<sub>x</sub> emissions in 2011, at 5.6k tonnes, decreased slightly on 2010.

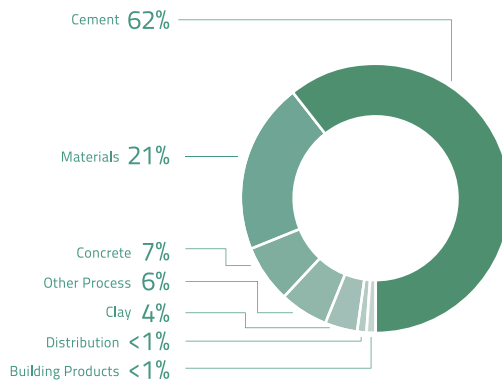
Within the CRH Group, the greater proportion of stack air emissions arise from cement plants, with cement accounting for a significant portion of particulate, NO<sub>x</sub> and SO<sub>x</sub> emissions. CRH's air emissions reduction commitment is therefore focused on cement production. In addition, many Group companies have programmes to improve air quality, which generally include investing in new abatement technology and implementing operational efficiencies to reduce potential air emissions.

### Air Emissions - Particulates, NO<sub>x</sub>, SO<sub>x</sub>



### NO<sub>x</sub> by Activity

Total: 17.4k tonnes



### CSI Key Performance Indicators

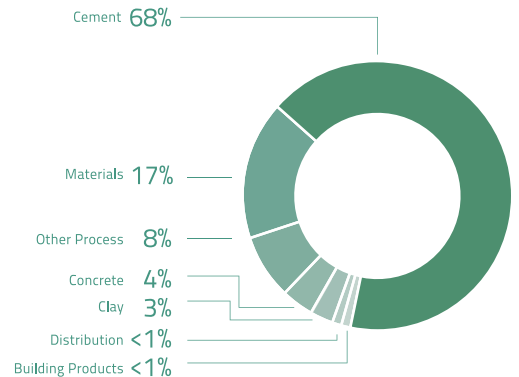
CRH Reports on the agreed CSI key performance indicators (KPIs) for its cement activities as shown on page 71.

Regarding the CSI air emissions KPIs, both specific and total particulate emissions decreased due to the reasons outlined earlier. The specific NO<sub>x</sub> and SO<sub>x</sub> emissions declined on the previous year. SO<sub>x</sub> emissions in general are low due to low sulphur raw materials and the scrubbing effect of clinker production.

It should be noted that many of these KPIs include subsidiaries in addition to joint ventures and some associates on a percentage shareholding basis and the resultant figures should be reviewed separately from those relating to the commitments noted on page 39 and the total Group air emissions.

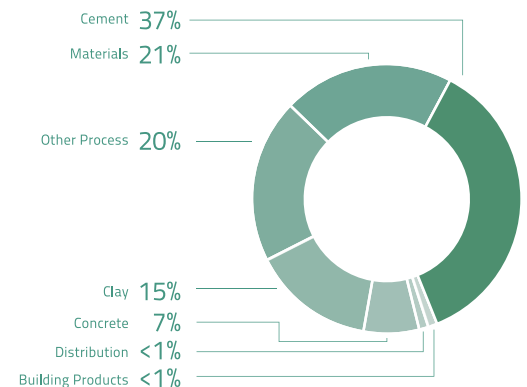
### Particulates by Activity

Total: 7.8k tonnes



### SO<sub>x</sub> by Activity

Total: 5.6k tonnes



## Case Study

Reuss-Seifert, Germany, has been using recycled plastic in the production of high quality construction accessories for several decades. In 2011, 95% of all HDPE and PVC used at Reuss-Seifert was recycled raw material, thus diverting 19k tonnes of post-consumer waste plastics from disposal. While the use of recycled materials provides a cost effective solution with positive environmental benefits, it brings challenges in maintaining product quality and thus requires additional oversight by the production team. Shown is Arif Cicek at Reuss-Seifert's Schalksmühle plant.



**18m tonnes**  
of recycled materials  
used by Group  
companies.

CRH's environmental policy requires optimisation of the use of resources. Where practical and technically feasible, CRH recycles externally sourced used inert materials in its production processes, using materials that would otherwise go to landfill. This has both environmental and financial benefits. The percentage of recycled materials used in finished products depends on the product and process and averages approximately 5% overall.

The components of the 18.4m tonnes of recycled materials used by Group companies in 2011 were:

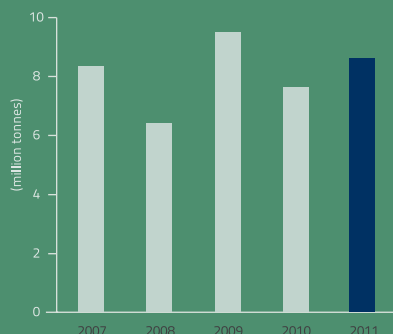
- 6.8m tonnes of Recycled Asphalt Pavement (RAP) materials: these arise when existing road or runway surfaces are milled, crushed

and reused as a raw material for new asphalt mixes.

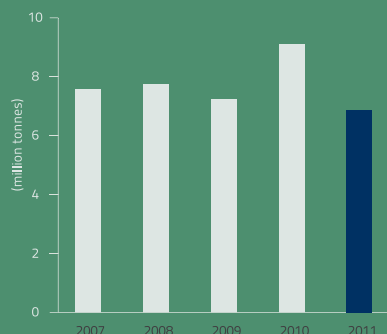
- 8.7m tonnes of Construction & Demolition (C&D) materials: these arise from construction and demolition activities and can replace virgin aggregates or can be reused for fill applications.
- 2.9m tonnes of fly-ash, slag and other materials with cementitious properties which are by-product materials sourced mainly from external power generation and steel production respectively.

CRH strives to maximise the quantities of recycled materials used according to local market availability.

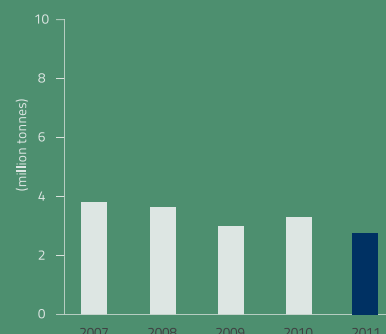
Alternative Raw Materials - C&D



Alternative Raw Materials - RAP



Alternative Raw Materials - Other



## Waste Management

**75%**  
waste recycled.

CRH's environmental policy is to minimise waste generation and to recycle waste where possible. Hence CRH companies operate to the following principles: In production processes, any by-product is internally recycled back into the process where possible, thereby reducing raw material usage and enhancing process efficiency. In 2011, 60 Companies noted such internal recycling. Remaining waste is minimised and recycled externally where possible. This is mostly inert waste and predominantly comprises concrete from readymixed and concrete products production.

Most locations make every effort to maximise the recycling of waste going off-site. When not possible, waste is sent for final disposal to licenced sites. The portion of waste being recycled is maximised as a matter of policy, but will vary from year to year depending on local conditions and in 2011 was approximately 75%.

The total amount of waste generated and required to be recycled or disposed off-site was 1.1m tonnes in 2011. Of this, 0.8m tonnes were externally recycled. Of the 300k tonnes remaining for disposal, 5k tonnes were hazardous.

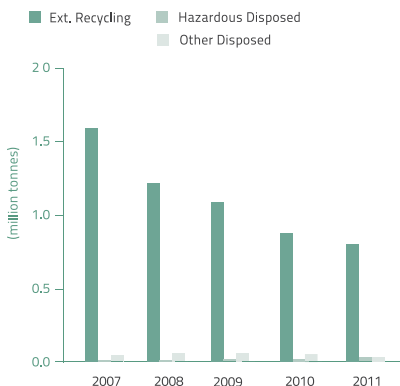
CRH is committed to participating in European national packaging waste recycling schemes and some 53 Group companies currently participate in such schemes. Such schemes are not a feature of industrial waste management in the United States.

A small number of Group companies are permitted to landfill waste on-site and in these cases it is carried out strictly to the permit requirements. All Group companies take extensive precautions to prevent any incidents of unauthorised waste disposal.

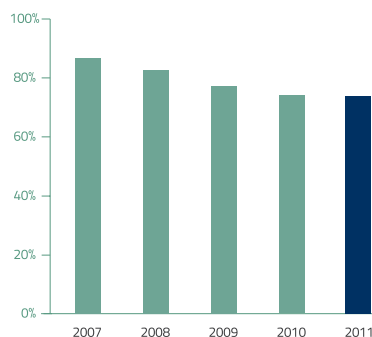
1. Tony Russell of Georgia Masonry Supply Tyrone, Georgia, USA, rebuilding pallets for reuse in the distribution of products as part of the company's waste reduction programme.



### Waste Generation

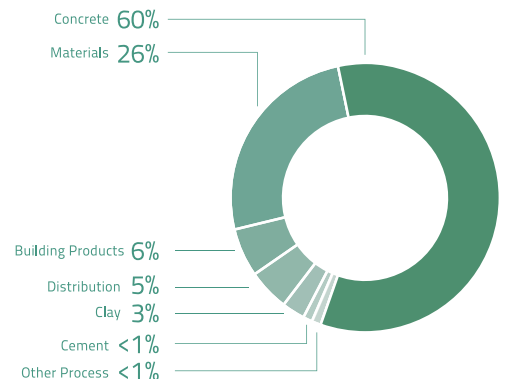


### Percentage of Waste Recycled



### Waste by Activity

Total: 1.1m tonnes



## Water Management

CRH's environmental policy is to minimise its use of natural resources including water. Water is an area of interest for many stakeholders. Efficiency of resource use, particularly in regions deemed to be subject to water-stress, is a key concern.

Intake of water for process activities can often be abstracted from several sources all of which may not be metered; hence precise determination of intake quantities is sometimes difficult, though this remains the Group's objective. As a best estimate, CRH water intake in 2011 was 37m m<sup>3</sup>. The largest usage is in Materials activities, where water is used for processing, washing and dust suppression. Some 62% of water intake is sourced as surface water including rainwater, while well water accounts for 20% and mains supply for 18%.

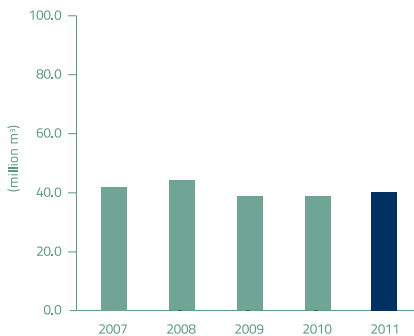
CRH emphasises reduction in process water intake through water recycling. In 2011, 749 active Group locations recycled process water and this represented an estimated 77% of Group total water usage. Additionally, 300 active locations used rainwater in their operations.

As with water intake, water discharge can also be difficult to quantify, not only because it is

often not metered, but also because of the contribution of stormwater. As a result of the nature of CRH's activities, water discharges can occasionally contain suspended solids or be high in pH. Locations employ settling ponds and other solutions to reduce suspended solids to within good practice limits, while pH can be brought to acceptable levels if the natural neutralisation process is insufficient. Oil-water separators are used if there is a risk of oil spillage from a plant.

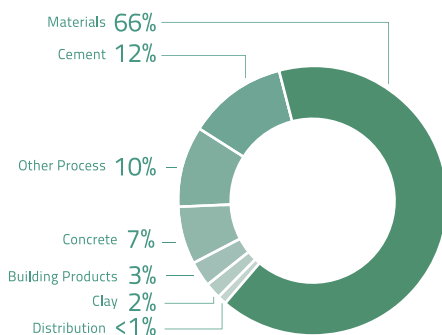
Water-stressed regions are defined by the World Business Council for Sustainable Development (WBCSD) as being regions where water availability does not meet the demand from all industrial, agricultural and domestic users. Although it is difficult to determine a precise measure for water-stress, the World Resources Institute proposes that it is experienced by countries suffering from periodic water shortages, where water supplies are below 1,700m<sup>3</sup>/person/annum. CRH does not generally operate in areas which are water stressed. The only operations within or close to areas of water stress are small localised quarries, production plants and distribution outlets in the southwest of the United States.

### Water Usage



### Water Intake by Activity

Total: 37m m<sup>3</sup>



1. Bonsal American recycles wash water from bulk tankers at its Franklin Park, Illinois, USA location. The recycled water is reused in the production process.



## Restoration and Heritage

### Restoration

A significant proportion of the raw materials used by CRH Group companies is extracted from quarries, sand & gravel pits and clay pits, typically over a long operating lifetime. When these raw materials are fully extracted, good environmental stewardship demands that CRH reinstates these areas or finds another appropriate after-use, in consultation with the local permitting authorities, neighbours and other stakeholders.

Each year, Group companies continue to reinstate and landscape worked-out quarries and pits. In 2011, a total of 459 hectares were reinstated. The reinstated areas average out at about 1.0% per annum of total quarry and pit area. The actual amount of reinstatement achieved in any one year depends on the closure of specific quarries or pits as reinstatement and landscaping can typically only be carried out close to completion of excavation activities.

A significant 96% of Group quarries and pits have formal reinstatement plans. Reinstatement often includes tree planting and a further 174,000 trees were planted in 2011 bringing to 1.1m the number of trees planted by Group companies over the last five years.

### Heritage

CRH considers that protecting and preserving cultural heritage for future generations is an essential aspect of being a responsible company as the heritage that survives from the past is non-renewable and may be unique.

All new quarries and pit areas are surveyed where appropriate by archaeologists to check if there is potential for any archaeological interest on the site.

Within the CRH Group, there are 14 Group companies protecting particular cultural heritage features at 29 locations. Joint ventures and associates are preserving cultural heritage aspects at a further nine locations.

1. CRH's Polish subsidiary Olsztyńskie Kopalnie Surowców Mineralnych (OKSM) has managed restoration plans covering all of its sand pits in northeastern Poland. This lake was formed following the restoration of lands close to the current active extraction area at Brzeźno and it now provides a habitat for aquatic wildlife.



## Case Study

## Biodiversity

Many CRH Group quarries and pits, even during normal operations, are favoured by wildlife as a safe and natural habitat, and, with appropriate restoration, can become even more enriched after final reinstatement takes place. Biodiversity can be enhanced and protected both during and after extraction of raw materials and this is important for the protection and preservation of special species as well as for the enhancement of local biodiversity. At many extractive locations, in particular, wetland and terrestrial habitats can be created and maintained.

Biodiversity management strives to enhance natural habitats while mitigating potential negative impacts of operations such as fragmentation of biodiversity corridors, impacts on water quality and disturbance to birds or animals. All environmental impact assessments associated with permit

applications require management plans for site biodiversity.

Working with local and national stakeholders has become a key feature of biodiversity management at many Group locations. Areas where wildlife is fostered can become an educational resource for students of all levels.

While almost every quarry and pit has some form of associated biodiversity, several quarries and pits are noted for special biodiversity such as particular species of flora and fauna. Specific biodiversity is currently being actively managed at 129 locations across the CRH Group in Argentina, China, Finland, Ireland, the Netherlands, Poland, Switzerland, UK, Ukraine and the United States. A further five locations within joint ventures and associates are noted for special biodiversity species.



Heembeton has a biodiversity management plan for its Lelystad location in the Netherlands. The plan includes biodiversity objectives for several habitats within the site, which in addition to a small woodland habitat, includes an impressive sand martin nesting site.

A concrete wall with 488 nesting sites has been constructed to encourage the nesting of sand martins. Sand martins are a migratory species which migrate from southern climes to nest and breed during the summer months throughout Europe. Each year, the nesting sites are replenished with fresh sand to enable the birds to build their brood chambers, which has been very successful.

In its conservation projects, Heembeton works with local stakeholders and natural conservation organisations including Vogelbeheer, which is tagging the birds to study migratory patterns and Landschapsbeheer Flevoland, focusing on countryside and urban nature management.



## CRH Products and the Environment

### CRH products are ideally suited to climate change mitigation and adaptation.

In tandem with CRH's commitment to act as a socially responsible corporate citizen, the Group views the development of products that specifically benefit the environment as a significant business opportunity.

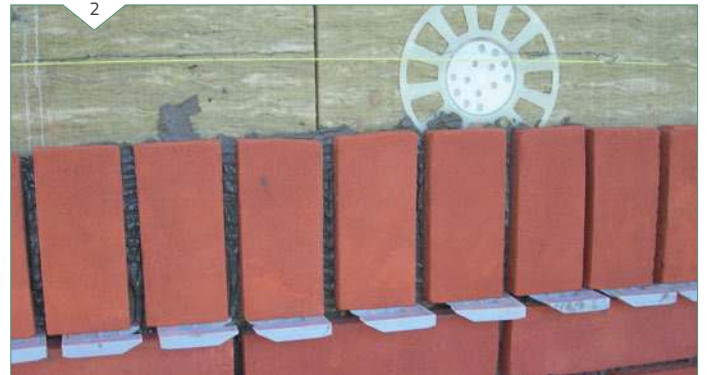
A small number of the many examples from across the CRH Group are provided here. They illustrate positive environmental and energy enhancements.

When concrete is used as a building material, the thermal mass in concrete can reduce heating and cooling requirements of buildings resulting in energy savings. In addition, as a heavyweight

material, concrete has the effect of smoothing out temperature peaks and troughs. As regards adaptation to climate change, concrete construction is a well-established solution to reduce the impact of flooding through flood defence systems and stormwater management systems.

CRH Distribution businesses supply a wide variety of products that improve the built environment and energy efficiency of buildings and these businesses actively promote the benefits of the products they stock and distribute.

1. The glass products and services of Oldcastle BuildingEnvelope, which has operations across the USA and Canada, can contribute to sustainability in the built environment in many ways, including improved energy efficiencies, improved interior air quality, and, through use of recycled materials, improved resource efficiencies.
2. Working in partnership with an international insulation manufacturer, Ibstock UK has developed the innovative BrickShield® external wall insulation system (EWI) which enables the energy efficiency of existing buildings with solid walls to be improved while maintaining the visual aesthetic of real brickwork.
3. A 'brown' living roof to encourage biodiversity was installed by CityRoofs, a business unit of Zoontjens Netherlands, and is a key feature of the new environmental Education Centre at The LookOut, Hyde Park, London, UK.
4. Lime produced by Clogrennane Lime, Ireland, is utilised in several environmental applications, including desulphurisation of flue gas, neutralisation of water and sludge pasteurisation.





*The CRH Board, photographed during a visit to Schrauwen, Belgium. Schrauwen is a leading Sanitary, Heating and Plumbing (SHAP) merchant in the Belgian province of Antwerp. Left to right: Albert Manifold, Heather Ann McSharry, John Kennedy, Mark Towe, Utz-Hellmuth Felcht, Maeve Carton, Nicky Hartery, Bill Egan, Myles Lee, Dan O'Connor, Jan Maarten de Jong. Inset: Ernst Bärtschi.*

# Governance

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CRH is widely recognised as operating to the highest standards of corporate governance. This section provides an overview of the Group's governance structures at Board and at operating level and explains how the Group ensures that its governance principles are implemented in an appropriate manner. It also records compliance with the relevant statutory and regulatory guidelines. Further detailed information may be found in the CRH Annual Report 2011 and in the CRH 2011 Annual Report on Form 20-F filed with the US Securities & Exchange Commission, both of which are available on [www.crh.com](http://www.crh.com)

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**The Directors and management of CRH are committed to maintaining the highest standards of corporate governance and ethical business conduct.**



Mr. Nicky Hartery, Chairman since May 2012, has been a member of the CRH Board since June 2004. Mr. Hartery meets the independence criteria as set out in the 2010 UK Corporate Governance Code.



Mr. Kieran McGowan, who had been Chairman since May 2007, retired as Chairman and from the Board at the conclusion of the 2012 Annual General Meeting in May.

## Board of Directors

### The Board

The Board is collectively responsible for the leadership, control, development and long-term success of the company. The Board is also responsible for instilling the appropriate culture, values and behaviour throughout the organisation. There is a formal schedule of matters reserved to the Board for consideration and decision. This includes Board appointments, approval of the Annual Report, the Interim Results and the annual budget, major acquisitions, significant expenditure and approval of strategic plans for the Group. There were eight full Board meetings in 2011. The non-executive Directors met twice during 2011 without executives being present. All Directors retire at each Annual General Meeting and submit themselves for re-election. Directors who are seeking re-election are subject to performance appraisal, which is overseen by the Nomination & Corporate Governance committee. The Board has delegated responsibility for the management of the Group, through the CEO, to executive management.

It has been the practice of CRH that a majority of the Board comprises non-executive Directors and that the Chairman be non-executive. At present, there are four executive and eight non-executive Directors. Directors are appointed for specified terms and are subject to the Memorandum and Articles of Association of the company. The Directors are committed to ensuring that the Board is sufficiently diverse and appropriately balanced. In terms of Board renewal, four criteria are taken into consideration: (i) international business experience; (ii) skills, knowledge and expertise in areas relevant to the operation of the Board; (iii) diversity, including nationality and gender; (iv) the need for an appropriately-sized Board. Each, or a combination, of these factors can take priority from time to time. Consequently, to date the Board has not set specific objectives in relation to diversity.

### Chairman

It has been the practice of CRH since the formation of the Group in 1970 that the roles of Chairman and Chief Executive are not combined. A clear division of responsibilities, set out in writing and approved by the Board, exists.

### Senior Independent Director

Mr. Nicky Hartery had been the Senior Independent Director since May 2008 and when he assumed the role of chairman, Mr. Dan O'Connor, a non-executive Director since June 2006, took on the role of Senior Independent Director. The Senior Independent Director is available to shareholders who have concerns that cannot be addressed through the Chairman, Chief Executive or Finance Director.

### Company Secretary

The appointment and removal of the Company Secretary is a matter for the Board. All Directors have access to the advice and services of the Company Secretary, who is responsible to the Board for ensuring that Board procedures are complied with.

### Sustainability – CSR

Sustainability and Corporate Social Responsibility concepts are embedded in all CRH operations and activities. Excellence in health and safety, environmental and social performance is a daily key priority of management. The Group Chief Executive is responsible for ensuring the Group's sustainability and CSR policies are continuously implemented. Reports on these are regularly provided to the Board.

### Induction and Development

New Directors are provided with extensive briefing materials and a tailored induction programme on the Group and its operations. Directors meet with key executives, regularly receive updates on relevant matters and, in the course of twice-yearly visits by the Board to Group locations, see CRH businesses at first hand and meet with local management.

### Performance Appraisal

The Senior Independent Director conducts an annual review of corporate governance, the operation and performance of the Board and its Committees and the performance of the Chairman. A review of individual Directors' performance is conducted by the Chairman and each Director is provided with feedback gathered from other members of the Board.

## Board Committees

**The Board has established five permanent Committees to assist in the execution of its responsibilities.**

The five permanent Committees include the Acquisitions Committee, the Audit Committee, the Finance Committee, the Nomination & Corporate Governance Committee and the Remuneration Committee. Ad hoc Committees are formed from time to time to deal with specific matters.

Each of the permanent Board Committees has terms of reference, under which authority is delegated to them by the Board. The current memberships and terms of reference are available on the Group's website. For newly-appointed members of Committees, specific induction arrangements are in place. Chairmen of the Committees attend the Annual General Meeting and are available to answer questions from shareholders. During the year each of the relevant Committees reviewed its performance and terms of reference.

Further detailed information on the roles and responsibilities of the Board and its Committees and the work undertaken during 2011 are available in the CRH 2011 Annual Report.

### Acquisitions Committee

The role of the Acquisitions Committee is to approve acquisitions and capital expenditure projects within limits agreed by the Board.

### Audit Committee

The Audit Committee consists of three independent non-executive Directors. During the year, the Committee met with the Head of Internal Audit and with the external auditors in the absence of management. The main role and responsibilities are set out in written terms of reference and include items in the areas of financial reporting; internal controls, risk management; whistleblowing, fraud, ethics and compliance; internal audit and external audit.

### Finance Committee

The Finance Committee advises the Board on the financial requirements of the Group and on appropriate funding arrangements. During 2011, the committee considered the review of the CRH Group's listing arrangements,

which resulted, in December 2011, in the re-classification of CRH's listing of ordinary shares on the Irish Stock Exchange from a primary listing to a secondary listing. CRH retained the premium listing on the London Stock Exchange and there was no change in the listing of American Depositary Shares on the New York Stock Exchange. The listing re-classification facilitated CRH's inclusion in the FTSE 100 and FTSE All Share indices.

### Nomination & Corporate Governance Committee

The Nomination & Corporate Governance Committee consists of four independent non-executive Directors. The Committee is responsible for assisting the Board in ensuring that the composition of the Board and its Committees is appropriate to the needs of the Group; for keeping corporate governance developments under review and recommending changes, where appropriate, to the Board; for monitoring compliance with governance codes; and for reviewing the content of the Corporate Governance Report to shareholders.

### Remuneration Committee

The Remuneration Committee consists of four independent non-executive Directors and is chaired by the Senior Independent Director. It determines the Group's policy on executive remuneration, determines the remuneration of the executive Directors and reviews the remuneration of senior management.

The Committee also reviews and approves the design of all share incentive plans. Performance-related awards, based on measured targets, including CSR targets where relevant, are a key component of executive remuneration.

### Compliance

In 2011, CRH complied with the provisions of the 2010 UK Corporate Governance Code. The company also complied with the rules issued by the United States Securities and Exchange Commission to implement the Sarbanes-Oxley Act 2002, in so far as they apply to the Group.

## Compliance and Ethics

**CRH's high standards of corporate governance are based on a strong framework and robust organisation structure.**

The Head of Group Compliance and Ethics, who has direct access to the CRH Group Chief Executive Officer, reports regularly to the Audit Committee of the CRH Board and is responsible for the overall direction and delivery of the CRH Compliance & Ethics programme. This programme focuses on the Code of Business Conduct including anti-bribery, corruption and fraud as well as anti-trust/competition law. The twin objectives of the compliance function are to prevent compliance related issues arising through appropriate communication, training, controls and business processes, and, in addition, to ensure an appropriate response to suspected or actual breaches with appropriate monitoring, assurance and investigative procedures.

Senior managers in each division promote the programme with support from dedicated Country Compliance Coordinators, who work with business management to ensure delivery in each jurisdiction. The roles and responsibilities of the Country Compliance Coordinators have been reviewed and redefined in 2011 to ensure more effective implementation.

CRH's corporate culture, while having a global dimension, is firmly based on the belief that local management, with a real understanding of their business and culture, can best serve the needs of all stakeholders. This freedom to manage and make decisions creates commitment to the very important concept of dual citizenship of both CRH Group and the local company. This

business philosophy requires employees to operate to the highest levels of honesty, integrity and respect for the law and is reinforced by central oversight.

### Code of Business Conduct and Related Policies

CRH has implemented a formal Code of Business Conduct throughout the Group since 2003. The Code systematically addresses:

- Protecting integrity.
- Doing business in a responsible way.
- Dealing with customers, suppliers & the community.
- Treating people with honesty & respect.
- Managing health & safety and the environment.

The Code has been updated recently in line with legislative developments and current best practice. It also incorporates new and updated policies in the areas of anti-bribery, anti-fraud, competition law, share dealing, ethical procurement and a new social policy. The Code applies to all relevant Group employees and has been translated into 20 languages. It is supplemented by detailed policies and guidelines and may be downloaded from the Group web-site.

#### 1. CRH Code of Business Conduct.



## Compliance and Ethics

**Regional hotline facilities are in place, to enable employees to report suspected breaches of the Code of Business Conduct.**

CRH Management believes that it is only by upholding the core values as set out in the Code can the Group maintain its continued success as a company and safeguard its excellent reputation. A breach of the Code, therefore, is deemed a grave offence requiring rigorous application of disciplinary procedures.

### Compliance with the Code

Every year, each company and Division is required to formally certify compliance with the Code of Business Conduct.

A Report on this certification process is provided to the Audit Committee of the Board. No serious breaches of the Code of Business Conduct were recorded in 2011. Compliance procedures continued to receive appropriate management attention throughout 2011 with relevant training carried out through Country Coordinators supported by external legal advisors and overseen by the Head of Group Compliance and Ethics.

### Employee Hotline

CRH operates a confidential telephone line ("hot line") for people who wish to use this resource as a means of raising a concern, particularly around suspected breaches of the Code of Business Conduct. A web-based alternative is also now available. The contact details for this service and the persons to whom any complaints can be made verbally or by e-mail, are communicated

within the Code of Business Conduct, on the CRH website and in various company-level communications.

Calls or Reports can be made in the local language. There are procedures to ensure that these are systematically dealt with and appropriate actions taken. In particular, employees are assured that there will be no retaliation or retribution for reporting a genuine suspicion.

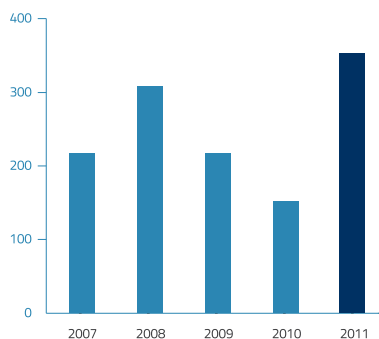
In 2011, there were a total of 359 (143 in 2010) hotline calls, mostly from North America. The increase in the numbers of calls followed a re-launch of the communication system in the US during 2011.

Most calls related to Human Resources issues and an analysis by type is shown below. All of the issues raised in the calls have either been resolved or are being appropriately managed. None were of sufficient gravity to report individually to the Audit Committee.

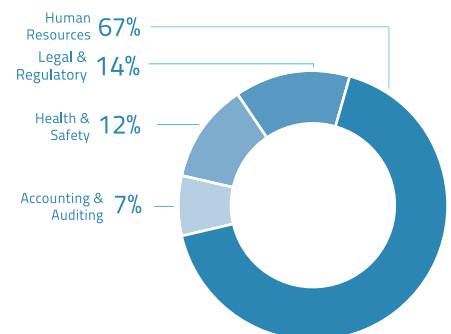
### Compliance & Ethics Helpdesk

In addition to the employee hotline, a dedicated Compliance & Ethics helpdesk was also established during 2011 to further assist CRH employees with any related questions or concerns and so facilitate a fuller understanding of their compliance responsibilities.

Number of Hotline Calls



Hotline Calls by Type 2011



## Risk Management

**The embedding of the system of internal control throughout the Group's operations ensures that the organisation is capable of responding quickly to evolving business risks.**

The Board has delegated responsibility for the monitoring of the effectiveness of the Group's risk management and internal control systems to the Audit Committee. Such systems are designed to manage rather than eliminate the risk of failure to achieve business objectives and, in the case of internal control systems, can provide only reasonable and not absolute assurance against material misstatement or loss.

Group management has responsibility for major strategic development and financing decisions. Responsibility for operational issues is devolved, subject to limits of authority, to product group and operating company management. Management at all levels is responsible for internal control over the business functions that have been delegated. Significant internal control issues, should they arise, are reported promptly to appropriate levels of management.

In compliance with the Group's Enterprise Risk Management framework, a regular review of the appropriateness of the principal risks

and uncertainties facing the Group and its subsidiaries, joint ventures and associates is undertaken by management. This review has confirmed that the systems in place are robust and appropriately reflect the organisational structure and diversity of the Group. The Board and Audit Committee receive, on a regular basis, reports from management on the key risks to the business and the steps being taken to manage such risks and consider whether the significant risks faced by the Group are being identified, evaluated and appropriately managed, having regard to the balance of risk, cost and opportunity.

In the 2011 Annual Report, the Directors confirmed that, in addition to the monitoring carried out by the Audit Committee under its terms of reference, they had reviewed the effectiveness of the Group's risk management and internal control systems up to and including the date of approval of the financial statements. This had regard to all material controls, including financial, operational and compliance controls, that could affect the Group's business.

### Managing the Risks:

CRH has proven appropriate accounting practices and comprehensive and effective control processes. Diversification and the spread of the Group's operations minimise the possibility that an isolated instance or single point of failure could have a material impact.

The regional spread, product diversification and end-use balance of CRH's activities assists in mitigating the potential effects of varying economic and financial conditions.

Group companies are focused on being competitive producers in the markets in which they participate and on product and process innovation to enhance their ability to differentiate their product offerings.

CRH's development strategy is underpinned by rigorously controlled evaluation, due diligence, integration and approval practices to ensure that acquisitions deliver in line

with projections and that remediating actions are undertaken on a timely basis, if required. The development activities of the Group are structured to ensure that well-run, value-creating acquisition opportunities within local markets and horizons for future growth are identified, nurtured and, where feasible, completed.

The human resource management framework focuses on the operation of integrated and targeted programmes of performance management, leadership development, coaching and mentoring, inter alia; the appropriateness of these programmes is reviewed on a regular basis.

Key financial risks, whether associated with funding, credit/debt ratings, counterparties, financial instruments, defined benefit pension schemes or other matters, are subject to rigorous and regular monitoring

by finance, risk and treasury functions.

Net worth, net debt and net interest are spread across the currencies in which the Group operates thus reducing the impact of adverse currency movements on reported results and net assets. CRH's activities are conducted primarily in the local currency of the country of operation resulting in low levels of foreign currency transaction risk.

CRH has an unwavering commitment to full compliance with all regulations and standards and to communicating best practices in CSR. The geographical, product and end-use balance inherent in the Group's operations together with appropriately targeted capital expenditure, product development and formal structures for the sharing and instilling of best practice ensure that the impacts of all regulations are proactively managed.

## Principal Risks and Uncertainties\*

### Economic, Strategic and Operational Risks

CRH operates in cyclical industries which are influenced by global and national economic circumstances and the level of construction activity.

As an international business, CRH operates in many countries with differing, and in some cases potentially fast-changing, economic, social and political conditions.

CRH faces strong volume and price competition across its activities.

Existing products may be replaced by substitute products.

Growth through acquisition is a key element of CRH's strategy. CRH may not be able to continue to grow as contemplated in its business plan if it is unable to complete such acquisition transactions and integrate the operations of the acquired businesses.

CRH does not have a controlling interest in certain businesses (i.e. joint ventures and associates) in which it has invested and may invest.

Given the decentralised structure of CRH, existing processes to recruit, develop and retain talented individuals and promote their mobility may be inadequate thus giving rise to difficulties in succession planning.

### Financial and Reporting Risks

CRH uses financial instruments throughout its businesses thus giving rise to interest rate, foreign currency, credit/counterparty and liquidity risks. A downgrade of CRH's credit ratings may give rise to increases in funding costs. In addition, insolvency of the financial institutions with which CRH conducts business (or a downgrade in their credit ratings) may lead to losses.

CRH operates a number of defined benefit pension schemes in certain of its operating jurisdictions. The assets and liabilities of these schemes may exhibit significant period-on-period volatility.

In the event of the failure of one or more of its insurance counterparties, the Group could be impacted by losses where recovery from such counterparties is not possible.

The principal foreign exchange risks to which the consolidated financial statements are exposed pertain to adverse movements in reported results when translated into euro and declines in the value of reported net assets.

Significant under-performance in any of CRH's major cash-generating units may give rise to a material write-down of goodwill which would have a substantial impact on the Group's income and equity.

### Compliance and Regulatory Risks

CRH is subject to stringent and evolving laws, regulations, standards and best practices in the area of Corporate Social Responsibility which may give rise to increased ongoing remediation and/or other compliance costs and may adversely affect the Group's reported results and financial condition.

CRH is subject to many laws and regulations (both local and international) throughout the jurisdictions in which it operates and is thus exposed to changes in those laws and regulations and to the outcome of any investigations conducted by governmental, international and other regulatory authorities, which may result in the imposition of fines and/or sanctions for non-compliance.

\*Full details are provided on pages 56 and 57 of the CRH Annual Report 2011.



As part of Tilcon's community relations programme, Keila Franco, Purchasing Agent and Ray Alexander, Asphalt Plant Associate, made presentations to children at Vassar Road Elementary School in Poughkeepsie, NY, USA. The children learned about quarries, trucks and loaders and the asphalt plant.

# People and Community

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CRH believes that continued sustainable business success depends on the excellent relationships maintained with stakeholders – employees, customers, suppliers, neighbours, shareholders and all other stakeholders. This section describes CRH's Social Policy and its implementation and in addition, gives an overview of some of the many community activities undertaken across CRH companies around the world.

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## Social Policy

### Implementation

CRH believes that continued business success is rooted in good employee, customer, supplier and neighbour relations. CRH fully respects the various cultures and traditions which prevail in the regions in which the Group operates.

Company Managing Directors are responsible for the implementation of CRH employment policies, guidelines and objectives in their areas of responsibility. They are supported in this role and in reporting at Group level by their Human Resources (HR) teams which have a functional reporting line through product group and Divisional HR Directors.

Operating company management is responsible for managing customer and supplier relations in local markets in accordance with overall CRH policy. This work is often supported by national, regional or product group contacts with large customers and with suppliers of critical inputs such as cement and energy. The CRH Code of Business Conduct outlines key management responsibilities in relation to employment, purchasing, competition and customer relationships.

### Policy

CRH's Social Policy, applied across all Group companies, is to:

- **Comply, at a minimum, with all applicable legislation and ensure that our social stewardship is consistent with industry best practice.**
- **Manage our businesses in a fair and equitable manner, meeting all our social responsibilities as both a direct and indirect employer.**
- **Support freedom of association and recognise the right to collective bargaining.**
- **Prohibit forced, compulsory and child labour.**
- **Apply the principle of equal opportunity, valuing diversity regardless of age, gender, disability, creed, ethnic origin or sexual orientation, while insisting that merit is the ultimate basis for recruitment and selection decisions.**
- **Ensure that we deal responsibly with our suppliers and customers in accordance with our Code of Business Conduct and proper business practice.**

1. A group of employees from Van Neerbos Bouwmarkten celebrate their graduation from the trainee programme at a ceremony in Soesterduinen, Netherlands. The 5-day programme is state-approved and includes both on-the-job training and classroom sessions.



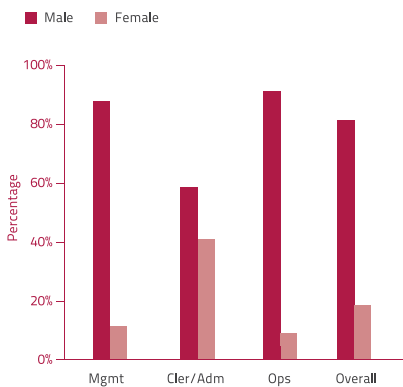
## Employment Features

**76,000**  
employed in Group  
Companies.

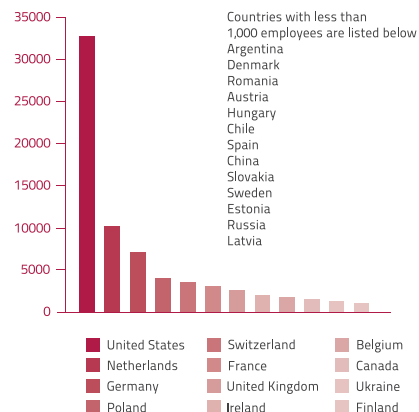
Number of Employees



Gender Balance by Category



Number of Employees  
by Country at end-2011



Group employment data for 2011 by geography, age, gender and employment category is outlined below.

The construction industry traditionally has employed a largely male workforce and this aspect of the sector is reflected in the Group's statistics. Currently 91% of our operational staff and 87% of our senior management are male. 42% of our clerical and administrative staff are female. The Group is committed to extending opportunities to all individuals in line with our stated policies within our workforce at every level and across all of our businesses.

At all locations, the majority of CRH employees come from the local population, typically reflecting its ethnic diversity; this inherently enhances bonds with local communities. A number of key industry characteristics should be noted when analysing employment data:

- Many jobs in CRH companies are physically demanding, often outdoors.
- As CRH continues to develop, there is an ongoing need to acquire new skills to operate more specialised, complex equipment and to continually improve quality, safety and environmental performance.
- The seasonal and cyclical nature of the industry places particular demands on

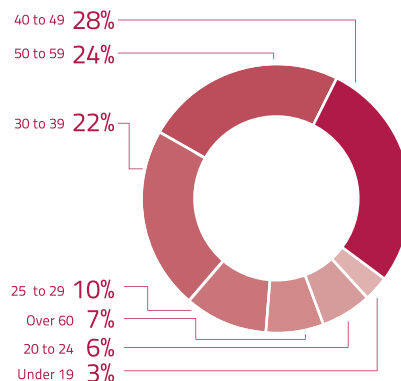
management and workforce to deal with peaks and troughs in demand.

As a result, Group companies focus on:

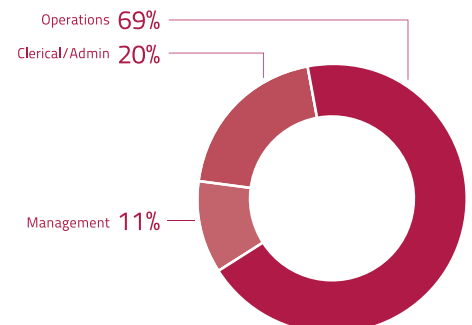
- Implementing all aspects of safety management throughout their operations.
- Training and creating opportunities for career development.
- Continuously improving employee welfare in line with best industry standards.
- Steadily improving workplace ergonomics and automation of repetitive and strenuous operations.
- Implementing specific policies to assist management and employees with retirement planning and with downsizing when necessary. For major operational changes appropriate notice periods are implemented.

While the nature of the industry makes it difficult to employ people with physical disabilities, CRH takes its responsibilities in this area seriously. In 2011, 47 companies employed a total of 442 people with disabilities.

Employees by Age 2011



Employees by Category 2011



## Employee Development

Many employees enjoy long-term careers with CRH, and this is a distinctive feature of the Group. CRH is regarded by many in the wider industry as a highly desirable employer.

The Group offers competitive pay, social and pension benefits at least in line with industry and local or national practice, often with bonuses linked to company and individual performance targets. In some cases, equity (share) based incentives are also provided in accordance with regulatory and industry practices in particular jurisdictions. Where local legislation defines a minimum wage, Group Companies offer entry level wages at or above this. All companies in CRH have policies in place to ensure equal pay for equal work for women and men.

Some 88% of Group companies, covering 77% of all employees, carry out regular employee briefings. While only 15% of employees take part in formal employee satisfaction reviews, most companies gauge employee satisfaction on an informal basis, as there are on average only 22 employees at each location. The flat organisational structure, together with small

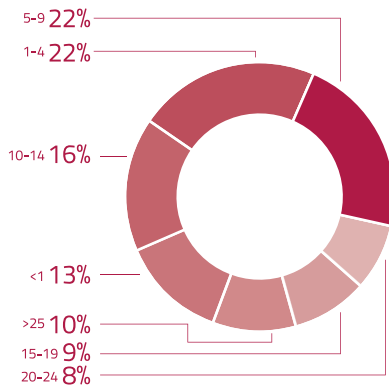
locally-managed operating units, ensures that close links are maintained between management and staff.

It is noteworthy that in 2011, the overall employee absenteeism level was reported at less than 2.5%. This can be regarded as a good overall indicator of employee satisfaction. Details relating to absenteeism are set out below.

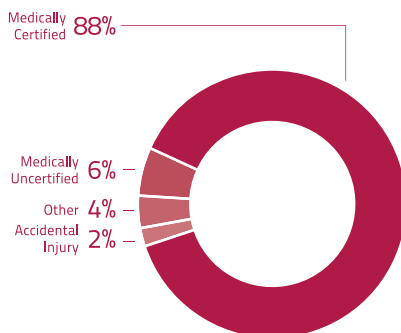
Excluding seasonal employees, Group employee turnover rate is about 13%, and this is typically higher in the first few years of employment. Fair and flexible hiring and lay-off practices apply, particularly in seasonal businesses. In these seasonal situations, some employees return year after year, which is in itself a good indicator of employee satisfaction.

The CRH culture is to foster employee entrepreneurship at a local level. In 2011, 52% of Group companies had employee suggestion schemes, which further enhance employee creativity and allow for appropriate recognition for innovative ideas.

Length of Service 2011



Absenteeism by Type 2011



1. The CRH Internal Audit team at its annual conference, which was held in March 2011 in Atlanta, USA. Working in the team provides opportunities for travel, career development and exposure to companies and cultures across the Group.



## Employee Development

**CRH recognises achievement and aims to create opportunities for employees at all levels.**

### Training

CRH continues to commit significant resources to training and developing employees throughout the organisation. In 2011, over 78% of companies noted that they offered career development opportunities or advice.

In 2011 an average of almost 20.5 hours of training took place per employee. This training focused mainly on safety but also included environmental, technical, leadership and skills training.

Following safety training, the major focus of the operating companies is on skills training with an emphasis on performance improvement in the business. At Divisional and Group level training focuses on the longer term and emphasises management development, core skills enhancement and the building of an international leadership pipeline for the future.

CRH also runs educational support programmes for employees across the Group to pursue further studies. In 2011, approximately 175,000 hours of training was undertaken in areas such as administration, language, technical skills, professional development and supervisory/management skills.

### Best Practice Sharing

The CRH Group is highly diversified geographically, culturally and by activity. Effective and rapid means of horizontally sharing knowledge across borders and cultures is achieved through best practice sharing which occurs through a variety of mechanisms across the Group.

Best practice groups in key product areas meet regularly at national, regional and international level. These best practice groups also focus on sustainability issues, particularly safety and environmental performance. The best practice activities are, therefore, in themselves a powerful conduit for continuous improvement in sustainability performance. In addition to the product-specific best practice groups, cross-divisional and cross-product groups also meet on health and safety and environmental issues. Best practice groups on key operational areas such as energy management and procurement are now embedded in business activities and are contributing to operational excellence. Audit programmes assist in the sharing of best practice. The group internal intranet sites also greatly assist in the dissemination of information in a range of safety, environment, technical and other business areas.

1. The Polish Environmental Best Practice Team meet on an annual basis. Shown is the meeting in September 2011, which was attended by environmental professionals from CRH companies across Poland.



2. The Cement Best Practice Technical Group, pictured here at the Denizli Cement Plant, Turkey, comes together on an annual basis to discuss developments in the cement industry.



## Human and Labour Rights

### The CRH Social Policy confirms the long standing Group commitment to the ILO Core Principles.

#### Human Rights

CRH is fully committed to human rights and supports, in so far as they are applicable to its companies, the principles as set out in the United Nations Declaration on Human Rights and the International Labour Organisation (ILO) Core Labour Principles. Compliance with the Social Policy is reviewed and monitored centrally.

The Code of Business Conduct specifically requires that Group companies, both in setting out policies and in practice, take due cognisance of the declared position on human rights when dealing with employees, contractors, customers and suppliers. CRH also considers human rights implications, where applicable, in investment decisions. For example, as mentioned on page 14, acquisition due diligence in developing countries covers human rights and other CSR issues.

CRH pays special attention to the purchase, directly or indirectly, of products in or from developing economies, and requires that its principal suppliers meet good practice and standards in respect of human rights.

In the review for the year 2011, all Group companies confirmed that there was no forced or compulsory labour employed at any location. In addition, all companies confirmed that no

employees or contractors worked at Group locations during 2011 if they were under the legal age in the relevant operating jurisdiction. Apprenticeship and internship programmes implemented are in accordance with local legislation and under regulation by government educational agencies.

#### Trade Unions

Trade union membership varies by business and country. In 2011, overall trade union membership was 21%. Wage negotiation is carried out at a variety of levels, depending on local industry practice. Overall in 2011, 79% of the wage reviews were carried out on an individual basis or through unions/groups, with the remainder being carried out through national pay deals or on some other basis. CRH has a very low number of days lost due to industrial disputes: in 2011, less than 900 man days were lost in the whole Group, equivalent to only 0.005% of all man days worked, another positive indicator of good employee relations.

All Companies operate in jurisdictions which provide employee retirement benefits. 70% of Companies offer additional retirement benefits to some or all of their employees.

1. In November 2011, a Compliance & Ethics conference was held in Amsterdam, Netherlands and attended by country co-ordinators from around the CRH Group.



## Management Development

**CRH commits significant resources to training and developing high-potential employees throughout the organisation to meet the leadership challenges of performance and growth.**

CRH management comprises a powerful blend of people from three distinct streams:

- Employees at operational, administrative, professional and management levels whose career opportunities grow as CRH grows.
- Highly skilled professionals who, on proving themselves, can move into senior management roles.
- Owner-entrepreneurs, who choose to stay on post-acquisition, bringing a strong "can do" attitude to the businesses they run and grow.

To supplement the management pool CRH also recruits specialist professionals focused on specific roles from the wider business arena. CRH's decentralised structure gives local, but disciplined, autonomy, which balances entrepreneurial drive with prudent operating practices consistent with Group guidelines. This continually fuels the Group's performance and growth imperatives.

All Divisions run management and leadership development programmes. These training

programmes are systematically reviewed and revised to ensure they meet the changing business environment and continue to deliver highly motivated and successful managers across Group businesses. Specific management training programmes have been developed by Group Human Resources and these include the Strategic Management Programme, the Management Development Programme and the Business Leadership Programme, which has been developed in module format. These programmes include contributions from senior CRH management and external specialists. They also form part of the talent management tools used at Group level to ensure there is a continuous availability of leadership talent to meet the Group's strategic objectives.

Senior managers from around the Group are brought together on a regular basis to focus on key areas of the business including corporate and business strategy. The annual Group Management Seminar has been developed as a forum where senior management review the Group performance and develop plans and strategies to ensure the continuing successful performance of the organisation.

1. Participants at the January 2012 CRH Management Seminar, held in Ireland, which reviewed 2011 performance and looked forward to 2012 and beyond.



## Customer Service

**CRH strongly believes that continued success in business is only achieved by continually exceeding customer expectations in the highly competitive markets in which it operates.**

The Group's broad customer base reflects its product and geographical diversity. Sales across the Group totalled approximately €18 billion in 2011. Individual businesses serve a wide range of customers including government agencies, contractors, distributors and private individuals, with no individual customer accounting for more than 1% of total Group sales.

Products are sold in highly competitive markets. CRH companies focus on excellence in customer care, product quality, value and service to distinguish them from competitors. Many products are independently certified to the highest quality.

In 2011, in addition to regular ongoing monitoring of customer relations on a personal and daily basis, 78% of Group companies carried out regular customer satisfaction surveys. In 2011, Group companies estimated that the satisfaction of 100% of customers was average or better.

The CRH Code of Business Conduct specifically addresses customer relationship management and has been distributed to marketing and sales managers throughout the Group. The

dissemination of the Code of Business Conduct has been continuously supported by a series of seminars and training events which explain compliance requirements. Division and product group management are responsible for the implementation of the Code. Monitoring is carried out centrally. The Group compliance function was significantly strengthened in 2011.

### Product Responsibility

The products delivered by CRH companies, when properly used, present negligible health risks throughout their life cycles. CRH products are accompanied by Safety Data Sheets containing appropriate advice on use and application.

Group management, together with internal and external health and safety experts regularly liaise with the relevant industry associations and regulatory bodies to ensure that Group companies are aware of and comply with their obligations in this area. In particular, Group companies in the EU are complying with the requirements of REACH, the European Regulation on chemicals and their safe use, in so far as the Regulation applies to the Group and its products.

1. The National Asphalt Pavement Association (NAPA) presented Staker Parson Companies (headquartered in Ogden, Utah, USA) with an award recognizing its Davis County Lane Gain project as the single best highway pavement project in the nation.



2. In May 2011, Allied Building Products hosted over 200 customers at the opening of its second prototype Contractor Tool Centre in East Rutherford, New Jersey, USA.



## Supply Chain Management

Individual operating companies source raw materials and supplies externally and also internally from other CRH companies. Internal sourcing arises from vertical integration and includes cement and aggregates supplied, for example, to readymixed concrete or concrete products producers within the Group. Competition in downstream markets ensures that internal sourcing remains competitive compared to alternatives.

Most suppliers are local, where the performance and reputation of the supplier is well known. None of the Group's major suppliers provide more than 5% of total purchases and most are below 1%. The majority of external purchasing contracts are negotiated by individual operating companies. These are increasingly being supplemented by centrally negotiated supplier agreements at national, regional or product group level for products such as cement, bitumen and float glass, energy related inputs such as natural gas, electricity, petcoke and mobile plant, and significant consumables such as grinding media, paper sacks and safety equipment.

Major external purchasing contracts are awarded following a rigorous competitive tendering process. Decision criteria include

price, quality, supplier reputation and CSR performance, including human rights. CRH is committed to responsible and cost-effective procurement from its diverse supplier base.

CRH has set out an Ethical Procurement Code, which is published in the Code of Business Conduct (available on [www.crh.com](http://www.crh.com)) and requires principal suppliers to adhere to good ethical business practices and meet appropriate standards. These requirements are in addition to other Code of Business Conduct provisions relating to legal compliance, use of confidential or inside information, conflicts of interest, provision or acceptance of gifts and prohibition of any form of bribe or similar inducement.

The Divisional purchasing directors, oversee purchasing policy. Methodologies to check on the CSR status of suppliers in higher risk areas of the world have been agreed and are implemented throughout the CRH Group. CRH ensures that principal suppliers operating in identified risk countries meet the requirements of the Ethical Procurement Code through interviews and inspections. High value suppliers are audited for CSR performance, both by CRH purchasing personnel and independently.

1. In September 2011, Senior Purchasing Managers from the CRH Europe Materials Division attended an ethical procurement training seminar in Dublin, Ireland.



2. Following a successful supplier audit focusing on various aspects of performance including CSR, crusher parts for use in Group operations are now being sourced from an approved manufacturer in Zhejiang Province, China.



## Case Study

# Community Engagement

CRH companies form an integral part of the many communities in which they operate. CRH companies are committed to ensuring that the genuine needs, views and interests of the local community are taken into consideration and are sensitive to the impact operations may have on neighbours, particularly those in the immediate vicinity of operating locations. This aspect of CRH's approach is delegated to local management teams and consequently is shaped according to the requirements of local stakeholders.

CRH contributes positively in many ways to the economies and societies in which it operates. For example, in 2011, CRH purchased approximately €10.5 billion worth of goods and paid €3.7 billion in wages, salaries, social welfare, pension and other wage related costs. CRH also paid total dividends of €445m (including €135m scrip) to shareholders, together with tax of €96m (Figures relate to subsidiaries and joint ventures on a percentage shareholding basis).



APAC Mid-South opened the first phase of the Warren County Quarry in Camak, Georgia, USA in September 2011. The concept of developing a granite quarry and rail load out facility in Camak, GA began in 2007 and APAC Mid-South immediately started engaging the community with the plans for the quarry and the betterment of the community economy. Consultations regarding the project proposal were held with local and state regulators, neighbours, media, civic groups and other organisations, including a "Drop In" community gathering, an "Open House" and ongoing information updates. The development features many impressive safety and environmental elements, combining a highly advanced safety system with the latest technology in operational control. Sustainable use of resources is also promoted – for example, 90% of water used in the energy-efficient plant is recycled and 180 acres of undisturbed nature areas surrounding the plant have been protected and will be maintained. The project was awarded the ABC (Associated Builders and Contractors) Excellence in Construction award in November and the AGC (Associated General Contractors) Build South Award in December.

## Community Initiatives

**402** open days  
by Group Companies.

Many CRH businesses develop partnerships with locally based organisations to integrate their activities within the communities in which they operate. This enables companies to raise their profile, build their reputation and ultimately assists with matters such as recruitment, employee relations and relationships with the local authorities.

Each group company conducts activities in this area applying a decision making process which has been developed and operated by local management teams. Within this Report examples of these activities are shown to demonstrate the approach taken.

Increasingly, Group companies are formalising their neighbour relations programmes. A key feature of many local engagements is the holding of advance discussions with neighbours on development plans.

Group companies held a total of 402 open days in 2011, demonstrating the ongoing commitment to the local community. Neighbours of all ages including school children, students, employees, community representatives, customers and local and regional public representatives and officials were invited to these events.

Open days provide an opportunity for neighbours to talk with company managers and employees, to see the production processes at first hand and be assured of the company's intention to be a good neighbour.

1. Helen Murdoch, Engineer's Assistant with Northstone Farrans, at the East End Regeneration site in Glasgow, Scotland. The contract includes a community benefits programme which promotes the recruitment of local young people.

2. In July 2011, CRH Sanling Cement Company and Xiaoling local community school jointly organised a drawing and essay competition with the theme of environmental protection. This is one of many community events held during 2011 by the company. Other events included a billiards competition, a chess game, a basketball tournament and a table tennis event.



## Community Support

**Group employees donate personal time to many worthy causes throughout the year.**

### Local and Charitable Initiatives

In 2011, 76 Group companies supported significant local initiatives, which included the provision of materials for churches, schools and homes, and support for local sporting, charity, nature conservation and educational events.

CRH supports a wide variety of worthy charitable initiatives both at a central and local level. In 2011, CRH contributed €3.2 million to civic and community causes, community development initiatives, education and research projects, local arts and culture initiatives, as well as other local causes such as job creation.

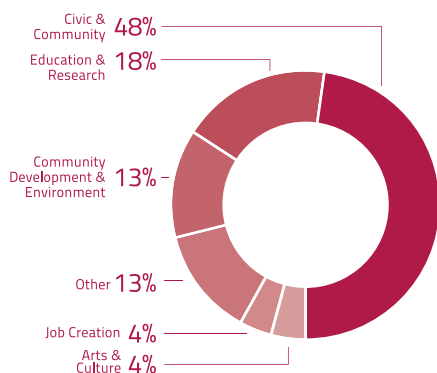
Approximately 70% of the annual donation budget is administrated at local level where the focus is on supporting community development and civic initiatives. Group-led initiatives tend to focus on education and research, the environment and a range of other issues - many of which are international in nature. In many companies, individual employees also contribute generously of their own time in supporting good local causes and their contributions are often matched by their company.

1. Oldcastle donates building materials and volunteer time to Habitat for Humanity around the USA. Oldcastle sponsored a complete Habitat house in Atlanta, Georgia in 2010 and a second complete Habitat house in Paterson, New Jersey was completed in 2011. The overwhelming success of the Oldcastle-Habitat Paterson New Jersey home is an example of the dedication and caring of Oldcastle employees who, along with their families and friends, donated more than 1,200 hours during the eight-week build. "This is a wonderfully inclusive sponsorship by Oldcastle", said Barbara Dunn, executive director, Paterson Habitat for Humanity, "Oldcastle is financing this house, supplying most of the materials and building it with their own hands".



### CRH Donations

Total: €3.2m



## Community Support

### Education

CRH sees education as an important societal issue and supports educational initiatives across its operations. In 2011, 18% of Group Donations were centred on such programmes.

Group companies are rooted in the communities in which they operate. They are linked in many ways, particularly through employees, to local schools and colleges, which are often identified as key stakeholders in the business. Group companies engage with schools and colleges through, for example, arranging visits to operations and visiting schools so that students can experience at first hand a variety of aspects of the building materials industry. These visits

also provide a valuable learning experience for students and have been focused on diverse areas including biodiversity, science, engineering and business.

In addition, many Group companies work to promote business, engineering and science as future careers for students, often in conjunction with professional associations and local educational establishments. This is supported through appropriate local means including bursaries, scholarships and provision of work experience.

Some examples are provided below.

1. Second graders from a local school visit Evans Construction, Wyoming, USA.
2. Klinkier, CRH's Polish clay products subsidiary, supported teams from a Gliwice primary school competing in a tournament in the USA.
3. A group of Penn State Architectural Students visited Glen-Gery's Hanley clay brick plant in Summerville, Pennsylvania, USA.
4. Bizworld 2011, a project that teaches students about business, was sponsored by Heras Netherlands, CRH Fencing & Security.



**During 2011, CRH Group companies were successful in a significant number of external award schemes focusing on various aspects of sustainability performance.**

## Health and Safety

A significant 382 health and safety external awards and recognitions were achieved by Group companies during 2011, reflecting the huge dedication to safety performance across the CRH Group.

In the USA, Oldcastle won a total of 353 safety awards from various awarding bodies including: Mine Safety and Health Administration, Occupational Safety and Health Administration, National Asphalt Pavement Association, National Stone, Sand & Gravel Association, National Ready Mix Concrete Association, National Concrete Masonry Association, Expanded Shale, Clay and Slate Institute, National Precast Concrete Association and other bodies.

In Europe, Northstone was successful in the Northern Ireland Safety Group/National Irish Safety Organisation award. Ibstock won 19 accolades in the UK Ceramic Industry Health and Safety Pledge Awards and Forticrete received an award from the British Safety Council. Cementownia Ozarów was listed among the Best Safety companies in Poland by the Central Institute for Labour Protection. Jura Cement was recognised by the Swiss Cement Industry. In Finland, Finnsementti was recognized by the European Agency for Safety and Health at Work.

## Environment

A significant 252 environmental external awards were achieved by Group companies during 2011, demonstrating CRH's ongoing solid commitment to environmental management.

In the USA, Oldcastle Materials won four awards from the National Stone, Sand and Gravel Association, 215 awards from the National Asphalt Pavement Association as well as 22 awards from the National Ready Mixed Concrete Association and other bodies.

In Ireland, Irish Cement Platin Works won an Irish Business and Employers Federation award for the use of alternative fuels.

In Poland, Cementownia Ozarów was awarded a Top Builder Environmental Award.

In Switzerland, Jura Materials won awards for Nature and Environmental protection and CO<sub>2</sub> reduction.

1. Oldcastle Precast's Idaho Falls, Idaho, USA location was awarded VPP Star worksite status for the second time after a rigorous review of their written safety and health management systems, ongoing performance and thorough on-site evaluation by OSHA's Voluntary Protection Programs (VPP) team of safety and health professionals.



2. In October 2011, CRH Ireland was one of the first companies in Ireland to be certified with the Business Working Responsibly Mark, which certifies excellence in responsible and sustainable business practices. It is the first such certification in Ireland, run by Business in the Community Ireland and audited by the National Standards Authority of Ireland.



## External Endorsements

CRH actively engages in a transparent manner on an ongoing basis with the major Socially Responsible Investment (SRI) Agencies on its sustainability and CSR performance. This

engagement takes the form of completing formal questionnaires issued by many of the Agencies as well as interviews, meetings and other contacts as relevant.

### Dow Jones Sustainability Indexes (Zürich)

In its September 2011 review, CRH was again included in the Dow Jones World and STOXX indexes. The rating was carried out on behalf of DJSI by SAM (Sustainability Asset Management), based on completion of a detailed questionnaire by CRH on governance, environmental and social performance. In January 2012, CRH was ranked by SAM amongst sector leaders as "Silver Class".



### FTSE4Good (London)

CRH was again included in the FTSE4Good Index in the March 2011, September 2011 and March 2012 reviews.



### Ethibel

CRH is a constituent of the Ethibel Sustainability Index Excellence Europe and of the Ethibel Sustainability Index Excellence Global.



### GovernanceMetrics International (GMI) (New York)

GMI, which focuses on corporate governance, continues to highly rank CRH.



### ECPI (Italy)

For the year 2011, CRH was again included in several ECPI® Indices following its ESG Research (Environmental, Social and Governance).



### Ethisphere (USA)

In 2012 CRH was again recognised by the Ethisphere Institute as one of the World's Most Ethical Companies.



### Carbon Disclosure Project (CDP)

CRH participated in the 2011 CDP, which requests data on carbon emissions and carbon management on behalf of named institutional investors. CRH also participated in the 2011 Water Disclosure Project, run by the CDP.



# WBCSD Cement Sustainability Initiative KPIs

## Key Performance Indicators for Cement Activities

KEY PERFORMANCE INDICATOR	2007	2008	2009	2010	2011
<b>Climate Change<sup>(1)</sup></b>					
Total CO <sub>2</sub> emissions (Gross), million tonnes	12.06	13.31	10.11	10.50	10.71
Total CO <sub>2</sub> emissions (Net), million tonnes	11.78	13.12	9.83	10.14	10.21
CO <sub>2</sub> emissions (kg) per tonne of cementitious product (Gross)	741	749	717	716	707
CO <sub>2</sub> emissions (kg) per tonne of cementitious product (Net)	724	738	697	692	674

<b>Alternative Fuels &amp; Materials<sup>(1)</sup></b>					
Energy efficiency (kcal/kg clinker)	964	955	926	931	930
% Fuel substitution for virgin fuels	7.2%	6.2%	10.8%	12.6%	17.3%
% Biomass in kiln fuel	1.5%	1.4%	2.0%	1.7%	3.2%
% alternative materials (clinker and cement)	10.1%	8.9%	12.2%	11.4%	14.0%
clinker : cement ratio	83.6%	81.8%	79.5%	78.9%	79.7%

<b>Health/Safety<sup>(2)</sup></b>					
No. of fatalities (directly employed)	0	0	0	1	0
Fatality rate per 10,000 (directly employed)	0	0	0	3.97	0
No. of fatalities (indirectly employed)	1	0	1	0	2
No. of fatalities (involving 3rd parties)	0	0	0	0	0
No. of lost time injuries (directly employed)	22	18	10	9	12
No. of lost days (directly employed)	850	646	677	285	224
Lost Time Incident (LTI) rate per 1m man hours (directly employed)	3.36	2.63	1.88	1.84	2.54
Severity rate per 1m man hours (directly employed)	130	94	127	58	47
No. of lost time injuries (indirectly employed)	7	12	5	7	6

<b>Emissions<sup>(1)</sup></b>					
Particulates, specific g/tonne of clinker	412	405	376	380	328
Particulates, total (tonnes per year)	5,631	5,924	4,222	4,433	3,931
NO <sub>x</sub> , specific g/tonne of clinker	1,929	1,646	1,580	1,532	1,505
NO <sub>x</sub> , total tonnes per year	26,383	24,051	17,730	17,883	18,043
SO <sub>x</sub> , specific g/tonne of clinker	257	200	224	209	204
SO <sub>x</sub> , total tonnes per year	3,513	2,917	2,510	2,436	2,441

<b>Emissions Monitoring<sup>(2)</sup></b>					
% Clinker Produced with monitoring of major and minor emissions	65.6%	74.7%	75.1%	77.5%	76.7%
% Clinker Produced using continuous monitoring of major emissions	78.8%	74.7%	75.1%	77.5%	82.7%

<b>Local Impacts<sup>(2) (3)</sup></b>					
No. of active quarries within, containing or adjacent to areas designated for their high biodiversity value	-	-	1	1	1
% of sites with high biodiversity value where biodiversity management plans are actively implemented	-	-	100.0%	100.0%	100.0%
% of sites with community engagement plans in place	85.7%	80.0%	72.2%	100.0%	100.0%
% of active sites with quarry rehabilitation plans	92.9%	86.7%	77.8%	92.9%	92.9%

Note 1: Subsidiary and joint ventures and associates on an equity share basis (excluding Kunda, Uniland and Yatai)

Note 2: Subsidiary Companies

Note 3: The original single KPI on biodiversity (Local Impacts) was updated by CSI in early 2009 and expanded

For definitions of these KPIs, refer to the CSI Interim Report, June 2005 on [www.wbcdcement.org](http://www.wbcdcement.org)

# Glossary

ABBREVIATION	EXPLANATION
Aggregates	Crushed stone, sand and gravel
Asphalt	A mixture of bitumen and aggregates: used for road and highway surfaces
Building Products	In relation to the activity breakdowns in this report Building Products includes fencing and security systems, roller shutters and awnings and construction accessories
C&D	Construction and Demolition
Cement	The primary binding agent used in building, made by grinding clinker and other materials to a fine powder, which can be mixed with water, sand and aggregates to set as concrete
Clay	A naturally occurring plastic material composed primarily of fine-grained minerals which can be mixed with other ingredients, shaped and fired to create clay bricks, roof tiles, pavers etc.
Clinker	A black nodular material which is the output of a cement kiln following decarbonation of limestone and reaction with other materials
Concrete	A building material consisting of sand, gravel or aggregates in a mortar or cement matrix, cast or moulded into blocks, pipes, tiles and other products
CO <sub>2</sub>	Carbon dioxide, generated by fuel combustion and decarbonation and/or oxidation of carbon in raw materials
CSI	Cement Sustainability Initiative
CSR	Corporate Social Responsibility
Decarbonation	The dissociation of calcium carbonate to calcium oxide with the evolution of carbon dioxide, occurs in the production of clinker and lime
Distribution	In relation to the activity breakdowns in this report Distribution includes DIY stores, specialist building materials suppliers and builders' merchants
DJSI	Dow Jones Sustainability Index
EIA/EIS	Environmental Impact Assessment/Statement
ELO	Environmental Liaison Officer (designated person in each company with functional responsibility for environmental compliance)
EMS	Environmental Management System
EPA	Environmental Protection Agency (of the country concerned)
G	Giga (10 <sup>9</sup> units)
GHG	Green House Gas
GWh	Gigawatt hours
Ha	Hectares (of land restored or landscaped), where 1 ha~ 2.5 acres
IPC, IPPC	Integrated Pollution (Prevention and) Control, i.e. permitting which integrates emissions to air, water, land etc into a single licence
ISO 9001	The International Standards Organisation model for management and external certification of quality
ISO 14001	The International Standards Organisation model for management and external certification of environmental performance
k	One thousand units
km	Kilometre
KPI	Key Performance Indicator
L	Litre
Leadership Position	Leadership positions quoted are on a volume basis
Lime	Calcium oxide, created by decarbonation of limestone, and calcium hydroxide
m	One million units
Materials	In relation to the activity breakdowns in this report Materials includes aggregates, asphalt, readymixed concrete
mg	Milligram
MSHA	Mine Safety and Health Administration (US)
NAP	National Allocation Plan (for CO <sub>2</sub> emissions)
NAPA	National Asphalt Pavement Association (US)
NGO	Non-Governmental Organisation
NO <sub>x</sub>	Nitrogen oxides
OHSAS 18001	Occupational Health & Safety Assessment Series certification of occupational health and safety
OSHA	Occupational Safety and Health Administration (US)
Other Process	In relation to the activity breakdowns in this report Other Process includes lime and lightweight aggregates production
NSSGA	National Stone, Sand & Gravel Association (US)
RAP	Recycled Asphalt Pavement
Readymixed Concrete	A mix of aggregates, sand and cement that can be poured into forms and sets as a solid mass
RMI	Repair, Maintenance and Improvement
SAM	Sustainability Asset Management (Zürich-based Rating Agency for DJSI)
SO <sub>x</sub>	Sulphur oxides
SRI	Socially Responsible Investment
Specific	A term defining emissions on a per tonne of product basis
T	Tera (10 <sup>12</sup> units)
TWh	Terawatt hour
Tonnes	Metric tonnes
WBCSD	World Business Council for Sustainable Development
WMA	Warm Mix Asphalt



# DNV Assurance Statement

## CRH Sustainability & Corporate Social Responsibility Report 2011

### Introduction

Det Norske Veritas Ltd. (DNV) was commissioned by the management of CRH plc (CRH) to carry out an independent third party assurance engagement on CRH's 2011 Corporate Social Responsibility Report (the Report). The engagement focused on the information provided in the Report and the underlying management and reporting processes. As part of this engagement, DNV also verified CRH's reported World Business Council for Sustainable Development – Cement Sustainability Initiative (WBCSD-CSI) Key Performance Indicators (KPIs). The specific scope of this verification, our approach and specific conclusions on reliability are reported separately in the CSI Assurance Statement, but they form part of this assurance statement and should not be read, referred to, or relied upon in isolation.

This Assurance Statement is intended for the readers of the CRH CSR Report. CRH is responsible for the collection, analysis, aggregation and presentation of all information and assertions made within the Report. DNV's responsibility regarding this assurance engagement is to the management of CRH only, in accordance with terms of reference and scope of work agreed. DNV disclaims any liability or responsibility to a third-party for any decisions, whether investment or otherwise, based upon this Assurance Statement.

### Scope of Assurance

This assurance engagement covered data from the 2011 calendar year. The scope of DNV's assurance engagement included the verification of:

- CSR policies, goals, initiatives, practices and performance, as described in the Report. These were verified at Group level as well as in site visits to 7 production facilities, 1 off-site verification, and in telephone / video conferences with 2 production facilities of CRH operating companies and joint ventures.
- The Health & Safety, Social and Environmental data management systems, and associated processes and tools for collecting, analysing, aggregating and reporting quantitative and qualitative information provided in the Report.
- Processes for defining the boundaries, focus and content of the Report.
- The extent to which the principles and requirements of the Global Reporting Initiative (GRI) Guidelines for Sustainability Reporting (2006) (GRI G3) are reflected in the Report and the corresponding application level declared by CRH.
- The extent to which the principles of Materiality, Inclusivity and Responsiveness are adopted, in line with the requirements of

the AccountAbility 1000 Assurance Standard (2008) (AA1000AS (2008)) for a Type 2 high level assurance engagement. The reliability of the information within the Report for calendar year 2011 was verified to a high level of assurance, with particular attention paid to the following:

- Health & Safety: safety management, frequency rate, severity rate, fatalities;
- Environment & Climate Change: energy use, CO<sub>2</sub> emissions, alternative materials and fuels, materials recycling, water management, and waste management;
- Corporate Governance: communication of the code of conduct and hotline to employees and management at sites visited during the assurance engagement, and mechanisms for communication on these matters to the Board of Directors;
- People & Community: number of employees, gender balance and absenteeism rates.

CRH's reporting boundaries include all operating companies over which CRH management exercises significant control. Where data and information from joint ventures and associated companies is included, it is noted within the Report.

All elements of this assurance engagement were carried out in accordance with the requirements of AA1000AS (2008) for Type 2, high level of assurance, aside from the CSI KPIs for which a moderate level of assurance was provided. The verification of CRH's CSI KPIs for CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates and Health & Safety is detailed in the separate CSI assurance statement.

### Limitations

The engagement excluded the CSR management, performance and reporting practices of CRH's suppliers, contractors and any third-parties mentioned in the Report. DNV did not interview external stakeholders as part of this assurance engagement.

### Statement of Competence and Independence

DNV provides sustainability risk management services through specialists worldwide. This engagement was undertaken by a team of suitably qualified and experienced sustainability professionals. DNV was not involved in the preparation of any information presented in the Report, with the exception of the CSI Assurance Statement and this Assurance Statement. DNV did not provide any services to CRH or its stakeholders during 2011 that could compromise the independence or impartiality of our work.

### Verification Methodology

This assurance engagement was carried out between April and July 2012, and in accordance with the DNV Protocol for Verification of Sustainability Reporting, which is based on the GRI G3 and AA1000AS (2008). In reaching our conclusions, we have undertaken the following work:

- Interviewed more than 10 CRH executives and management representatives from different Divisions and functions of the Group, in addition to more than 40 representatives interviewed during site visits;
- Visited CRH's Head Office at Belgard Castle and CRH Europe Materials' Head Office in Ireland. DNV has conducted site visits to: Oldcastle Precast (USA); Staker Parson Mountain West (USA); Reuss-Seifert (Germany); Ergon (Belgium); Ożarów Cement (Poland); Klinkier (Poland); and Finnsementti Lappeenranta (Finland). An offsite visit was held with Irish Cement. Telephone conferences were held with Harbin Sanling Cement (China) and Bauking (Germany). These sites were selected to achieve a balanced range of products, geographies, length of time within the Group, and the level of CSR maturity;
- Examined relevant documents, data and other information requested by DNV and made available by CRH;
- Reviewed a selection of internal communication and external media reports relating to CRH's CSR management approach, performance and adherence to its policies;
- Reviewed the mechanisms implemented by CRH to promote and oversee its CSR-related policies across the Group, as described in the Report;
- Analysed CSR data management systems at Group, Divisional, Company and site level, assessing specified data and information reported by CRH (in accordance with the requirements of AA1000AS 2008). The assessment of reliability of data and information was based on explicit assertions regarding CSR performance on material issues and included a review of their completeness and accuracy. It included a review of the methods, practices and tools used in the collection, aggregation, analysis, internal quality control and reporting of the data and information. DNV's assessment also included: high-level trend analysis; the identification and analysis of significant changes in performance since 2010; a review of data traceability; and record checks at different stages in the data flows, from source to Group level.

# DNV Assurance Statement

## CRH Sustainability & Corporate Social Responsibility Report 2011

### Conclusions

In DNV's opinion, and based on the scope of this assurance engagement, the Report provides a reliable and fair representation of CRH's CSR-related policies, goals, initiatives, practices and performance in 2011. CRH has in place a robust data collection methodology which is used to aggregate site and subsidiary data received in the form of an annual questionnaire. Received information is extensively scrutinised by CRH prior to public disclosure.

CRH is committed to the Health & Safety of its employees, and the level of awareness and commitment from management across the sites visited as part of this assurance engagement was found to be high. There was also evidence of active engagement of site staff, in terms of establishing key risks through risk assessments and the provision of appropriate safety information and training. DNV commends CRH for their continued focus on contractor safety.

The level of commitment to environmental sustainability across sites visited appears to vary between different divisions and product-types, ranging from the reporting of key impacts to 'continuous improvement' and at select sites, 'going above and beyond' through innovation. CRH continues to invest in measures to reduce carbon emissions and to minimise local air quality impacts, through the use of alternative fuels, transport optimisation, and through process upgrades and abatement technologies.

Based on the work undertaken as part of this assurance engagement, DNV believes that the Report meets the principles, content and quality requirements of GRI G3 and AA1000AS (2008) for a type 2 high level of assurance. We confirm the GRI application level of A+ declared by CRH. Further conclusions and observations on the adoption of reporting principles and specified performance information are made below:

**Inclusivity and Responsiveness:** Overall, CRH has a good understanding of the information needs of its stakeholders and has used this knowledge to inform the content and structure of the Report. Stakeholder engagement is undertaken from Group level through to individual sites. As CRH is a federal company, each subsidiary manages external stakeholder engagement practices individually, and these are tailored to the local context. All subsidiaries follow Group guidelines on engaging employees on environment, health and safety and social matters. At Group level, employees are regularly involved in setting strategies, plans and actions through best practice meetings established around a product or regional grouping to review environmental or health and safety matters. In addition, CRH holds regular feedback meetings on environmental,

health and safety and social matters across different regions and business lines.

CRH actively engages with a range of external stakeholders, including SRI rating agencies, investors and shareholders, governments and regulators, and participates in industry associations such as the WBCSD-CSI and CEMBUREAU, to address CSR issues material to its sector and its business.

**Materiality:** While CRH does not have a formal, structured materiality determination process, at Group level the organisation maintains a range of internal processes which are effective in bringing out CSR issues of relevance and importance to the business and stakeholders. Through these processes, CRH is able to continue to identify and address material CSR issues and is able to stay informed of trends and changes in CSR over time. These processes have also been used by CRH to inform the content of the Report.

**Reliability:** The data measurement techniques and basis for calculations have been duly described to DNV and can be replicated with similar results. No systematic errors have been detected for data and information verified in accordance with our scope of assurance. We have not found any material inaccuracies or gaps that would significantly affect the way performance is perceived by stakeholders. However, in terms of water recycling, DNV identified differences in the methods that sites use to calculate water recycling rates and CRH is understood to be considering this issue further.

CRH is to be commended for continuous efforts to improve the company's rigorous and comprehensive CSR data management processes at Group level. DNV considers that reported information is subject to a high level of scrutiny during data collection and aggregation, and as part of internal review processes. The use of an online SharePoint database continues to reduce the need for data manipulation at Group level, resulting in a high level of data reliability.

The Report presents information in a clear manner which facilitates the comparison of environmental and health and safety performance over a five year period. For cement, which accounts for a significant share of the Group's environmental impact, CRH reports specific (per tonne of product) CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub> and particulate emissions values in line with the CSI KPIs.

**Completeness:** The Report includes all entities that meet the criteria of being subject to control or significant influence of the reporting organisation, and does not omit relevant information that would influence stakeholders' decisions or that reflect significant Environmental or Health & Safety or Social issues.

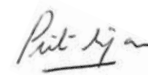
**Neutrality:** In general the Report provides a fair and balanced representation of CRH's CSR approach and performance in 2011. The Report includes information on the environmental and health and safety challenges faced as well as explanations for changes in related performance trends. We would encourage CRH to include further discussion in the report on the social dimensions and related challenges facing the group.

### Opportunities for Improvement

The following is an excerpt from the observations and opportunities reported back to the management of CRH to encourage continual improvement. However, these do not affect our conclusions on the Report.

- We encourage CRH to continue to work with subsidiaries and local sites, particularly those recently joining the CRH Group, to enhance their data collection and management practices.
- We encourage CRH to develop a consistent methodology for the calculation of water indicators across sites.
- DNV would recommend that CRH continues with its commitment to report a Full Disclosure where appropriate and practicable, and continues to achieve an A+ application level under the GRI reporting structure.
- Consider the development of quantitative Group level environmental goals for the reduction of energy consumption, water consumption and waste generation, and reporting on progress annually in the CSR Report.
- Consider the development of specific and measurable future objectives across the four areas of Sustainability performance (health & safety, governance, environment & climate change, and people & community).
- Consider reviewing the process by which key material issues are determined and prioritised, as well as how this is communicated within the Report.

For Det Norske Veritas Ltd.



Priti Nigam  
Lead CSR &  
GHG Verifier



Jon Sykes  
CSR Verifier



Antonio Astone  
Technical Review  
and Quality  
Assurance

London, July 2012



# DNV Assurance Statement

CRH Key Performance Indicators reported to the  
Cement Sustainability Initiative 2011

## Introduction

CRH plc (CRH) commissioned Det Norske Veritas (DNV) to carry out an independent third party assurance engagement on the Key Performance Indicators (KPIs) reported for 2011 to the World Business Council for Sustainable Development – Cement Sustainability Initiative (WBCSD-CSI), as well as underlying management and reporting processes. The indicators are included in CRH's 2011 Corporate Social Responsibility Report (the Report), and DNV's data verification task was part of the broader assurance engagement described in DNV's main Assurance Statement within this Report. This Assurance Statement on WBCSD-CSI KPIs should not be referred to in isolation from the main Assurance Statement.

The Assurance Statement is aimed at the readers of the Report. CRH is responsible for the collection, analysis, aggregation and presentation of all information and assertions made within the Report related to the specified WBCSD-CSI KPIs. DNV's responsibility is to CRH management only. DNV disclaims any liability or responsibility to a third-party for any decisions, whether investment or otherwise, based upon this Assurance Statement.

## Scope of Assurance and Limitations

The scope of DNV's CSI assurance engagement included verification of:

- The reported greenhouse gas emissions (specific and total direct CO<sub>2</sub> emissions, gross and net) as well as NO<sub>x</sub>, SO<sub>x</sub> and particulates, specific and total emissions, generated within cement production facilities wholly and partially owned by CRH;
- The reported Health & Safety (H&S) KPIs (fatalities, lost time injuries, lost days, LTI and severity rates) for wholly owned cement production facilities;

- The reported emissions monitoring coverage rates for wholly owned cement production facilities;
- Group procedures, processes and guidance for measurement and reporting of CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, Particulates and H&S KPIs, and compliance with these at the sites visited;
- Processes for data collection, aggregation, analysis and reporting at site, Company and Group level;
- Alignment of site, Company and Group level procedures, processes and guidance with the WBCSD-CSI performance measurement and reporting guidelines for CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, Particulates and H&S, and other relevant standards identified below.

Data verified was for calendar year 2011. The assurance engagement did not include a detailed assessment of the adequacy, effectiveness or efficiency of CRH's strategy or management approach. It also excluded management, performance and reporting practices by CRH's suppliers and other third parties mentioned in the Report. For CO<sub>2</sub> data management and reporting purposes, CRH made use of the latest reporting tool recommended by the WBCSD-CSI (version 2.0). The validation of the WBCSD-CSI reporting tool was not part of the scope of this engagement.

## Verification Methodology

This assurance engagement was carried out between March and July 2012, by a multi-disciplinary team of suitably qualified and experienced sustainability professionals. It was planned and carried out in line with the DNV Protocol for Verification of Sustainability Reports, which is based on the Global Reporting Initiative (GRI) Guidelines for Sustainability Reporting (2006) and AA1000AS (2008).

In addition, our risk-based verification approach for CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>x</sub>, and Particulates performance information draws from the criteria set out in ISO14064 (part 3), the verification protocol developed by the International Emissions Trading Association, the WBCSD-CSI Protocol "CO<sub>2</sub> and Energy Accounting and Reporting Standard for the Cement Industry" (May 2011), and the WBCSD-CSI Protocol "Guidelines for Emissions Monitoring and Reporting in the Cement Industry" (March 2012). Our risk-based verification for H&S performance information draws from the criteria set out in the WBCSD-CSI Protocol "Safety in the Cement Industry: Guidelines for Measuring and Reporting" (October 2008). All elements of the assurance engagement related to the above-described CSI performance data were carried out in accordance with the requirements of AA1000AS (2008) for type 2, moderate level of assurance.

As a part of the CSI verification process, the following tasks were undertaken by DNV:

- Reviewed Group procedures, policies and guidance for data collection, aggregation, measurement, analysis and reporting of specified performance information at site, Company and Group levels, and assessed their alignment with WBCSD-CSI Protocols referenced above, and other relevant standards;
- Conducted 1-day site visits to 2 cement production facilities: Ożarów Cement (Poland), Finnsementti, Lappeenranta (Finland), as well as an off-site visit to Irish Cement, Platin (Ireland); and undertook documentary due diligence of the performance data for Harbin Sanling (China) combined with a telephone conference. Together these 4 production facilities represent approximately 48% of CRH's total gross CO<sub>2</sub> emissions for subsidiary Company cement facilities in 2011 and 29% of CRH's total gross CO<sub>2</sub> emissions for cement facilities

# DNV Assurance Statement

## CRH Key Performance Indicators reported to the Cement Sustainability Initiative 2011

on an equity share basis in 2011, as reported on page 71 of the Report. The primary purpose of the visits and meetings was to assess adequacy and effectiveness of the processes being implemented by these reporting units to collect, aggregate, analyse and report CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates and H&S data. This was carried out mainly through interviews with data owners, on-site review of the data repositories and performance records, and desktop study of performance data sent from site to Group. The interviews also enabled DNV to assess compliance with Group procedures, processes and guidance;

- Verified the boundary setting and accounting processes for CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates, and H&S data;
- Performed tests, on a sample basis, of selected CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates, and H&S data, in order to assess the reliability of data and information managed at site, Company and Group levels;
- Reviewed the relevant sections of the Report and assessed the reliability of information presented on CRH Group's CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates, and H&S performance;
- Reviewed internal communications and external reports relating to CRH's CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates, and H&S performance. For cement plants covered by the European Emissions Trading Directive (2007/589/CE), DNV assessed consistency of CO<sub>2</sub> direct emissions (and fuel consumption data) reported internally with the figures verified and declared to relevant authorities.

### Conclusions

In DNV's opinion, based on the work carried out, the Report provides a reliable and fair representation of CRH's CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates, and H&S performance in 2011.

The CSI performance data and KPIs reported on page 71 of the Report have been collected and reported based on requirements of the WBCSD-CSI protocols referenced above, and any exceptions have been noted by CRH.

DNV believe that the CSI-related performance information and KPIs reported generally meet the principles, content and quality requirements of the AA1000AS (2008) for a type 2 moderate level of assurance. Further conclusions and observations on the specified performance information verified are made below. For conclusions and observations related to the adoption of reporting principles and the AA1000 (2008) Assurance Principles of Materiality, Inclusivity and Responsiveness, see DNV's main Assurance Statement.

**Reliability:** The CSI data measurement techniques and basis for calculation of CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, Particulates and H&S CSI KPIs have been duly described to DNV and can be replicated with similar results. No systematic errors have been detected for data and information verified in accordance with the above-described scope of assurance. Furthermore, we have not found any material inaccuracies or gaps that would significantly affect the way performance is perceived by stakeholders.

DNV has tested the reporting systems currently in place for CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>, and Particulates, and found that these systems demonstrated a robust and well-managed process for collection, management and reporting of performance data. Boundary setting (at Group and site levels) meets the mandatory requirements of the relevant performance measurement and reporting standards and guidelines. Relevant exceptions have been noted by CRH in the Report.

Comprehensive corporate procedures, guidelines and processes for Health & Safety data collection, management, internal quality assurance and reporting exist at Group level.

A review of site processes for the collection and management of H&S performance indicated the processes to be robust. These processes are aligned with the principles and fulfill the requirements of the relevant measurement and reporting guidelines referenced above. Relevant exceptions have been noted by CRH in the Report.

### Findings

Based on our conclusions, the following observations are made to encourage continual improvement, though they do not affect the conclusions above:

- DNV commends the increase in percentage of alternative fuels used at CRH plants. Availability and procurement of these fuels in certain geographical locations is understandably a challenge and DNV recommends the continued development of a group-wide procurement strategy focused on identifying opportunities for and challenges to further enhancing alternative fuel use globally.
- The planned implementation of an online database for automation of data collection will greatly enhance the quality and accuracy of data; DNV commends the efforts CRH has already made in automating data in 2011.
- Additional guidance to sites on classification of materials as alternative fuels could be provided to enhance data consistency across all sites. It is understood that this issue is the subject of ongoing industry debate.

For Det Norske Veritas Ltd.,

  
Priti Nigam  
Lead CSR &  
GHG Verifier

  
Jon Sykes  
CSR Verifier

London, July 2012

# Relationship to GRI G3 Guidelines

CRH Sustainability Report 2011

INDICATOR	DESCRIPTION	PAGE NUMBER	DISCLOSURE
<b>Strategy and Analysis</b>			
1.1	CEO Statement on relevance of sustainability to the organisation & strategy	1-2	Full Disclosure
1.2	Description of key impacts, risks, and opportunities	7-8, 53-54	Full Disclosure

<b>Organisational Profile</b>			
2.1	Name of the organisation	5	Full Disclosure
2.2	Primary brands, products, and/or services	5, 9-10, 46	Full Disclosure
2.3	Operational structure of the organisation	5, 11-12, Annual Report 2011 p. 118-125	Full Disclosure
2.4	Location of organisation's headquarters	5, back cover	Full Disclosure
2.5	Countries where the organisation operates	5, 12	Full Disclosure
2.6	Nature of ownership and legal form	5, 11	Full Disclosure
2.7	Markets served	5, 9-12	Full Disclosure
2.8	Scale of the reporting organisation	5, 10-13, 58, 63, Annual Report 2011 p. 18, 45, 61	Full Disclosure
2.9	Significant changes during the reporting period in size, structure, ownership	13-14	Full Disclosure
2.10	Awards received in the reporting period	69-70	Full Disclosure

<b>Report Parameters</b>			
3.1	Reporting period (e.g. fiscal/calendar year) for information provided	front cover, 82	Full Disclosure
3.2	Date of most recent previous report (if any)	82	Full Disclosure
3.3	Reporting cycle (annual, biennial, etc.)	inside cover, 82	Full Disclosure
3.4	Contact point for questions regarding the report or its contents	back cover	Full Disclosure
3.5	Process for defining report content	1-2, 6-8, 15, 82	Full Disclosure
3.6	Boundary of the report	inside cover, 82	Full Disclosure
3.7	Any specific limitations on the scope or boundary of the report	inside cover, 82	Full Disclosure
3.8	Basis for reporting on joint ventures, subsidiaries, etc.	inside cover, 82	Full Disclosure
3.9	Data measurement techniques and the bases of calculations	82	Full Disclosure
3.10	Explanation of effect of re-statements of information provided previously	Note: no restatements	Full Disclosure
3.11	Significant changes in scope, boundary, or measurement methods	Note: no significant changes	Full Disclosure
3.12	Table identifying the location of the Standard Disclosures in the report	77-80	Full Disclosure
3.13	Policy and current practice on seeking external assurance for the report	2, 82	Full Disclosure

<b>Governance, Commitments, and Engagement</b>			
4.1	Governance structure of the organisation	49-51	Full Disclosure
4.2	Indicate if Chair of the board is also an executive officer	49	Full Disclosure
4.3	The board members that are independent and/or non-executive members	49, Annual Report 2011 p. 38-39	Full Disclosure
4.4	Ways for shareholders and employees to provide recommendations or direction	15, 49-50, 58-60	Full Disclosure
4.5	Link between compensation of board and management with performance	50, Annual Report 2011 p. 48-55	Full Disclosure
4.6	Processes in place for the board to ensure conflicts of interest are avoided	48-54, Annual Report 2011 p. 40-49	Full Disclosure
4.7	Process for determining the qualifications and expertise of the board	49-50, Annual Report 2011 p. 40-49	Full Disclosure
4.8	Internally developed statements of mission or values, codes of conduct, & principles	1-2, 19, 29, 51-52, 57	Full Disclosure
4.9	Procedures of the board for overseeing identification and management of performance	20-30, 49-54, 57, 62	Full Disclosure
4.10	Processes for evaluating the boards own CSR performance	49-51, Annual Report 2011 p. 40-49	Full Disclosure
4.11	Explanation of whether and how the precautionary approach or principle is addressed	49-54, Annual Report 2011 p. 40-49	Full Disclosure
4.12	Externally developed economic, environmental, and social charters, principles	1-2, 6-8, 36	Full Disclosure
4.13	Memberships in associations	1-2, 36, 70, 71	Full Disclosure
4.14	List of stakeholder groups engaged by the organisation	inside cover, 15-16, 65-70	Full Disclosure
4.15	Basis for identification and selection of stakeholders with whom to engage	inside cover, 15-16, 65-70	Full Disclosure
4.16	Approaches to stakeholder engagements	inside cover, 15-16, 65-70	Full Disclosure
4.17	Key topics and concerns that have been raised through stakeholder engagement	15, 16, 52, 65-70	Full Disclosure

# Relationship to GRI G3 Guidelines

CRH Sustainability Report 2011

INDICATOR	DESCRIPTION	PAGE NUMBER	DISCLOSURE
<b>Economic</b>			
	Disclosure on Management Approach	1-14, 32-38, 56-70	Full Disclosure
EC1	Direct economic value generated and distributed	13, 67, Annual Report 2011 p. 71-75, 118-125	Full Disclosure
EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	1-2, 32-38, 46, 53-54	Full Disclosure
EC3	Coverage of the organisation's defined benefit plan obligations	61, Annual Report 2011 p. 98-101	Full Disclosure
EC4	Significant financial assistance received from government	Note: no significant assistance	Full Disclosure
EC5	Additional: Range of ratios of standard entry level wage compared to local minimum wage	59	Partial Disclosure*
EC6	Policy, practices, and proportion of spending on locally-based suppliers	64	Partial Disclosure*
EC7	Local hiring and proportion of senior management hired from the local community	57-59	Partial Disclosure*
EC8	Development and impact of infrastructure provided primarily for public benefit	9-10, 46, 65-69	Full Disclosure
EC9	Additional: Understanding and describing significant indirect economic impacts	65-68	Full Disclosure

<b>Environmental</b>			
	Disclosure on Management Approach	1-2, 6-8, 28-46, 63, 71	Full Disclosure
EN1	Materials used by weight or volume	1, 35, 38 Note: Production quantities relate closely to material use.	Partial Disclosure*
EN2	Percentage of materials used that are recycled input materials	35, 41, 71	Full Disclosure
EN3	Direct energy consumption by primary energy source	33, 38	Full Disclosure
EN4	Indirect energy consumption by primary source	33, 34, 38 Note: primary source breakdown not available	Partial Disclosure*
EN5	Additional: Energy saved due to conservation and efficiency improvements	35, 38, 71	Partial Disclosure*
EN6	Additional: Energy-efficient or renewable energy products and services	32-38, 46, 71	Full Disclosure
EN7	Additional: Indirect energy consumption reduction initiatives and results	32-38	Full Disclosure
EN8	Total water withdrawal by source	43	Full Disclosure
EN9	Additional: Water sources significantly affected by withdrawal of water	Note: none significantly affected	Full Disclosure
EN10	Additional: Percentage and total volume of water recycled and reused	43	Full Disclosure
EN11	Location and size of land by protected areas and areas of high biodiversity value	44-45	Partial Disclosure*
EN12	Description of significant impacts of activities, products and services on biodiversity	44-45	Full Disclosure
EN13	Additional: Habitats protected or restored	44-45	Full Disclosure
EN14	Additional: Managing impacts on biodiversity	44-45	Full Disclosure
EN15	Additional: IUCN Red List species and other list species with habitats affected by operations	44-45	Partial Disclosure*
EN16	Total direct and indirect greenhouse gas emissions by weight	34, 71	Full Disclosure
EN17	Other relevant indirect greenhouse gas emissions by weight	32-38, 71 Note: CO <sub>2</sub> is the only relevant GHG	Full Disclosure
EN18	Additional: Initiatives to reduce greenhouse gas emissions and reductions achieved	32-38, 71	Full Disclosure
EN19	Emissions of ozone-depleting substances by weight	Note: not applicable to the building materials industry	
EN20	NO <sub>x</sub> , SO <sub>x</sub> , and other significant air emissions by type and weight	39-40, 71, 82	Full Disclosure
EN21	Total water discharge by quality and destination	43 Note: destination varies	Partial Disclosure*
EN22	Total weight of waste by type and disposal method	42	Full Disclosure
EN23	Total number and volume of significant spills	30	Full Disclosure
EN24	Additional: Weight of waste deemed hazardous	42	Full Disclosure
EN25	Additional: Details of water and habitats significantly affected by discharges of water and runoff	43 Note: no significant impacts from water discharges	Full Disclosure
EN26	Initiatives and extent of environmental impacts of products and services mitigation	32-38, 46, 63	Full Disclosure
EN27	Percentage of products sold and their packaging materials reclaimed by category	42	Partial Disclosure*
EN28	Significant fines and non-monetary sanctions for non-compliance with environmental law	30 Note: no significant non-monetary sanctions were identified	Full Disclosure
EN29	Additional: Significant environmental impacts of transporting products etc. and workforce	32, 34, 38	Full Disclosure
EN30	Additional: Total environmental protection expenditures and investments by type	31	Full Disclosure

# Relationship to GRI G3 Guidelines

CRH Sustainability Report 2011

INDICATOR	DESCRIPTION	PAGE NUMBER	DISCLOSURE
<b>Social : Labour Practices and Decent Work</b>			
	Disclosure on Management Approach	1-2, 6-8, 17-26, 56-70	Full Disclosure
LA1	Total workforce by employment type, employment contract, and region	58-59 Note: breakdown by employment and contract type not available	Partial Disclosure*
LA2	Total number and rate of employee turnover by age group, gender, and region	59 Note: breakdown of turnover not available'	Partial Disclosure*
LA3	Additional: Benefits for full-time employees not provided to temporary or part-time	61	Partial Disclosure*
LA4	Percentage of employees covered by collective bargaining agreements	58, 61	Full Disclosure
LA5	Minimum notice period(s) regarding significant operational changes	58, 60-61	Partial Disclosure*
LA6	Additional: % workforce in formal management-worker health and safety committees	23	Full Disclosure
LA7	Rates of injury, occupational diseases, lost days and absenteeism, & number of work-related fatalities by region	17-26, 59	Full Disclosure
LA8	Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases	24 Note: CRH does not have a significant presence in countries with endemic diseases such as HIV/AIDS	
LA9	Additional: Health and safety topics covered in formal agreements with trade unions	17-26	Full Disclosure
LA10	Average hours of training per year per employee by employee category	23, 59-60, 62 Note: Average training per employee by category - Management 27.8 hrs, Clerical/Admin 14.2 hrs & Operations 21.2 hrs	Full Disclosure
LA11	Additional: Programmes for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	59-60, 62	Full Disclosure
LA12	Additional: % employees with regular performance & career development reviews	59-60, 62	Partial Disclosure*
LA13	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	47-50, 57-58, Annual Report 2011 p. 38-39	Full Disclosure
LA14	Ratio of basic salary of men to women by employee category	59, Note: same job same pay, breakdown not available	Partial Disclosure*

<b>Social : Human Rights</b>			
	Disclosure on Management Approach	1-2, 6-8, 57, 61	Full Disclosure
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening	14, 61, 64	Partial Disclosure*
HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken	51-52, 64	Partial Disclosure*
HR3	Additional: Hours and % of employee training on policies and procedures in human rights	51-52, 64	Partial Disclosure*
HR4	Total number of incidents of discrimination and actions taken	51-52	Partial Disclosure*
HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights	57, 61, 64	Full Disclosure**
HR6	Operations with significant risk for incidents of child labour, and measures taken to eliminate	57, 61, 64	Full Disclosure***
HR7	Operations with significant risk of forced or compulsory labour, and measures to eliminate	57, 61, 64	Full Disclosure***
HR8	Additional: Percentage of security personnel trained in the organisation's policies or procedures concerning aspects of human rights that are relevant to operations	Note: 50 Companies provided relevant human rights training during 2011	Partial Disclosure*
HR9	Additional: Incidents of violations involving rights of indigenous people & actions taken	Note: not applicable as CRH does not have a presence in countries of concern	

#### Notes:

\* CRH is a federal Group and consequently company-level data for some GRI indicators is not collated centrally although overall performance is monitored. For these indicators CRH has therefore reported a Partial Disclosure. CRH reviews annually the scope of its CSR data collection and where appropriate and practicable in the future will report a Full Disclosure on relevant indicators.

\*\* CRH fully supports the right to exercise freedom of association and collective bargaining and has not identified any operations where this is at risk.

\*\*\* Some CRH operations are in developing regions where risk of child labour and compulsory labour could exist. Management systems are in place to ensure the risk is eliminated and key suppliers in such regions are being audited.

# Relationship to GRI G3 Guidelines

CRH Sustainability Report 2011

INDICATOR	DESCRIPTION	PAGE NUMBER	DISCLOSURE
<b>Social: Society</b>			
	Disclosure on Management Approach	1-2, 6-8, 36, 48-54, 56-70	Full Disclosure
S01	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting	11-15, 29, 44-45, 56-64, 65-69	Full Disclosure
S02	Percentage and total number of business units analysed for risks related to corruption	51-52, Annual Report 2011 p. 46	Partial Disclosure*
S03	Percentage of employees trained in organisation's anti-corruption policies and procedures	51-52	Partial Disclosure*
S04	Actions taken in response to incidents of corruption	Note: no significant incidents	Full Disclosure
S05	Public policy positions and participation in public policy development and lobbying	36	Full Disclosure
S06	Additional: Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country	Note: no significant donations	Full Disclosure
S07	Additional: Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	Annual Report 2011 p. 40-45 Note: no significant issues	Full Disclosure
S08	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	Annual Report 2011 p. 40-45 Note: no significant issues	Full Disclosure

<b>Social : Product Responsibility</b>			
	Disclosure on Management Approach	1-2, 6-8, 18-19, 32, 44-45, 56-57, 63-64	Full Disclosure
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	44, 63	Full Disclosure
PR2	Additional: Incidents of non-compliance with regulations and voluntary codes on health and safety impacts of products and services during their life cycle, by type of outcomes	63 Note: none known	Full Disclosure
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	63-64 Note: for relevant products	Full Disclosure
PR4	Additional: Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes	63 Note: none known	Full Disclosure
PR5	Additional: Practices related to customer satisfaction, including results of surveys measuring customer satisfaction	63	Full Disclosure
PR6	Programmes for adherence to laws, standards, and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship	Note: not applicable for building materials due to the nature of these products	
PR7	Additional: Total number of incidents of non-compliance with regulations and voluntary codes on marketing communications, including advertising, promotion, and sponsorship by type of outcomes	Note: not applicable for building materials due to the nature of these products	
PR8	Additional: Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	Note: none known	Full Disclosure
PR9	Additional: Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	Note: no significant fines	Full Disclosure

## GRI Application level requirements

(Ref: Adoption of the Global Reporting Initiative (GRI) - page 82)

Report Application Level		C	C+	B	B+	A	A+
Standard Disclosures	<div>G3 Profile Disclosures</div> <div>OUTPUT</div>	Report on: 1.1 2.1 - 2.10 3.1 - 3.8, 3.10 - 3.12 4.1 - 4.4, 4.14 - 4.15	Report Externally Assured	Report on all criteria listed for Level C plus: 1.2 3.9, 3.13 4.5 - 4.13, 4.16 - 4.17	Report Externally Assured	Same as requirement for Level B	Report Externally Assured
	<div>G3 Management Approach Disclosures</div> <div>OUTPUT</div>	Not Required		Management Approach Disclosures for each Indicator Category		Management Approach Disclosures for each Indicator Category	
	<div>G3 Performance Indicators &amp; Sector Supplement Performance Indicators</div> <div>OUTPUT</div>	Report on a minimum of 10 Performance Indicators, including at least one from each of: Economic, Social and Environmental.	Report on a minimum of 20 Performance Indicators, at least one from each of Economic, Environmental, Human rights, Labor, Society, Product Responsibility.	Report on each core G3 and Sector Supplement* Indicator with due regard to the Materiality Principle by either: a) reporting on the Indicator or b) explaining the reason for its omission.			
		*Sector supplement in final version					

# GRI Statement



## Statement GRI Application Level Check

GRI hereby states that **CRH plc** has presented its report "CRH Sustainability Report 2011 - Responsible Performance and Growth" to GRI's Report Services which have concluded that the report fulfills the requirement of Application Level A+.

GRI Application Levels communicate the extent to which the content of the G3 Guidelines has been used in the submitted sustainability reporting. The Check confirms that the required set and number of disclosures for that Application Level have been addressed in the reporting and that the GRI Content Index demonstrates a valid representation of the required disclosures, as described in the GRI G3 Guidelines.

Application Levels do not provide an opinion on the sustainability performance of the reporter nor the quality of the information in the report.

Amsterdam, 17 July 2012

A handwritten signature in blue ink, appearing to read "Nelmara Arbex".

Nelmara Arbex  
Deputy Chief Executive  
Global Reporting Initiative



The "+" has been added to this Application Level because CRH plc has submitted (part of) this report for external assurance. GRI accepts the reporter's own criteria for choosing the relevant assurance provider.

*The Global Reporting Initiative (GRI) is a network-based organization that has pioneered the development of the world's most widely used sustainability reporting framework and is committed to its continuous improvement and application worldwide. The GRI Guidelines set out the principles and indicators that organizations can use to measure and report their economic, environmental, and social performance. [www.globalreporting.org](http://www.globalreporting.org)*

**Disclaimer:** Where the relevant sustainability reporting includes external links, including to audio visual material, this statement only concerns material submitted to GRI at the time of the Check on 5 July 2012. GRI explicitly excludes the statement being applied to any later changes to such material.

# CRH Sustainability Reporting

## History, Scope and Structural Aspects

### Reporting History

CRH produced its first Corporate Social Responsibility (CSR) Report in October 2004. The content and level of transparency was expanded in the seven Reports that followed as CRH embraced a continuous improvement concept. CRH is currently transitioning through a "CSR" approach and embracing a "Sustainability" approach and hence has adopted a new format for this, its ninth Report in the area. In addition, the new format aims to build on the disclosures in terms of content and transparency, based on stakeholder feedback received.

### Independent Verification

CRH was among the first companies in its sector to achieve full independent verification of its CSR Reporting in 2005, repeated every year since. This Report, published in July 2012 and covering activities in 2011, has also been independently verified by Det Norske Veritas (DNV) and the detailed verification statement is included in this Report on page 73.

### Scope of CSR Reporting

CSR data from 100% of Group subsidiaries forms the basis of this Report. The scope of the Report addresses the full range of economic, environmental and social impacts of the organisation. Details of CRH's principal subsidiaries are recorded on pages 118-123 of the CRH Annual Report 2011. In common with other large companies, CRH also owns shareholdings in several joint ventures and associates, with a listing of the principal investments provided on pages 124-125 of the CRH Annual Report 2011. Most of these companies supply CSR data to the Group and actively participate in CSR Programmes. Their key data is included on an appropriate % shareholding basis at appropriate points in this Report. While it is CRH's aspiration that all joint ventures and associates should adopt its CSR policies in full (or their own equivalent policies), this is clearly not always practicable where CRH does not have full management control. In comparison with the previous year, there were no significant

changes in scope, boundary or measurement methods.

### Structure of the Report

This Report opens with an introduction by the CEO, followed by a section outlining some information on sustainability in CRH, outlining some background information about CRH and describing CRH's approach to stakeholder communication. The next sections detail CRH's main CSR focus areas grouped under four headings; health & safety, environment & climate change, governance and people & community. Each section records CRH's policy in the relevant area, gives details of how it is implemented, and describes material issues. The various SRI ratings that have been awarded to the Group's performance in Sustainability are profiled in the people & community section. The appendices cross-reference the content of the Report to the requirements of the GRI guidelines and include a glossary of terms. The DNV verification statement on this Report is also included in the appendices, together with WBCSD- CSI KPI data and the associated DNV verification statement.

### Intended Audiences

The key audiences for this report are CRH stakeholders - employees, customers and suppliers, as well as current and potential investors, sustainability rating agencies, government and regulatory bodies, non-governmental organisations (NGOs), neighbours and local communities. CRH hopes that this Report fulfils the expectations of all stakeholders and welcomes their feedback.

### Adoption of The Global Reporting Initiative (GRI)

As with previous Reports, CRH has voluntarily adopted the "G3" Sustainability Reporting Guidelines developed by the GRI, including the guidance on defining Report content and materiality. As many stakeholders will be aware, GRI is an independent institution whose mission is to provide a trusted and

credible framework for Sustainability Reporting. Data is provided under all indicators but in some cases only partial disclosure can currently be met. CRH declares that its 2011 Reporting qualifies for the GRI scope "A+" application level requirements, in accordance with the criteria table on page 80, and this has also been verified by DNV and independently checked by the GRI. The GRI statement is included on page 81 of this Report.

### Data Accuracy

Every effort has been made to provide consistent physical data in this Report, a significant challenge when collating the 2011 data from a diverse range of activities from over 3,600 locations in 35 countries. It is CRH's experience that the data accuracy and quality improves each year, enabling more confident trending of results and setting of future objectives.

For the most part, data is based on measured or metered physical quantities, or best estimates based on industry knowledge and established calculation factors and representative samples, if actual data is not available. CO<sub>2</sub> emissions are calculated according to the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD) GHG (Green House Gas) Protocol for cement plants, while those from other activities are estimated from established fuel and activity air emission factors. No universally-accepted methodology yet exists for calculating CO<sub>2</sub>/tonne for other activities, for example lime, clay brick or asphalt production. For cement activities, CRH reports according to the agreed CSI KPIs. Specific emissions are reported for cement activities in accordance with the WBCSD CSI conventions. Metric units are used throughout.



CRH welcomes feedback and comments from stakeholders on its Sustainability reporting.

Pat McCleery, Group Sustainability Manager

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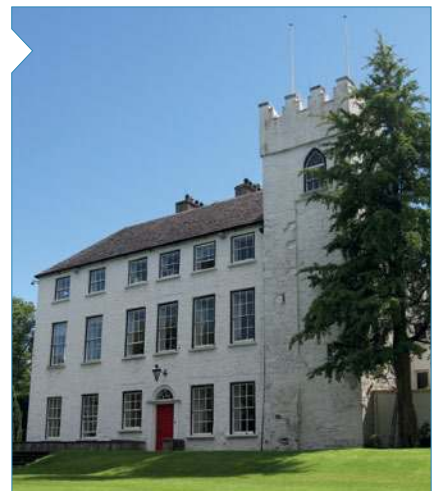
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