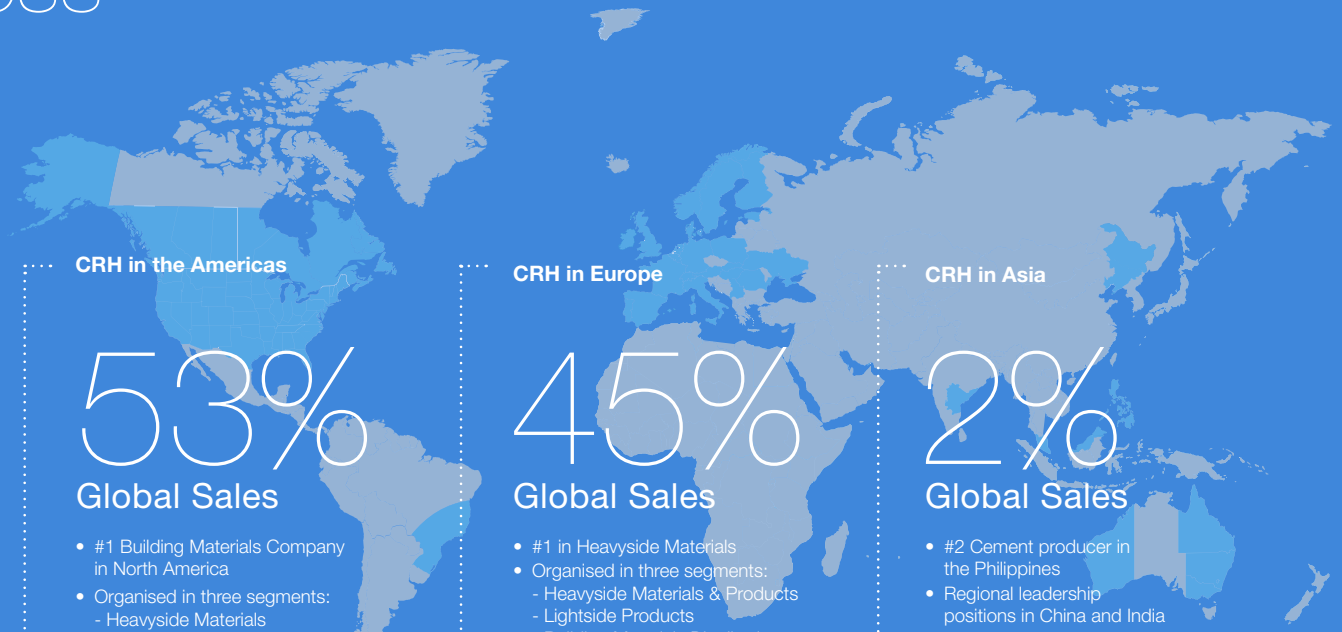
Perspectives on Sustainable Building Materials

CRH Sustainability Report 2016

Our global business

CRH's global footprint spans 31 countries and close to 3,800 operating locations, serving customers across the entire building materials spectrum, on five continents, worldwide.

To create long-term value, we embed sustainability principles in all areas of our business strategy. As we grow our responsible business, we have a unique opportunity to contribute to some of the key sustainable development challenges facing society.



CRH in the Americas

53%
Global Sales

- #1 Building Materials Company in North America
- Organised in three segments:
  - Heavyside Materials
  - Heavyside & Lightside Products
  - Building Materials Distribution
- Operations in all 50 states, nine Canadian provinces and Southeast Brazil

Sales	▲Growth
€14.2 billion	+8%
2015: €13.1 billion	

CRH in Europe

45%
Global Sales

- #1 in Heavyside Materials
- Organised in three segments:
  - Heavyside Materials & Products
  - Lightside Products
  - Building Materials Distribution
- Operations in 23 countries

Sales	▲Growth
€12.4 billion	+20%
2015: €10.4 billion	

CRH in Asia

2%
Global Sales

- #2 Cement producer in the Philippines
- Regional leadership positions in China and India
- Lightside operations in Malaysia and Australia report to Europe Lightside Division
- Ten operating locations

Sales	▲Growth
€0.5 billion	+236%
2015: €0.15 billion	

A message from the CEO

At CRH, our vision is to become the leading building materials business in the world. That vision is based on a desire to be the best at what we do while creating value and delivering returns for our shareholders. This means running the best businesses, producing the best products and being the best at delivering for our customers.

CRH has grown considerably in recent years. Our international footprint now spans 3,800 operating locations in 31 countries worldwide. Last year we reported revenues of over €27.1 billion and profits of €1.3 billion. Our success to date has been underpinned by a strong commitment to principles of sustainability, with the fundamentals of our business carefully managed within an established sustainability framework.

By embedding sustainability within our strategy, we are helping to ensure that the Group continues to prosper and grow in the years ahead while also making sure that our actions have a positive impact on the world around us.

Progress made by the Group during 2016, across a range of priority areas, which help deliver our sustainability agenda, is detailed in this Report. This includes:

- Developing innovative building solutions from across our sustainable products range
- Sourcing our raw materials and products locally and responsibly
- Reducing our CO_2 emissions and addressing the risks and opportunities from climate change
- Reducing our energy usage and maximizing use of recycled products
- Engaging closely with local communities
- Implementing our strict Code of Business Conduct
- Above all, keeping our people safe

Because our businesses around the world produce the materials needed to build the cities and urban environments of the future, we have a very clear understanding of the trends driving customer demand in the built environment. These trends point to strong opportunities for our business in markets where sustainable building products are becoming a priority for our customers.

Uniquely within our industry our diversified portfolio and vertically integrated business model leaves us well positioned to provide our customers with innovative building solutions that meet their evolving needs and help deliver a more sustainable environment.

In addition, as a global leader in building materials we are very conscious of the important role we have to play in advancing the sustainability agenda within our industry. In this Report we have developed perspectives on three key areas which demonstrate how our strategy aligns with the United Nations' Sustainable Development Goals (SDGs) while also maximising value creation opportunities for our shareholders. These areas are:

- Transitioning to a sustainable built environment
- The role of concrete in helping to reduce the impact of climate change
- Creating value for local communities

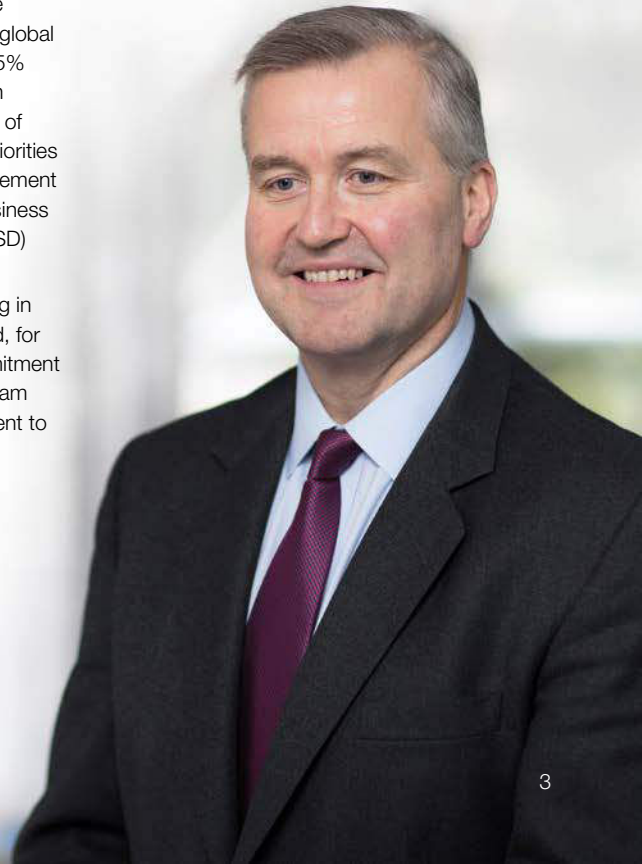
Importantly, we are also conscious that our response to the challenges of sustainability cannot happen in isolation of a broader approach by our industry. Despite significant progress in recent years, the construction industry globally must do more to address some of the key challenges it faces in the area of sustainability. Chief among these is the safety of workers. Construction by its nature can be dangerous, but our goal must always be to eliminate that danger and ensure our people remain safe at all times. We must all be better and do more.

In 2016 we also continued to work with local, regional and global stakeholders on achieving our medium and long term objectives. This is particularly important in the area of climate change. Achieving the targeted reduction in global cement CO_2 emissions in the range of 20–25% by 2030 will require a collaborative approach involving both the industry and a wide range of other stakeholders. This will be one of my priorities when I take up the position of Chair of the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD) in 2018.

Finally, I would like to thank everyone working in CRH's family of businesses around the world, for their hard work, effort, dedication and commitment to our sustainability initiatives during 2016. I am deeply grateful for their continued commitment to our business.

Albert Manifold, Chief Executive
May 2017

> "Our perspective is that acting sustainably will create long-term value and achieve the greatest success"
>
> Albert Manifold



SUSTAINABLE DEVELOPMENT GOALS

We have integrated sustainability principles into our business model, and we are focusing our efforts towards delivery of four of the UN SDGs.

Table of Contents

Introduction

- Our global business 2
- A message from the CEO 3

Understanding and responding to the sustainable building materials landscape 5

- Supporting the transformation towards a sustainable built environment 6
- Reducing the impacts of climate change: why concrete is part of the solution 10
- Creating value for local communities 13

How we integrate sustainability into our business 16

Targeting sustainability performance 17

How we embed a culture of safety 18
- Applying a robust policy 19
- Managing safety 20
- Preventing accidents 21
- Eliminating fatalities 22
- Developing our safety culture 23
- Promoting health and wellbeing 24

How we create solutions for our customers 25
- Serving our customers 26
- Delivering sustainable products 27
- Promoting sustainability across the value chain 28
- Closing the loop 29
- Reducing waste 30

How we do business with integrity 31
- Engaging with employees 32
- Developing our people 33
- Fostering diversity 34
- Rewarding employees fairly 35
- Upholding good business conduct 36
- Ensuring high standards of corporate governance 39

How we collaborate and engage for sustainability 41
- Engaging with stakeholders 42
- Managing our supply chain 44
- Respecting human and labour rights 46

How we protect the environment 47
- Applying a robust policy 48
- Mitigating our potential environmental impacts 49
- Reducing our carbon emissions 50
- Delivering our CO_2 reduction target 51
- Manufacturing low carbon cement 52
- Increasing our energy consciousness 53
- Managing emissions to air 55
- Protecting water resources 56
- Enhancing biodiversity 57
- Collaborating for biodiversity benefits 58
- Preserving natural and cultural heritage 59

How we create sustainable value 60
- Creating sustainable value 61
- Building a resilient business 62
- Creating value through risk governance 63
- Embedding sustainability principles 64
- Creating economic value 65

Our sustainability performance 66

- About our reporting 67
- Assessing materiality 68
- External recognition and benchmarking 69
- Mapping our indicators to CSI and GRI 70
- DNV GL assurance statements 84
- Glossary 86
- Note on forward-looking statements 87

Understanding and responding to the sustainable building materials landscape

Our vision is to be the leading building materials business in the world and in doing so, to create value and deliver superior returns for all our stakeholders. We have successfully developed and refined our strategy for almost half a century, as we have grown our operations and expanded into new markets across the world.

As a world leader, we need to understand and respond to global trends, and so in this Report we have highlighted three key areas which demonstrate how our business strategy aligns with the UN Sustainable Development Goals (SDGs) while maximising value creation opportunities. We are sharing our perspectives on:

- Supporting the transformation towards a sustainable built environment
- Reducing the impacts of climate change: why concrete is part of the solution
- Creating value for local communities

Image: 432 Park Avenue, New York, US, is the tallest residential building in the world. CRH company HALFEN developed the stainless steel window washing track for the building. There is just under 5,500 lineal metres of track on the building and HALFEN channels were also used to anchor windows throughout the building.

Supporting the transformation towards a sustainable built environment

With the global population on track to exceed 9 billion by 2050, the construction sector must play its part in delivering the sustainable cities, infrastructure and transport networks that will meet the world's needs. To maximise the opportunity however, a shift in both productivity and sustainability is needed across the entire value chain. We recognise that companies which take a long-term view of the benefits of sustainable solutions for value creation will achieve the greatest success.

For CRH, this represents a clear business opportunity. Our role is to provide the materials and technical support that will help our customers deliver a more sustainable built environment.

At the heart of UN's SDG 11 on Sustainable Cities is the commitment to provide access for all to adequate, safe and affordable housing while enhancing sustainable urbanisation and reducing the adverse environmental impact of cities. As a global leader in building materials production and distribution, we have an important role to play.

Understanding how people will live, work and travel is key to designing sustainable, affordable communities that will keep citizens safe, healthy and productive in the long-term. As we strive to reduce our environmental impacts - both across our own operations and the impact of our products in use - we are focused on supporting customers through the smart design, construction, operation and reuse of sustainable buildings and infrastructure.

Reducing the impact of buildings is imperative

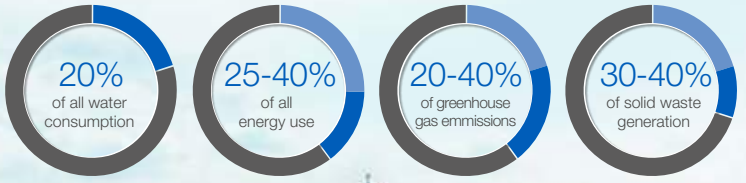
to reach 9.7bn

predicted global population by 2050

6 out of 10

people living in urban areas by 2030

Buildings have a significant impact



The productivity challenge

Every year, almost €10 trillion is spent on the buildings, infrastructure, and industrial installations that are the backbone of the global economy, and demand is rising. Construction-related spending accounts for 13% of the world's GDP. However, construction industry productivity has trailed that of other sectors for decades, increasing only 1% in the last 20 years. The industry urgently needs to evolve and become more productive if it is to meet the growing need for sustainable cities and infrastructure.

Opportunities for progress

While demand for sustainable products is undoubtedly increasing, the opportunities vary both between and within markets in all countries where we operate, our companies experience a spectrum of priorities across our customer base. At one end, public sector clients and large construction companies are leading the way as they aim to deliver sustainable, certified buildings at reduced costs - both financial and environmental - throughout their lifetime. However, at the other end, smaller customers in particular may have to base their decisions on a short-term view, prioritising upfront costs over the long-term benefits of sustainable products and solutions in order to win contracts based on lowest tendered build price. Within this range of priorities, there are opportunities for CRH.

Green buildings

Our customers are facing an increasing trend towards achieving environmental certification. In the US, The Green Building Council's Leadership in Energy and Environmental Design (LEED® v4) has introduced a new approach to building materials and products that expands their role in the certification process, from the point of their manufacture to the end-of-life of the building. Increasingly our customers - including local government and commercial partners - are looking for technical support and product advice throughout both the design and delivery phases of projects.

Transforming production systems

More innovative concrete design and construction techniques could boost the productivity of the construction industry. For example by using more thermally efficient and higher performance concrete mix recipes, using faster in-situ concrete formwork systems and through incorporating more precast technology. These models not only deliver economic benefits but also offer significant environmental benefits over the lifetime of the building.

We have integrated sustainability principles into our business model and we are focusing our efforts towards delivery of four of the UN SDGs. Our work towards a sustainable built environment supports the above three UN SDGs.

> "If construction-sector productivity were to catch up with that of the total economy — and it can — this would boost the sector's value added by an estimated $1.6 trillion, adding about 2 percent to the global economy, or the equivalent of meeting about half of the world's infrastructure needs. One-third of the opportunity is in the United States."

Reinventing construction through a productivity revolution, McKinsey Global Institute, 2017

1. CRH company HALFEN, Germany, received Environmental Product Declarations (EPD) for its Halfen HIT Insulated Connection and Halfen Cast-In Channel products in 2016, recognising the sustainable benefits of using these products in buildings.
2. Having launched the Thermal Liteblock system, a thermally efficient concrete block that provides improved energy efficiency in the design and construction of new buildings, Roadstone, our Irish aggregates and concrete business, provides customers with technical support in minimising heat loss in new buildings as well as running seminars on areas including Ireland's recently revised building regulations and product innovations.

Smart solutions and digitisation

While other sectors have transformed themselves through digitisation and automation, the construction sector is one of the least digitised sectors in the world. Integrating digital technology and advanced automation into buildings and infrastructure could transform the industry and its productivity - both during construction and throughout the lifetime of buildings and structures. We are focused on developing solutions that offer opportunities to create value by introducing digital solutions into building structures.

Developing the circular economy

With 30-40% of solid waste generation coming from the built environment, the circular, or closed loop economy, provides a significant opportunity for our industry to reduce costs, environmental impacts and conserve resources. Some of the biggest opportunities lie in substituting virgin raw materials with wastes and by-products, and using alternative fuels in production. We need to continue working to identify viable waste streams and ensure they are put to the best possible use to maximise their value.

CRH as part of the solution

While these trends are challenging, they also present real opportunities to grow our business. Providing awareness and education about the opportunities and benefits of sustainable solutions is a key focus area - from planning and design to construction and waste management. Our companies are involved in innovative collaborations to develop the sustainable products of the future. Here and on the following pages we present three case studies showing how our businesses are contributing.

> “We’ve seen a big increase in demand from customers for our technical support and capabilities. We’ve turned it into a global business opportunity which matches customer needs for sustainable solutions with commercial opportunities for our companies.”

John Kemp, President,
Oldcastle Building Solutions

Case Study

Raising sustainable construction standards: Oldcastle

Oldcastle has experienced an upsurge in customers looking for technical advice on sustainability specifications – both at site and product level and across public and commercial sectors. Recognising the need, and to help our customers win in this growing era, Oldcastle’s BuildingSolutions website has developed into a global knowledge platform, engaging and supporting up to 1000 customers a week, in North America alone. It provides the information and resources customers need to overcome the challenges and opportunities facing construction today, while developing long-term relationships with construction partners to create the innovative solutions of tomorrow.

CRH Companies Oldcastle BuildingEnvelope® and Oldcastle Precast provided aluminium, concrete and custom-engineered skylights for the Innovation, Science and Technology Building at Florida Polytechnic University in Lakeland, Florida, US.

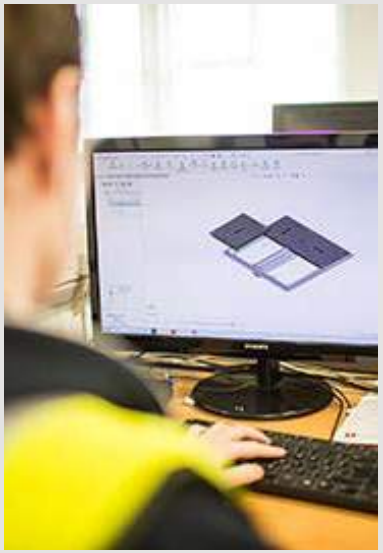
> “Green building legislation and certification are hot topics in the US right now, however, there is a lot of confusion about how to go about it. We’re leading the way in helping municipalities and commercial partners improve their understanding – from education, design and site consultation through to sustainable products and services.”

Tim Ortman, President,
Oldcastle Architectural Products Group

Case Study

Innovating the solutions of the future: Perimeter Protection & Network Access Products

Our Perimeter Protection & Network Access Products business aims to be a sustainability leader in the buildings materials industry. For example, our Network Access Products company, Cubis has its own research and testing lab which is leading the science behind some of the innovative construction solutions of the future. Cubis is pursuing opportunities to increase the alternative and recycled materials that can be used in our products. This includes collaborations with researchers at universities, to identify ways to eliminate the use of virgin materials completely from some products, such as access chambers. Our Perimeter Protection & Network Access Products business also has an opportunity in developing smarter products that create more value for our customers. For example, we are investigating opportunities to develop intelligent solutions such as smart perimeter protection systems that can detect intruders, products that can help to identify stressors in buildings and a chip that can be included in structural beams to provide detailed specifications for future reuse and recycling.



Our Network Access Products company, Cubis Industries, with operations in Europe and Australia, develops smarter products by utilising new designs, manufacturing techniques and materials.

> "I believe our industry as a whole needs to be doing more. We have many of the solutions and we are developing new innovations all the time. To fully realise the business potential, however, we need everyone to take a long-term view of the benefits of using sustainable products across the entire value chain."

Michael Wightman, Managing Director,
Perimeter Protection & Network Access Products

Case Study

Supporting the circular economy: Bouwmaterialen Nederland

Bouwmaterialen Nederland (BMN) is a general builders merchants in the Netherlands which employs around 1,300 employees across 88 branches. BMN has developed a unique approach to combining logistics for supply and waste management which enables customers to improve their efficiency and drive down emissions. Through its innovative partnership with Suez, BMN created Bouwbewustbox, a multi-purpose container that enables customers to receive construction materials and then use the crate to segregate construction waste for collection and recycling. More and more BMN branches are also accepting waste, making it efficient for customers to combine pick up of supplies with waste disposal.

> "We're also seeing far more widespread customer interest in reducing the CO_2 footprint of buildings. We provide them with opportunities – not just by supplying the right materials but also by educating them to use energy calculation tools and other technologies. It's a win-win situation, as we grow our business by helping customers reduce their environmental impacts and costs."

Jan Boon, Managing Director,
Bouwmaterialen Nederland

CRH's Bouwmaterialen Nederland (BMN) business is helping customers to combine product delivery with proper waste management. "Bouwbewustbox" is a multi-purpose container and used for both delivery and waste segregation.

Reducing the impacts of climate change: why concrete is part of the solution

With climate change presenting one of the most complex challenges facing society, we create value by providing building solutions that reduce emissions and promote climate resilience. Cement production contributes around 5% of total global carbon emissions, however, cement is the vital ingredient for concrete and concrete construction can offer carbon benefits during the lifetime of a building. In this section, we discuss how we are reducing emissions from cement production. We also discuss how concrete products provide many advantages over other materials when it comes to reducing the whole-of-life impacts of buildings and enabling society to adapt to climate change.

On 4 November 2016, the first ever legally binding climate deal came into force to keep the temperature increase this century to less than 2 degrees Celsius above pre-industrial levels. With climate mitigation and adaptation one of the top risks facing society today, we believe our industry has a critical role to play.

At CRH, we are serious about reducing the carbon footprint of our activities and products, and we are helping our customers do the same. We believe in building understanding of the whole-life impacts of construction materials and the opportunities they present across the value chain. Only with this understanding, will future policy and regulatory changes maximise the opportunities for society to manage its emissions as cities expand and adapt to the impacts of climate change.

Understanding our carbon impacts

As a diversified global business, it is vital we understand and monitor our carbon emissions across the whole value chain to drive improvements and identify further opportunities. Our emissions arise from many different activities, however, cement production is the greatest contributor to our overall carbon footprint. In 2016, it accounted for 86% of our total Group CO_2 emissions.

CRH has endorsed the World Business Council for Sustainable Development (WBCSD) Low Carbon Technology Partnerships initiative (LCTPi), a statement of ambition, by which CO_2 emissions should be reduced in the range of 20 to 25% by 2030 compared to business as usual

Reducing our carbon impacts

We are working to reduce emissions across all areas of our business, however, we are particularly focused on our cement production facilities. In 2015 we committed to a 25% reduction in specific net CO_2 cement plant emissions by 2020 from a 1990 baseline. We achieved our previous CO_2 reduction target ahead of schedule and, to achieve our 2020 target, we have maintained our focus on two key areas:

- Manufacturing low carbon cement: Around 60% of CO_2 from cement production arises from decarbonation during production. We are reducing this level of CO_2 by increasing the proportion of alternative raw materials we use in place of clinker (see page 29)
- Using less carbon intensive fuels: 40% of the CO_2 arises from the fuels we use to reach the high temperatures required in our kilns. We are gradually phasing out fossil fuels by replacing them with waste by-products (solid recovered fuels) from other industries, and by investing in energy-efficient technologies

Together, our investments aimed at achieving our climate change commitment have delivered a 22% reduction in specific net CO_2 emissions from our cement plants since 1990. Our average net CO_2 per tonne of cementitious product KPI was the lowest of the World Business Council for Sustainable Development (WBCSD) Cement Sustainability Initiative (CSI) members, based on publicly available 2016 data at the time of writing.

Debunking the myths: concrete and its climate-related benefits

In the past, concrete gained a poor reputation due to misconceptions about its relative sustainability compared with other construction materials. However, science increasingly shows that concrete offers many benefits across the lifetime of a building to help society tackle climate change.

With UN SDG 13 on Climate Action focused on strengthening society's resilience and adaptive capacity to climate-related hazards, we see concrete as an important part of the solution.

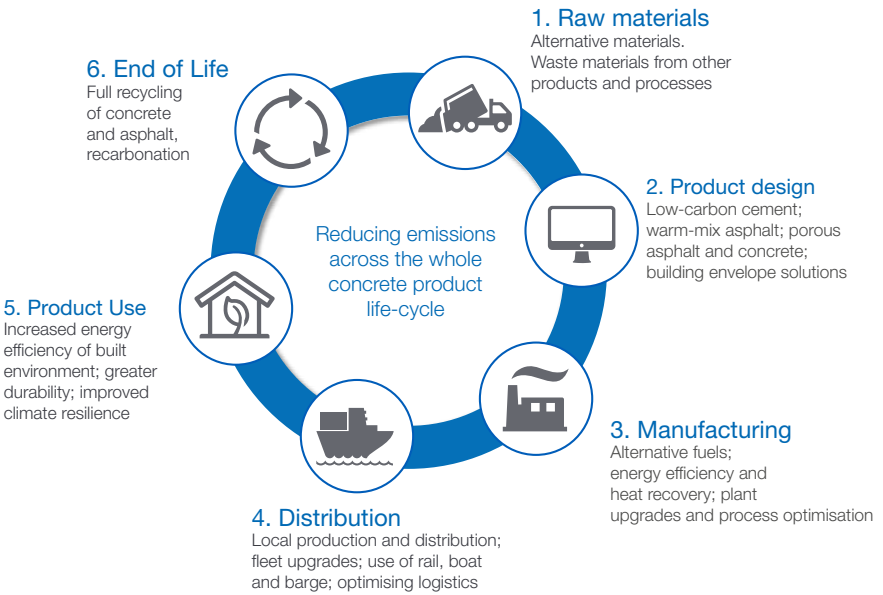
Taking a whole-life view:

Embodied emissions – those that arise from production - are just the first step on the journey towards understanding the whole life emissions of a product. To compare the climate impacts of different construction materials, we must look at the impacts across the lifetime of a building – from sourcing raw materials through to design, building use and to end-of-life waste management.

While it is relatively carbon intensive to produce, concrete offers significant carbon benefits during the life of a building. Its long-term durability and 100% recyclability also make it an important component of the circular economy.

We used 5.5m tonnes of alternative materials in our cement plants in 2016, up over 250% since 2012

We used 1.9m tonnes of alternative fuels in 2016, up over 300% since 2012 - this provided 45% of our total energy requirements for our plants in the European Union



We have integrated sustainability principles into our business model and we are focusing our efforts towards delivery of four of the UN SDGs. Our work towards a sustainable built environment supports the above three UN SDGs.

The climate benefits of concrete

Locally and responsibly sourced:

Compared to materials like timber and steel, which are shipped from around the world, concrete is locally sourced with a short supply chain and a highly-regulated management system. This means reduced emissions due to transport and high traceability of materials. In 2016, the average delivery distance for our readymixed concrete was approximately 30km, demonstrating the local nature of this product.

Durability in design:

Durability lies at the heart of circular economy thinking and when it comes to designing structures that are built to last, concrete is one of the most durable materials out there. More and more buildings are being designed to last across several uses – some spanning more than 100 years – ranging from residential and commercial to retail purposes. When they are designed in the correct way, structures can be stripped back to their concrete core and refitted to meet new requirements, offering significant efficiencies over demolition and rebuild.

Reduced emissions from heating and cooling:

Despite significant technological advances, energy use in Organisation for Economic Co-operation and Development (OECD) countries is predicted to grow another 35% by 2020, with commercial and residential energy use the second most rapidly growing area after transport. It is estimated that buildings contribute in the region of one third of total global greenhouse gas emissions, primarily through fossil fuels, during their in-use phase. As temperatures rise due to climate change, energy use for cooling will become an increasing factor in the whole-life carbon footprint of a building.

Because concrete has a high thermal mass, it helps to protect against temperature fluctuations by storing heat during warm periods and releasing it during cooler periods. This reduces the need to heat and cool buildings, lowering energy use and associated emissions when compared to timber-framed buildings. Studies have shown that the embodied CO_2 in a typical masonry home is up to 4% higher than an equivalent timber frame home. The CO_2 savings due to its higher thermal mass, however, can offset that figure in around 11 years.

Carbonation of concrete:

During the lifetime of a building, cement contained within the concrete reacts with CO_2 in the air, gradually re-absorbing part of the CO_2 emitted during production. Because carbonation mainly takes place at the surface, the rate of carbonation can be low for high quality structural concrete. However, once the building is demolished at the end of its life, the exposed surface area of the crushed concrete significantly increases the carbonation rate. With proper recycling practices, up to 25% of the originally emitted CO_2 from cement production can be re-absorbed. We are working with the wider industry to further develop the policies and practices that will address the challenge of maximising carbonation rates.

Flood resilience:

The cost of flooding incidents could increase almost five-fold in Europe by 2050, and communities in less developed countries are even more vulnerable due to the numbers who live in poor quality accommodation. Because of its strength and low permeability, concrete offers good flood resilience. It also recovers quickly from flooding and can be used to construct water barriers and other flood-resistant structures.

We support our customers to choose the best construction solutions and incorporate flood resilience in their designs, including permeable paving and water retention and reuse systems that reduce storm-water runoff and help to conserve water.

Looking to the future

As we strive to address the challenges and opportunities from climate change, we will continue to invest in our facilities and increase our use of alternative materials. We are involved in a number of industry initiatives, such as investigating carbon capture and storage as a viable component of the cement industry roadmap.

While we pursue opportunities with our customers, such as designing zero energy homes that are heated and cooled through thermal mass, we believe it is critical to ensure stakeholders understand the whole-life impacts of buildings.

We would strongly advocate the use by Government, legislators and house builders of the right carbon measures to inform the design and construction of sustainable cities and infrastructure that help to reduce impacts and are resilient to future climate change.

CRH Company, Oldcastle Precast supplied the concrete Z-superstructure segments, sidewalk panels and face panels for the upgrading of the Elliott Bay Seawall. Originally built in the 1850s, the seawall was at risk of deterioration and collapse before the project revitalised the waterfront area in downtown Seattle, Washington, US by shoring up infrastructure, providing pedestrian access to the water and creating a safe habitat for marine life including migratory salmon.

Creating value for local communities

At the heart of our growing business are the people and communities we depend on for our long-term success. We employ 87,000 people across almost 3,800 locations in 31 different countries. We are very much embedded in the local communities where we extract our raw materials, manufacture and distribute our products and services. We recognise the importance of winning their trust, collaboration and support as this underpins our business strategy and future growth.

The benefits of our community engagement and investment activities are far reaching. We build on our reputation as a responsible company to develop strong and trusting relationships with local people to maintain our license to operate, foster innovation and feed our talent pipeline. Our partnerships with communities also offer opportunities to engage employees, promote a healthy environment and support our sustainable supply chain.

Here we explain our approach to creating value for communities with a particular focus on one of the natural cornerstones of our social approach: providing shelter, examples of which can be seen on page 15 in the Philippines and the United States.

Being a good neighbour

Around the world, we are very much embedded in the local communities where we operate. We constantly strive to be a good neighbour, engaging local stakeholders to understand their needs, concerns and priorities. To achieve a consistent approach, our companies develop community engagement plans in all relevant locations.

Creating value: Global strategy, local delivery

Experience has shown that the best way for our companies to maximise the value they create for local communities is through a global approach - based on a shared philosophy and values - delivered locally to meet the specific needs of each individual community. We focus our activities on the areas that are most closely aligned with our core business strategy and that provide the greatest opportunity to create value. These are described below:

Community relations and development:

As businesses rooted in our communities, the emphasis is first and foremost on local needs, serving the communities in which we operate, supporting community spirit, collaboration and the development of community facilities.

Environment and conservation:

As an extractive industry, we take responsibility for managing our potential environmental impacts, and we invest in initiatives to improve the environment and local biodiversity in partnership with local stakeholders, emphasising land stewardship, restoration and conservation. You can read more about our partnerships with external organisations on page 58.

> “Through the decade-long partnership with Republic Cement, WWF-Philippines is able to conduct studies and roll out programs that contribute to WWF-Philippines’ journey towards fulfilling its mission to stop, and eventually reverse the accelerating degradation of the Philippine environment. We are looking forward to this continuing journey as we build a future where Filipinos live in harmony with nature.”
>
> Joel Palma, WWF-Philippines President

Image: Republic Cement, our materials company in the Philippines, has a successful reforestation and re-greening programme in place across its seven plants, through which volunteers reforest areas of denuded forest land with hard wood and fruit-bearing trees. To date, over 400,000 trees have been planted.

Education and employment:

As a major employer, we are a significant contributor to the local economy in the communities where we operate and we support local economic development through our purchasing of goods and services, provision of employment and payment of taxes. In 2016, we purchased €9bn worth of raw materials and goods, paid around €6bn in salaries and related costs and paid taxes amounting to €0.5bn worldwide.

We also provide valuable education and training opportunities for local people through our apprentice schemes, graduate programmes, bursaries, scholarships and educational partnerships. We seek to broaden access to education, re-training and skills development, especially in areas relevant to the building materials industry.

Health and wellness:

As a leading company and mindful of our safety culture and of the health and wellbeing of our people, we focus on supporting research and investment in healthcare and seek to raise awareness of health and wellbeing. We have an opportunity to help raise safety and welfare standards, especially when working with contractors and in emerging economies where there is a particular need. We work closely with local contractors to raise standards and we invest in healthcare initiatives in many local communities.

Arts and culture:

Our business is built on creativity and innovation. We believe investing in the arts and culture will help to inspire the innovative thinking and problem solving that society needs to meet its future challenges. We support local projects that help to foster innovative thinking in areas that are most relevant to our business.

Provision of shelter:

As a global building materials company, there is a natural connection between our business strategy and the provision of shelter in our communities. Making a positive contribution to solving the societal need for sustainable, safe, affordable housing is therefore a shared corporate citizenship theme across our businesses. More than half the world's population lives in cities as more people migrate to urban areas, housing issues and other social inequalities will intensify. UN SDG 11 on sustainable cities and communities commits to provide access to adequate, safe and affordable housing for all by 2030. However, too many people still live in unsafe and inadequate housing. As a leading supplier of construction materials globally, we believe we have an important role to play in helping to provide safe and affordable housing where it is most needed. Many of our local companies are developing partnerships to tackle the housing gap in their communities by sharing their expertise, products and financial support.

Looking to the future: scaling up our global impact

In 2016, we donated €5.8m to a range of organisations and initiatives. Like many global companies, understanding the social impacts of our community investments is an ongoing challenge. While we have some measures in place, we are increasing our focus on measuring the global impacts of our investments - including financial, non-financial and social benefits – so that we can make informed choices to scale up our positive contribution. We are currently at the developmental stage and are evaluating the principles and tools that will enable us to develop our future strategy. We will report on our progress in 2017.

1.

2.

3.

1. A visit by local students to Irish Cement, Ireland, during national Engineer's Week, which encourages young people to consider careers in science, technology, engineering and mathematics (STEM) areas. The visit was also part of the "Skills @ Work" programme, one of several community initiatives run by Irish Cement.
2. Panshanger Park Forest School, which is funded by Tarmac, UK, and delivered in partnership with Hertfordshire and Middlesex Wildlife Trust, offers local children the opportunity to experience a whole new way of learning about wildlife and the natural environment, as well as contributing positively to the local community.
3. More than 250 employees and their family members and friends participated in the 2016 Strong4Life Superhero 5K and 1-mile fun run event benefiting Children's Healthcare of Atlanta, GA, US.

We have integrated sustainability principles into our business model and we are focusing our efforts towards delivery of four of the UN SDGs. Our work towards a sustainable built environment supports the above UN SDG.

Case Study

Republic Cement: The Tahanan Ko

Providing adequate housing is an ongoing challenge in the Philippines. The country's housing situation leaves low-income families living in sub-standard accommodation that is vulnerable to safety, health and weather-related risks.

Republic Cement, in partnership with the Micro Finance Institutions (MFI), is helping to tackle the problem by offering low-cost loans, quality building materials and technical advice to help people build safe, affordable, and durable homes. What began in 2012 as an innovative microfinance pilot project to provide 45 loans has expanded to become an extensive programme run all over Luzon and in the Visayas in conjunction with three microfinance partners who provide loans through over 180 branches. To date, the Tahanan Ko Programme, which is also composed of partnerships with Government mass housing contractors and housing NGOs for disaster rehabilitation projects, has released over 16,000 housing loans worth over €8.5m, positively impacting 503,000 lives. More importantly, the programme shares its construction expertise with partners and beneficiaries - providing technical advice and training to assist people in building typhoon and disaster-resilient homes that meet industry standards.

As well as the positive social impacts, the programme makes good business sense for Republic Cement. Over 800 Republic Cement partner retailers have now linked with microfinance branches to provide a reliable supply of construction materials, increasing the presence of Republic Cement in partner retail stores. Looking ahead to 2017-18, the programme is aiming to achieve 100% national coverage and provide even more housing loans. Republic Cement will expand its support by increasing links to 1,200 partner retailers.

A "Tahanan Ko" housing development in the Philippines.

Case Study

Oldcastle: Habitat for Humanity

Habitat for Humanity is a global charity tackling poverty by building and renovating homes for vulnerable families. In 2010, Oldcastle established a national partnership with Habitat for Humanity to help address the need for safe, sustainable and affordable housing in disadvantaged areas across the United States. The partnership directly aligns with our North American business and extends a long-standing history that many Group operating companies have with their local Habitat for Humanity affiliates.

Oldcastle sponsors an annual company-wide Habitat for Humanity project which unites employees of all its product groups to build a home for a family. Every other year, the company completes a home in Atlanta and it has built homes in several of its larger markets, including Dallas, Paterson, and Salt Lake City. In addition to employees' hands-on participation, the company donates many of its products towards the construction. Support in Georgia, Texas, New Jersey and Utah has included more than $675,000 in home sponsorships and product donations as well as more than 13,000 volunteer hours. Oldcastle is proud of the seven homes it has built to date. In 2016, it dedicated its seventh home and has recently poured the foundation for its eighth house in Columbus, Ohio which is scheduled to be completed during the summer of 2017.

> "Our partnership with Oldcastle helps Atlanta Habitat put more affordable housing options within reach of working families. We are honoured to have Oldcastle's support for our expanded mission to empower families and revitalize neighbourhoods."
>
> Lisa Y. Gordon, President/CEO of Atlanta Habitat for Humanity.

Volunteers working on an Oldcastle, Habitat for Humanity build.

How we integrate sustainability into our business

Our global operations employ 87,000 people at close to 3,800 operating locations in 31 countries worldwide. To integrate sustainability within all areas of our business, we have set a clear global approach and strategy which is delivered locally to make the most of our businesses' knowledge and relationships.

In this Report, we focus on our key activities:

- Embedding a culture of safety
- Creating solutions for our customers
- Doing business with integrity
- Collaborating and engaging for sustainability
- Protecting the environment
- Creating sustainable value

With these efforts we are contributing to our focus SDGs:

Image: Raw materials for cement manufacture at CRH Serbia's cement plant in Popovac. In 2016, CRH Serbia organised the 7th annual "Partnership for the Future" competition, which supports various initiatives in the fields of education, culture, sport and sustainable development. CRH Serbia awarded €30,000 to the various winning initiatives that took part in the competition.

Targeting sustainability performance

We set Group-level targets to focus our efforts on the areas that are most important for delivering long-term value by managing our sustainability risks and opportunities. These targets are complemented by business-specific metrics, monitoring and reporting to track results across key areas such as safety, energy efficiency and resource efficiency. Here are the areas we are currently focusing on:

Area	Comment	2020 Target
Safety	Safety has long been a top priority for CRH and within the hazardous industry we operate in, the only goal can be zero fatalities	Zero fatalities
Resource efficiency	To continue our focus on resource efficiency, reducing our own waste is important	95% of relevant companies to have waste reduction/recycling programmes
Employee engagement	We believe in developing and nurturing our employees, recognising they are critical to our long-term success; training is one measure of this	95% of employees to receive training
Business conduct	Training is one way to make sure that employees at all levels understand that, at CRH, there is never a good business reason to do the wrong thing	95% of relevant employees to have been trained in CoBC
Community engagement	At the heart of our growing business are the people and communities we depend on for our long-term success; planning is a measure of this	90% of relevant companies to have Community Engagement Plans
Supply chain	Our Ethical Procurement Code helps us address sustainability risks in our supply chain	100% of relevant suppliers to be compliant with the Ethical Procurement Code
Environment	A systematic process of environmental management is important for our businesses	90% of relevant locations to have a permitted/certified environmental management system
Environment	As a dynamic company, we need to ensure our newly-acquired businesses are fully integrated into appropriate reduction roadmaps	2015 acquisitions to be integrated into environmental roadmaps
Climate	Having achieved our 2015 target ahead of schedule, we continue to focus on reducing the carbon footprint of our cement manufacturing	Specific reduction in CO_2 emissions (25% by 2020 on 1990 levels, designated plants)
Air	Having achieved our 2015 target ahead of schedule, we continue to focus on reducing particulates emissions from cement manufacturing	Specific reduction in particulates emissions (80% by 2020 on 2006 levels, designated plants)
Air	Having achieved our 2015 target ahead of schedule, we continue to focus on reducing NO_x emissions from cement manufacturing	Specific reduction in NO_x emissions (22% by 2020 on 2006 levels, designated plants)
Air	Accurate monitoring of minor emissions is the first step towards determining an appropriate management strategy	100% clinker to be produced with monitoring of minor emissions
Water	Promoting access to and protecting the quality of water resources is essential so we must implement appropriate management programmes	75% of relevant companies to have water efficiency and quality programmes
Biodiversity	As a large-scale landholder, we have a duty and an opportunity to impact positively on biodiversity	90% of relevant locations in sensitive areas for biodiversity to have a biodiversity management plan
Biodiversity	With over 1,400 quarries and pits, restoration planning is fundamental to our ambition to preserve natural and cultural heritage	100% of relevant extractive sites to have a restoration plan

How we embed a culture of safety

We believe that it is our culture of safety that makes us different. Safety has long been a top priority for CRH and we are united in our common goal – that nobody gets hurt at work. Embedding a strong safety culture is driven by management at every level and for us, safety is a non-negotiable aspect of doing business with integrity.

In this section, we detail how we apply our robust safety policy, manage safety and provide an update on our safety results for 2016. We also highlight key 2016 initiatives as we build upon our safety culture and promote health and wellbeing.

2016 Performance

Our uncompromising approach to safety remained a strategic priority and we continued our efforts to ensure safe and responsible operations during 2016. We continued to invest in safety and over 90% of locations were accident free in 2016.

2017 Focus

Further enhancement of our strong safety culture with the ultimate aim of achieving zero-accident status at every location.

Image: A Safety Officer at the Hoghiz Cement Plant in Romania, where 40% of all employees and 39% of operational managers are women.

Applying a robust policy

Effective safety risk management is vital to maintaining our licence to operate.

We apply our Health & Safety Policy rigorously across all of our Group companies and have clear lines of accountability through operational management up to the Chief Executive and ultimately the CRH Board.

Managers are supported by a strong safety management structure with each operating company having either one full-time or part-time Safety Officer, depending on the scale of the business.

This network of safety officers is supported by regional and Group specialists and assists operational managers in working to achieve a culture of safety excellence at every location.

We recognise the importance of individual behaviours, particularly within the context of a strong global framework and we empower individuals to be responsible for their own safety. We are also well practiced at integrating acquisitions into our safety culture and have developed specific processes to address the often significant challenges in countries and regions that traditionally have poorer safety records.

We are actively engaged in improving the safety performance of our industry. As well as influencing the safety and processes of contractors and suppliers, we take part in and help to lead regional and global discussions through our membership of the CSI and regional industry associations including CEMBUREAU in Europe and the National Asphalt Pavement Association in the US.

Every person at CRH is empowered to take responsibility for their own safety. We have clear lines of accountability and responsibility to ensure effective implementation of safety policy and systems at every level.

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

Comply

as a minimum, with all applicable health and safety legislation and continuously improve our health and safety stewardship, aiming all the time to meet or exceed industry best practice.

Insist

that all employees and contractors respect the Group's health and safety guidelines.

Ensure

that our companies provide a healthy and safe workplace for all employees and contractors and take due care of customers and visitors at our locations.

Require

all employees and contractors to work in a safe manner as mandated.

Why does it matter?

Building materials production and distribution can be hazardous and effective risk management is vital to prevent injuries. Particular hazards are associated with heavy vehicles, working at height and using mechanised processes.

What's in place to manage it?

Safety has long been embedded in the culture of CRH and is a strategic priority. Our management approach begins with a robust policy, clear lines of responsibility and processes that are based on integrated risk assessment systems. A network of safety officers supports management in delivering safety strategies. We make necessary investments and incentivise safety at every level of the organisation.

How are we performing?

We continued our strong safety performance in 2016. Our Fundamentals for Fatality Elimination are embedded in all day-to-day operations.

What's next?

Continued development of safety culture and elimination of fatalities, accidents and recordable incidents. We will also work to further extend our positive influence along the value chain.

Managing safety

Our 'no compromise' approach to safety management continues to drive improvements in safety performance across our business.

We continuously assess safety performance across all operating locations and in 2016, 3,100 of our locations were audited for safety by either internal safety managers or external agencies. We monitor leading indicators of safety performance such as employee engagement, near-miss reporting and risk reduction initiatives, including completion of risk assessments. In addition, we carry out a comprehensive annual review of the health and safety performance of all Group companies, including joint ventures and associates. The results of each review are a formal agenda item for the Board and are also fed back to our operating companies through our network of safety officers and at safety best practice groups.

Continued development of our safety culture is a key focus for our Group and we emphasise behavioural safety and employee risk awareness. Safety performance is incentivised through recognition and in bonus structures. Any breaches of safety procedures are subject to disciplinary action. To demonstrate the strategic imperative of safety, we run several internal safety award schemes at business unit and regional level which recognise superior safety performance, safety innovations and safety achievements.

Regular safety meetings with employees took place at all of our companies in 2016 and 70% of employees were involved in formal joint management/worker safety dialogue. Safety improvement is also an integral part of discussions with trade unions. Topics discussed include safety initiatives, contractor management and ongoing Fatality Elimination Plan actions.

We have invested at least €148m in all aspects of health and safety during the past five years. Investments include machinery guarding, mobile plant safety upgrades, improvements in platforms and fall protection measures, electrical systems upgrades, pedestrian/mobile plant segregation and noise and dust reduction initiatives. Transport safety continues to be a high priority for both on-site and off-site transport.

Continuing our strong safety performance in 2016, over 90% of locations were accident free

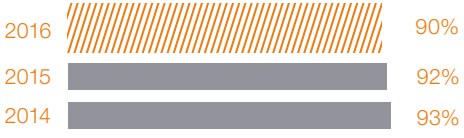
Case Study

Assessing our safety culture - Oldcastle

As we consistently strive to reach our goal of zero accidents, we are moving beyond the traditional approach to safety management and further developing behaviour based safety programmes aimed at fostering a culture of safety at every location. We have carried out safety culture assessments at every one of our materials businesses in North America, covering all employees at 1,200 locations across 43 states. The assessments include surveys, interviews and workshops with employees, supervisors and managers. Results are compared with safety performance, benchmarked and fed back with recommendations for improvement to operational management. The overall aim is to create a working environment of commitment, personal empowerment and accountability for safety excellence at every level of the organisation. We are already seeing positive results from the exercise, which will be repeated periodically to measure progress in a quantitative manner.

A worker atop the 37-storey Fairmont Hotel in downtown Austin, Texas. Oldcastle Materials supplied 42,500m³ of concrete for the construction of the luxury hotel.

Zero accident locations (%)



% Group Companies

Safety Management 2016

% Group Companies

Employee Safety Management 2016

% Group Companies

Preventing accidents

We strive to reduce accidents with the goal of achieving zero accidents and zero injuries at every location on an ongoing basis. We believe that understanding safety incidents is key to achieving our zero injuries target at every one of our operating locations. We investigate every accident to identify risks, share the lessons learned and prevent repeat accidents. We further analyse recordable incidents and near misses with high potential to cause harm, with the aim of preventing recurrence.

We continued with our strong safety performance in 2016, and our statistics were broadly similar to previous years.

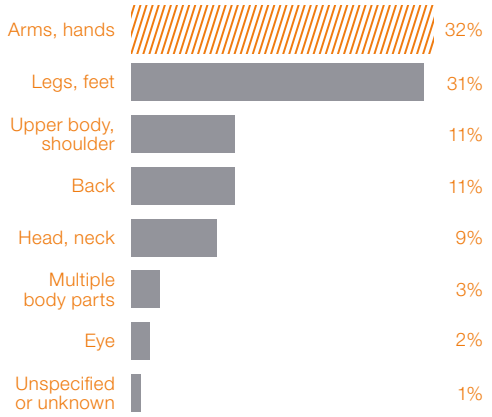
- Frequency rate was 1.9 lost time accidents per million man hours, similar to 2015
- Severity rate was 51 lost working days per million man hours, compared with 47 in 2015 and 58 in 2014
- Over 90% of locations recorded zero accidents, compared with 92% in 2015

Over the past decade, we have seen accident frequency and severity rates reduce by an average of 14% and 10% respectively per annum. This shows the significant improvement we have achieved across the Group.

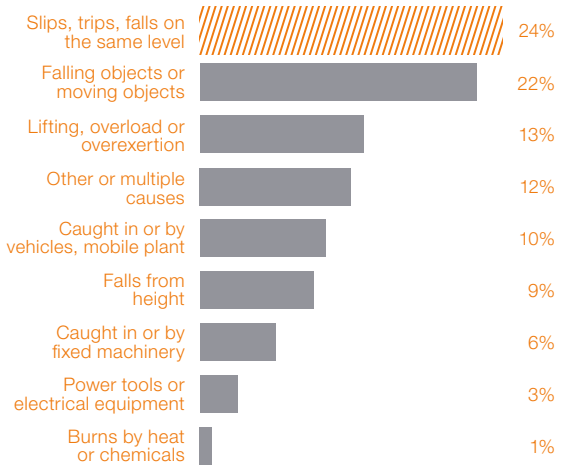
The frequency rate for joint ventures and associates was 1.1 lost time accidents per million man hours (2015: 1.6) and the severity rate was 48 lost working days per million man hours (2015: 27).

Consistent with previous years, the main accident causes in 2016 were “Slips, Trips and Falls on the Same Level”, “Falling Objects or Moving Objects” and “Lifting, Overload and Overexertion”. The most frequent injuries were to the arms, hands, legs and feet.

Accidents by injury type 2016



Accidents by cause 2016



Group frequency rate

Number of lost time accidents per million manhours

Group severity rate

Number of lost working days per million manhours

Data presented on this page includes employees and contractors.

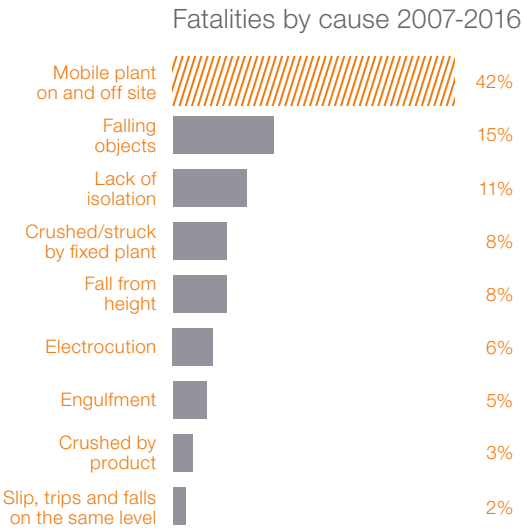
Eliminating fatalities

Eliminating fatalities is a fundamental objective and it continues to receive the highest priority across the Group. Over the last decade, the main causes of fatalities have been identified as mobile plant movements, being struck by falling objects, failures by individuals to abide by established plant isolation (Lock Out/Tag Out) procedures, and falls from height.

We have developed our mandatory 'Fundamentals for Fatality Elimination' which are embedded in all day-to-day operations. These focus on the identified top causes of fatalities. Compliance is audited regularly and the results confirm a high level of implementation across the Group. Our company-wide 'Fundamentals Safety Alert' continues to be distributed every month and regions also develop their own fatality elimination programmes featuring employee and contractor communication and audio-visual materials. The Group 'Construction Project Safety Protocol' and 'Construction Safety Manual' also continue to be integrated into day-to-day operations at relevant operating companies to address these challenges.

The 'Fundamentals for Fatality Elimination' proved effective in eliminating employee fatalities in both 2014 and 2015. We deeply regret, however, the loss of three employees' and three contractors' lives in subsidiary companies during 2016. With the assistance of independent specialists, the circumstances surrounding these fatalities are being examined in detail to ensure lessons are learned and communicated, and appropriate actions taken immediately. There were no reportable employee fatalities in joint ventures and associates in 2016.

Our Employee Reportable Fatality Ratio in 2016 was 0.34, the Contractor Reportable Fatality Ratio was 1.01 and the Combined Employee and Contractor Reportable Fatality Ratio was 0.51.



Mobile plant on and off site also includes road traffic accidents.
Data presented on this page includes employees and contractors.

Case Study

Encouraging a Risk Assessing Mindset in our Oldcastle Architectural Products Group (APG), North America

In revitalising its risk assessment philosophy, APG wanted to find a simple way to keep safety at the core of all workplace tasks. This lead to the development of an initiative known as Risk Assessing Mindset (RAM), which is centred around a simple workplace question, "Will I, or someone else, get hurt when I perform this task?". An incident free workplace results from all people being aware of situations that may be harmful and then minimising the potential for harm by assessing and managing the risk. The idea of RAM was first introduced through a toolbox talk that was circulated company-wide and it was quickly embraced by APG employees, leading to the development and design of an official logo that is now at the centre of APG's RAM process. It is APG's belief that the RAM mantra and process will lead to an improved safety record not only at APG work sites, but also in the daily lives of all employees.

The RAM logo appears on banners, posters, mugs, stickers, e-mail signatures and workwear across APG company locations.

Developing our safety culture

Contractor safety

We employ contractors to carry out many different functions, from specialised work to supplementing labour requirements and delivering products. While contractor use varies significantly across the Group, our experience across all regions is that robust safety management systems, tailored to contractors, are required to reduce safety risks.

We expect all our contractors to meet our rigorous safety requirements and operate consistently within the principles of our Code of Business Conduct and legal and regulatory requirements. Contractor companies and their employees are required to be competent and to have the relevant training and qualifications to carry out the job safely. We implement formal contractor management procedures including setting expectations, ensuring competence, checking performance and monitoring supervision. We also implement the Recommended Good Practice Guidelines for Contractor Safety, developed by the CSI.

Our 'no-compromise' philosophy around contractor management includes disciplinary measures where performance falls below expected standards. In 2016, 2,382 disciplinary actions were recorded, demonstrating the robustness of our approach.

Customer safety

Our strong reputation and performance in the area of safety has won us contracts from customers that integrate high standards of safety into their own tender assessments. We share safety best practices with our customers at no cost to support them in developing their own safety standards. For example, as part of the CRH Canada Customer Job Site Safety Program, specialised teams conduct safety talks at client worksites on safety topics such as concrete discharge, lifting and supporting loads, and working in hot weather climates.

Safety training

A high level of awareness and understanding by employees is an essential element of achieving a world-class safety culture. At CRH, safety training is central to employee development and training programmes are developed at various levels of the organisation. Programmes are designed to address the specific needs of operating companies and locations as identified through risk assessments, formal employee appraisals and review of safety data. Training is delivered in all relevant languages through on-the-job training, use of technology platforms and classroom training.

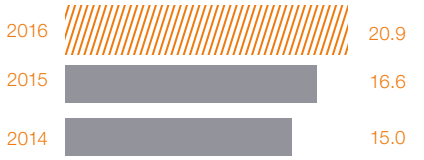
In recognition of the important role played by local supervisors and foremen in ensuring safe and responsible operations, our integrated frontline leadership programmes and senior management development programmes include strategic safety modules.

Employees completed a total of 1.9 million hours of safety training in 2016 and averaged 20.9 hours of safety training per employee across all categories.

Contractor site induction

% Group companies

Safety training



Number of hours per employee

An essential element of achieving a world-class safety culture is awareness and understanding by employees and contractors

CRH Europe has launched a Safety Leadership KPI, Safety Leadership Interactions (SLIs), as a means of ensuring senior management engagement around safety in a structured and planned way. Senior Managers have been set SLI targets for 2017 and in Quarter 1 over 1800 SLIs were conducted including this one, by David Dillon, President Europe Lightside & Distribution, at the Polbruk Gdansk plant in Poland.

Promoting health and wellbeing

We are uncompromising about the health, safety and welfare of everyone who is impacted by our business and health is a key focus of our community engagement (see page 14). The links between a safe, healthy and productive workplace are well understood and we continue to promote healthy work practices and to implement employee health and wellbeing programmes across our companies.

In total, 77% of Group companies now have health and wellbeing programmes in place. In North America and Europe in particular, programmes include smoking cessation, diet, nutrition, fitness, weight management and vaccinations, as well as drug and alcohol awareness programmes. In other regions, we also address local health topics through our community programmes. In addition, 74% of Group companies offer assistance with employee health insurance.

As well as looking at general health and fitness, we manage specific health risks associated with the building materials industry such as occupational noise levels, levels of airborne dust and the potential for respirable crystalline silica (RCS). We actively assess potential health risks in the workplace environment as part of our safety systems and we take appropriate actions to mitigate these risks. Workplace monitoring of noise, dust and RCS is ongoing across the Group in accordance with best practice and local or national requirements. A very low incidence of occupational illness cases was recorded in 2016, demonstrating our success in occupational health.

We continue to work with the CSI and other industry bodies to develop global best practice and standards across the building materials industry. In the EU, relevant companies participate in the European Social Dialogue Agreement (ESDA) on RCS exposure.

1.

2.

1. We continue to promote healthy work practices and to implement employee health and well being programmes. Republic Cement, the Philippines regular eye tests are offered to the employees who work at the cement plants as part of the occupational health programme offered throughout the company.
2. Tarmac, UK, has an ongoing commitment to health and wellbeing amongst not only its employees, but also its surrounding communities. In 2016, the “Tarmac Tour of Hertfordshire Series”, which is open to cyclists of all ages and abilities, was in its second year and is considered the biggest cycling event of its type in the UK.

Why does it matter?

The links between a safe, healthy and productive workplace are well understood and we work with employees and local communities to promote health and wellbeing.

What’s in place to manage it?

We implement employee health and wellbeing programmes and actively assess potential health risks, taking appropriate mitigation actions where appropriate.

How are we performing?

77% of Group companies have a wellbeing programme in place.

What’s next?

Continuing to implement employee health and wellbeing programmes and invest in healthcare initiatives in the local communities in which we operate.

How we create solutions for our customers

Our employees deliver sustainable innovation for customers in the residential, non-residential and infrastructure market segments in 31 countries worldwide. Every day, we work with our customers to create products that deliver specific sustainability and performance goals, solve problems through innovative design, products and processes, and create added value for their business.

In this section, we detail how innovating sustainably with our customers adds value to our business and provides solutions to some of the key challenges facing society.

2016 Performance

An increasing portion of our products are recognised as suitable for use in green building rating systems such as BREEAM®, DGNB and LEED®.

2017 Focus

Expanding our range of products that support strong sustainability performance as a differentiator in the marketplace.

Image: Ken McKnight, President CRH Europe Heavyside, visits the construction site of a new bridge over the River Wear in Sunderland, UK, where CRH companies Tarmac and Farrans worked in collaboration to deliver for our customer, Sunderland City Council.

Serving our customers

While our Group continues to grow in scale, we remain resolutely focused on serving the individual needs of customers in local and regional markets around the world. This focus on delivery through strong local businesses is a key factor in our success as we aim to realise our vision of becoming the global leader in building materials.

Our individual businesses serve a wide range of customers including government agencies, contractors, distributors and private individuals; no individual customer accounts for more than 1% of our Group sales.

We build customer loyalty through ongoing engagement and relationship management and informally monitor customer relations as part of day-to-day business across our Group. In 2016, 89% of our companies had formal customer relationship management databases to monitor customer relationships. Customer satisfaction is measured on an ongoing basis, and in 2016 60% of Group companies carried out formal customer satisfaction surveys. Customer satisfaction was rated at a high level, with 93% of completed surveys reporting above average or better levels of customer satisfaction and repeat customer sales.

Product responsibility

We focus on three key areas in relation to our products: quality, health and safety, and environmental impact. All our products are manufactured to the highest national and regional technical standards and specifications and are independently certified. In addition, many of our companies operate to ISO 9001 Quality Management Systems, further guaranteeing product quality.

Health and safety aspects are considered from the product concept stage through research and development processes.

Where necessary, products are accompanied by Safety Data Sheets containing appropriate advice on their use, storage and application. All of our companies in the EU comply with the requirements of REACH, the European Regulation on Chemicals, providing health, safety and environmental information as appropriate.

Ancon Building Products, one of our Lightside businesses in the United Kingdom, was recognised for its long-term commitment to business excellence in relation to two of the industry's key systems management standards, ISO 9001 and ISO 14001.

In many of our businesses, the relationships we have with our customers span decades and are rooted in trust that has been built over generations

Why does it matter?

Our business success is built on consistently meeting the unique needs of customers in local and regional markets around the world.

What's in place to manage it?

The CRH Code of Business Conduct and related policies specifically address customer relationship management throughout the Group.

How are we performing?

In 2016, customer satisfaction was rated above average or better, indicating our success in meeting customer demands and leading to Group sales for the year of €27.1 billion.

What's next?

Continued focus on aligning our products and services to the evolving demands of our customers and promoting our range of sustainable products.

Delivering sustainable products

We are committed to contributing to a built environment that is sustainable and creates lasting value for society.

With our extensive global presence, trusted relationships with customers and industry leadership positions in key markets, we are in a strong position to influence the transformative innovation that is required to improve the sustainability of the built environment.

Across our diverse activities, sustainable product innovation is fundamental to creating value and continuous business improvement.

We believe collaboration is essential to enhance sustainability throughout the life-cycle of products and we contribute to many regional and international industry initiatives. For example, CRH is a Founding Member of the Concrete Sustainability Council (CSC), which works to develop a Responsible Sourcing Scheme industry standard for concrete; this is due to be launched in 2017.

We offer multiple products and building solutions that enhance the environmental performance of the built environment, including:

- Porous paving and energy efficiency building envelope solutions
- Products that reduce the environmental impacts of the built environment such as low carbon cement and warm-mix asphalt
- Products that deliver broad environmental benefits such as sustainable fencing systems, “green” roofs, and precast concrete solutions for flood defence and stormwater management

An increasing number of our products are helping customers to achieve higher scores in green building rating schemes such as BREEAM®, DGNB, and LEED®. In more mature markets, the demand for information about environmental performance of our products in supported by Environmental Product Declarations (EPD), which play a part in helping to secure customer contracts.

In the UK for example, Tarmac issued over 3,000 EPDs to customers in 2016, verifying the environmental impact of products. Several of our products are certified to BES 6001 standard for responsible sourcing for construction products, and in the UK, Tarmac was the first company to gain an ‘Excellent’ rating against this independently assessed standard.

Quantifying the overall sustainability benefits of our products and their contribution to revenue is an ongoing area of focus. We track indicators on a product-by-product basis: for example, around 40% of our US asphalt production is now warm-mix asphalt, equating to 19m tonnes of asphalt. We have also calculated that our CO_2 reduction efforts in our legacy cement businesses resulted in the prevention of 1m tonnes of CO_2 emissions in 2016 alone. However, quantifying our broader contribution to a sustainable built environment is an ongoing challenge and we are currently working on common definitions to enable us to communicate our impacts more clearly.

> “It’s vital to consider whole life performance. How construction materials perform once they are in use can make a huge contribution to the sustainability of the built environment. Tarmac is supporting sustainable construction by being one of the first to offer customers carbon footprints for every product and since 2013 we have responded to over 5,000 requests. While the carbon footprint from manufacturing a material is important, more significant is the whole life impact. We now offer EPD to help customers and occupiers understand the wider environmental performance of buildings and infrastructure across their entire life cycle.”

Jeremy Greenwood, Managing Director,
National Commercial and Construction Solutions, Tarmac

Why does it matter?

As a global leader in building materials, we have a role to play in influencing transformative sustainability in the built environment.

What’s in place to manage it?

Innovative actions to enhance sustainability along the life-cycle of our products.

How are we performing?

We offer multiple products that enhance the environmental performance of the built environment. Examples are profiled throughout this Report.

What’s next?

Continued focus on innovation, research and development and communication of the scale and benefits of our sustainable product ranges.

Promoting sustainability across the value chain

We invest in industry-leading research and development to ensure our products and services meet the evolving demands of customers and society.

Our strategy involves a whole-life-cycle approach and we have developed formal mechanisms, such as performance benchmarking, to ensure maximum business value is realised from areas including Environmental, Social and Governance (ESG) performance and innovation. Regional research and development centres, such as Oldcastle's North American R&D facilities and the CRH Europe Sustainable Concrete Centre, ensure we continue to stay ahead as we develop the building materials of the future.

Materials

Our primary heavyside lines of business are cement, aggregates, asphalt, readymixed concrete and lime. With large land holdings around quarries and pits, our materials businesses, through strong environmental management, can have a net positive impact on natural capital. Process initiatives include operational and energy efficiency, together with the use of alternative fuels and materials.

We maintain a strong focus on the development of climate-friendly building materials such as lower carbon cements, warm-mix asphalt and recycled aggregates. Not only do these help to mitigate against climate change, they also result in significant cost and resource savings, maximising the value added opportunity that well managed sustainability offers.

Products

We cater for a wide range of end-users through our wide spectrum of construction products, including precast concrete, building envelope products (architectural glass, aluminium glazing systems, customised hardware products for the glazing industry) and construction accessories. Many of these products positively contribute to the sustainability of the built environment.

We increasingly provide bespoke value-added solutions for individual applications through measures such as the use of building information modelling (BIM) and by providing technical advice to assist customers in gaining outstanding and platinum ratings in building sustainability assessment standards (BREEAM®, DGNB, LEED® and others). At site level, we maintain a strong focus on energy efficiency, recycling and product innovation.

Distribution

Our distribution businesses supply building materials to general and specialist building contractors (B2B) as well as DIY customers (B2C). These businesses focus on superior customer service, optimising the supply chain and operational excellence.

Environmentally-driven products are actively promoted and customers are advised on sustainable building solutions. This serves as a positive influence throughout the value chain.

1.

3.

2.

1. Oldcastle BuildingEnvelope® provided custom-engineered curtain wall and entrances as part of the construction of the T-Mobile Arena in Las Vegas, Nevada, US. The 20,000-seat sports and entertainment venue is LEED® Gold certified and constructed with pre-and post-consumer recycled materials.
2. Using less carbon intensive fuels is a key component of our CO_2 reduction commitment. The alternative fuels handling equipment at Finnsementti's Parainen plant in Finland was upgraded during 2016.
3. Allied Building Products, our US Distribution business, has a Solar Division which supplies solar panels and fittings to a range of customers.

Closing the loop

The closed-loop (circular) economy is a critical factor in managing pressure on the world's finite natural resources. By re-using materials that would otherwise be disposed of as waste, we can not only divert them from waste streams but we can reduce the carbon footprint of products and promote resource efficiency.

We participate fully in developing the closed-loop economy and continuously pursue substitution of virgin raw materials with our own and externally sourced wastes and by-products, depending on local market availability and the percentages permitted by applicable technical standards.

We also fully embrace the responsibility that we have, as an industry leader, in promoting the benefits of concrete over its full lifecycle as part of the closed loop economy. We actively participate as leaders within the WBCSD CSI, Cembureau, Portland Cement Association (PCA), European Ready Mixed Concrete Organization (ERMCO) and other trade associations in promoting this and in influencing specifiers in product choice.

In 2016, we used a total 25.7m tonnes of waste and 1.7m tonnes of by-products, substituting 7% of the virgin materials we would have otherwise used. Other raw materials used were 350m tonnes of virgin raw materials, 8m tonnes of associated process materials, 45m tonnes of semi-manufactured components (such as sheet metal and float glass) and 185k tonnes of packaging materials.

Alternative raw materials

10.5m tonnes of RAP & shingles

Recycled Asphalt Pavement (RAP) materials arise when existing road or runway surfaces are milled or crushed and reused as a raw material for new asphalt mixes. Our companies in the US are also increasingly using recycled asphalt roof shingles in asphalt mixtures. RAP & shingles accounted for over 20% of total asphalt requirements in the US in 2016.

7.1m tonnes of construction and demolition waste

Construction and Demolition (C&D) wastes arise from construction and demolition activities and can, if well managed, replace virgin aggregates or can be reused for fill applications.

8.1m tonnes of other materials

Fly-ash, slag and other materials with cementitious properties are by-product materials sourced mainly from external power generation and steel production and replace virgin materials in cement, concrete and concrete products.

1.7m tonnes of internal by-products

Internal by-products such as baghouse fines and off-spec products are internally recycled into the process where possible.

Staker Parson Companies, our CRH Americas Materials business in Utah, US, supplies materials to customers across more than fifty locations in Utah, Idaho, Oregon, Nevada and Arizona. To enhance the already sustainable aspects of its materials, the company produces warm-mix asphalt and also incorporate recycled asphalt pavement into their products.

27m tonnes of waste and by-products reused by CRH in 2016

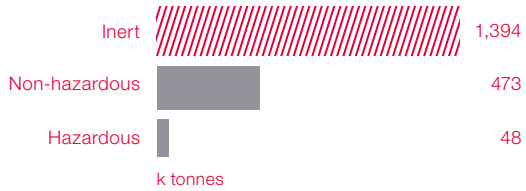
Reducing waste

To reduce our own waste, we recycle by-products of our production processes wherever possible, thereby reducing raw material usage and enhancing process efficiency. Examples include the use of baghouse fines in asphalt mixes and the recycling of off-spec products back into production processes. These internally reused wastes result in significant cost savings, replace virgin materials and reduce the environmental footprint of operations and products.

In 2016, we diverted 1.7m tonnes of by-products from waste streams through these measures. When it is not possible to recycle internally, our waste is sent for final disposal to licensed facilities. More than three quarters of the 1.9m tonnes of waste generated by our companies was externally recycled in 2016.

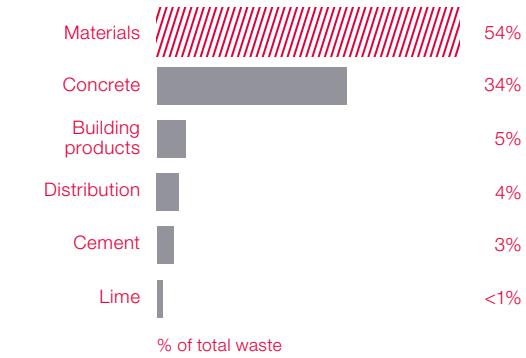
Although our total amount of waste generated increased by 48% compared to 2015 (due to full year reporting of 2015 acquisitions) our recycling rate increased to 77% from 76% in 2015. A small number of Group companies are permitted to landfill waste on-site and, in these cases, the landfill is operated strictly in line with permit requirements. All Group companies take extensive precautions to prevent unauthorised waste disposal.

Waste by type



Waste recycled

Waste by activity



77% of all waste recycled in 2016

Why does it matter?

Our commitment to developing the circular economy includes the minimisation, reuse and recycling of our internally generated waste.

What's in place to manage it?

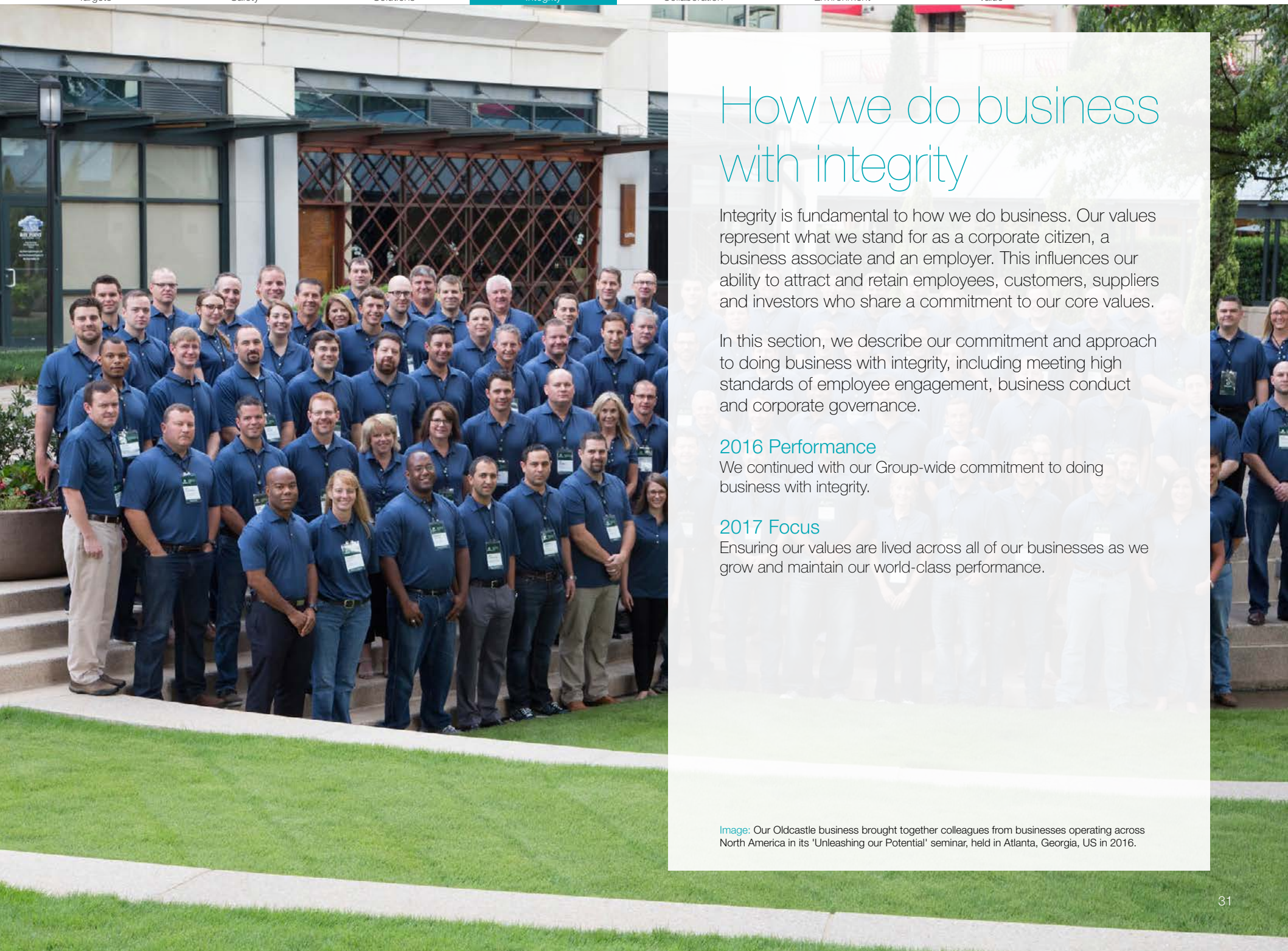
Where possible, we recycle the by-products of our production process, thereby reducing our use of raw materials.

How are we performing?

In 2016, these measures diverted 1.7m tonnes of by-products from waste streams and this reduced the amount of waste sent off-site by 48%.

What's next?

To continue our focus on resource efficiency, targeting internal waste reduction is important. We have a target that 95% of our relevant businesses will have waste reduction or recycling targets by 2020.



How we do business with integrity

Integrity is fundamental to how we do business. Our values represent what we stand for as a corporate citizen, a business associate and an employer. This influences our ability to attract and retain employees, customers, suppliers and investors who share a commitment to our core values.

In this section, we describe our commitment and approach to doing business with integrity, including meeting high standards of employee engagement, business conduct and corporate governance.

2016 Performance

We continued with our Group-wide commitment to doing business with integrity.

2017 Focus

Ensuring our values are lived across all of our businesses as we grow and maintain our world-class performance.

Image: Our Oldcastle business brought together colleagues from businesses operating across North America in its 'Unleashing our Potential' seminar, held in Atlanta, Georgia, US in 2016.

Engaging with employees

Our ambition is for CRH to become a globally recognised employer brand and a great place to work. It is our people who deliver the products and materials that build our world. We recognise that our people are critical to the long-term competitive advantage and success of the organisation. We believe in developing them through rewarding career and development opportunities locally and globally, while also promoting talented individuals from within.

Fostering entrepreneurial spirit, global collaboration and innovation is important for CRH. Open communication throughout the Group is key to achieving this and ensuring that our people have the necessary information and skills needed to help deliver our strategy.

We engage with employees through many channels including online newsletters, video messages to share operational and strategic information and a regular CEO blog. Employee events take place at operating company, Product Group, Regional and Group level, including, for example, our annual management seminar and an online Q&A session with senior management in conjunction with our financial results announcement in Quarter 1 2016.

In the US, Oldcastle holds regular "Town Hall" meetings, where employees can join discussions either in person or remotely. In the European Union, our Euroforum (in compliance with the Europe Works Council Directive) provides a regular opportunity for employee representatives to discuss a wide range of business and social issues with company management, including our sustainability approach.

In 2016, 84% of employees were included in regular employee briefings. Informal meetings take place at smaller locations. We welcome input and feedback from our employees and there are suggestion schemes in place at many of our companies.

We monitor employee satisfaction both formally and informally. In 2016, around 20% of employees took part in formal employee satisfaction surveys. With an average of 23 employees at each location, there are close linkages between management and staff, allowing continual informal monitoring. Many of our employees enjoy long-term careers within the organisation and over 40% of our employees are with the company over 10 years. Employee absenteeism levels are low, at only 2.6% in 2016, a good indicator of employee satisfaction.

CRH Ambassadors is a development course, in its pilot year in the Netherlands, aimed at employees who are interested in developing a range of problem solving skills.

Why does it matter?

Our employees are critical to sustaining competitive advantage and the long-term success of our organisation. Investing in their development is fundamental to our company's long-term growth.

What's in place to manage it?

Our Social Policy (page 35) informs local HR practices to ensure we have the right people at every level of the organisation to run our business, which is continually growing in size, scale and complexity.

How are we performing?

Many employees enjoy long-term careers with the organisation and employee absenteeism levels are low.

What's next?

We are increasing our focus on talent management, leadership development and creating a globally mobile workforce.

Developing our people

We have long believed that developing and investing in employee potential at all levels is fundamental to our company's long-term growth and competitive advantage. We provide employment opportunities at all skill and education levels, and the contribution this makes is particularly important in communities where there are fewer employment opportunities, such as smaller towns and rural areas.

We can create diverse opportunities for internal talent progression – from promotion and lateral movement to international assignment opportunities. In 2016, 84% of our companies offered career development opportunities or advice to employees. Career guidance was received by 53% of management, 26% of operational employees and 36% of clerical/admin staff. Mobility opportunities continue to expand as the Group seeks to offer rewarding career and personal development experiences at different operating locations worldwide.

Employee training

Our approach to employee development supports our people to achieve to their full potential and help create value for our business locally, regionally and globally. In 2016, we invested in over 2.9 million hours of training across Group companies, equivalent to 33 hours per employee. Training was focused mainly on safety as well as front-line leadership, environmental and skills training, and compliance related training on topics such as our Code of Business Conduct. Educational support programmes across the Group enable employees to pursue further studies including administrative, language, technical skills, professional development and supervisory/management skills. Our target is that 95% of employees will receive training annually by 2020.

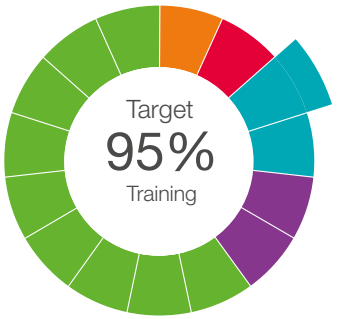
Leadership development

We commit significant resources to developing our current and future leadership talent to ensure we can meet our strategic objectives. For the top levels of management, talent management and succession planning is a key strategic focus. The CRH Leadership Profile outlines the core competencies for leadership development which are now being fully integrated within performance management and leadership development programmes to create a common language and measurement of leadership behaviours.

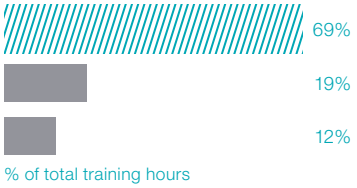
We take a broad approach to leadership development, comprising global mobility assignments, coaching, global action-learning project teams, and off-the-job development programmes. We systematically review and revise this approach to ensure it meets the changing business environment and develops highly motivated and successful leaders.

Supporting graduates and apprentices

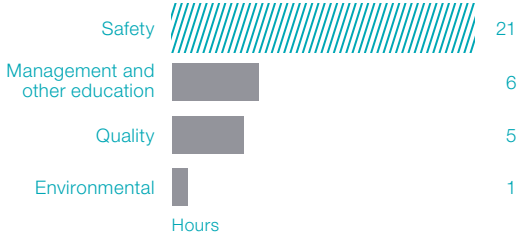
Many of our Group companies employ recent graduates and participate in apprentice schemes. We are currently piloting a two and a half year CRH Technical Cement Graduate programme in Eastern Europe, providing employment and development for 51 recent graduates who, at the end of their programme, have the opportunity of a one-year international assignment.



Training by category 2016



Training by type 2016



1.

2.

1. CRH North Danube promotes the various employment and development opportunities available at all levels within the company in Austria, Hungary and Slovakia, and participated in a number of job fairs.
2. CRH's International Technical Program Cement (ITP Cement) is a world-class technical programme to develop technical leaders of the future for CRH cement businesses in Eastern Europe. It incorporates a combination of classroom learning with on-the-job training, applying technical knowledge in practical situations.

Fostering diversity

Traditionally, the building materials industry has attracted a male-dominated workforce making gender diversity a particular challenge. We recognise that businesses that are open and inclusive are better placed to deliver long-term value. As an expanding global business, increasing our diversity is a key focus as we aim to develop a workforce that inspires innovation and creativity and is representative of the communities we serve.

As an equal opportunities employer, we provide equal merit-based opportunities to all employees irrespective of age, gender, nationality, religion or sexuality. Group companies have policies to ensure equal pay for women and men, employing a variety of measures including union agreements, job associated pay scales and benchmarking. Going beyond this, we strive to provide equal access to career progression, training opportunities, career guidance and performance reviews without discrimination. The majority of our employees come from the local population, typically reflecting local ethnic diversity. Our focus on international mobility means employees, particularly in the management category, have the opportunity to work outside their native state or country for long or short-term assignments.

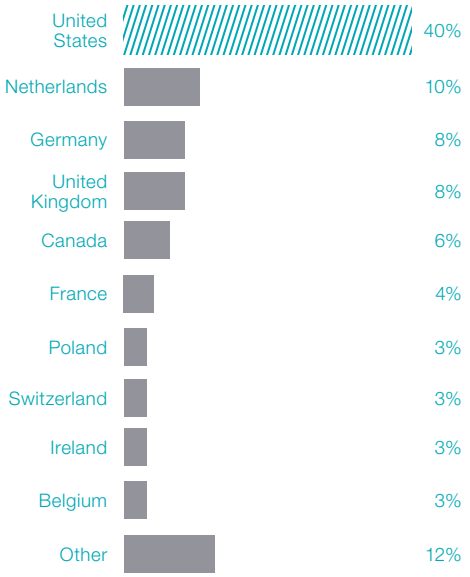
Overall, males comprise 82% of our employees. In operations, just 11% of employees are female, while the highest proportion of female staff, 41%, is in the clerical/administration category. At management level, 17% of all managers and 8% of senior managers are female. As of 28 February 2017, 33% of Directors on the CRH Board are female, exceeding our target of 25%.

We also aim to offer equal opportunities to people of all working ages. Currently 9% of the workforce is under 25, while 34% are over 50. We strive to offer employment to people with disabilities where possible and in 57% of Group companies a total of 989 people with disabilities were employed in 2016.

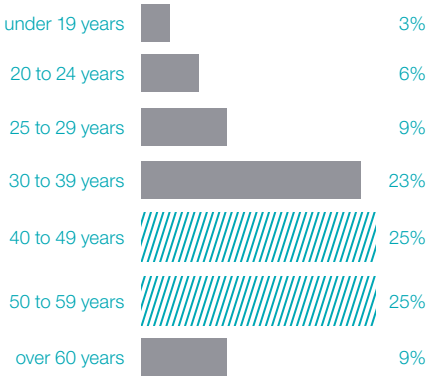
Developing a diverse talent pipeline

We also design our diversity programmes to help increase the social diversity of the pool of talent available to take up future opportunities in CRH. Our increasing focus on secondary level students particularly aims to encourage females to consider careers in science, technology, engineering and mathematics (STEM) subjects in the building materials industry. We are a member of the 30% club which consists of Chairs and CEOs committed to better gender balance at all levels of their organisations.

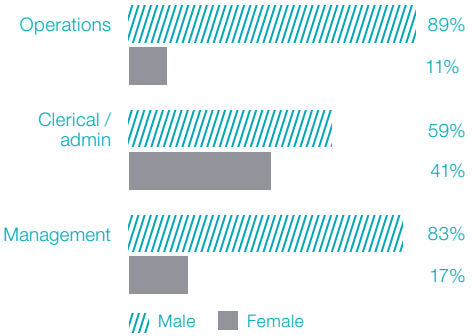
Employees by country 2016



Employees by age 2016



Gender balance by category 2016



Why does it matter?

As an increasingly international business, the diversity of our workforce underpins our ability to deliver long-term value.

What's in place to manage it?

HR processes and diversity programmes at operating company level, as well as a target for gender diversity at Board level.

How are we performing?

We have a diverse workforce in terms of age. Our overall gender balance is good in terms of our industry; however, we would like to see more balance at senior management level.

What's next?

Continue to develop our existing pipeline of talent and increase our involvement with external organisations to foster a more diverse talent pool.

Rewarding employees fairly

We believe fair remuneration at all levels is fundamental to attracting, retaining and motivating a talented workforce. Our Social Policy aims to ensure fair remuneration that meets the evolving needs of the Group, is competitive and supports the delivery of the CRH strategy.

We offer pay, social and pension benefits that are at least in line with industry and local or national standards, often with incentives linked to company and individual performance targets. Performance-related reward is a key component at all levels up to executive and Board level. Where relevant, sustainability metrics are included. Safety may be incentivised at all levels while environment, community and product-related measures are typically incentivised at management level.

In some cases, share-based incentives are also provided in accordance with regulatory and industry practices in particular jurisdictions.

Where local legislation defines a minimum wage, our operating companies offer entry-level wages at or above this minimum. The seasonal and cyclical nature of our industry places particular demands on the workforce and also on management to deal with peaks and troughs in demand. Excluding seasonal employees, our employee turnover rate is 13%. We work to limit the effects of seasonality and we provide assistance to employees and managers with retirement planning and downsizing when necessary. Fair and flexible hiring and lay-off practices apply, particularly in seasonal businesses. For major operational changes, appropriate notice periods and change management procedures are implemented.

Flexible working

We promote flexible work practices where appropriate to accommodate work-life balance and help smooth fluctuating employee demands in seasonal businesses. Approximately 9% of all employees are part-time, most of whom work in our distribution businesses. Full-time and part-time employees working in the same businesses receive similar benefits such as parental leave, retirements provisions and access to disability or invalidity schemes.

Tarmac, UK, recruits approximately 30 new graduates and 50 new apprentices every year to join its graduate and apprenticeship recruitment programme.

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

Comply
as a minimum, with all applicable legislation and continuously improve our social stewardship, aiming all the time to meet or exceed 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.

Upholding good business conduct

Our guiding business principles

At CRH, we believe 'there is never a good business reason to do the wrong thing'. This belief sums up our culture and guides the business behaviours we set out in the CRH Code of Business Conduct (CoBC). The Code is underpinned by policies including Anti-Fraud & Anti-Theft; Anti-Bribery; Competition Code; Ethical Procurement; and Supplier Code of Conduct.

It is of vital importance to our ethical and moral principles that we:

1. Ensure the safety, health and welfare of our people, our guests and our communities at all of our workplaces
2. Respect human and labour rights and provide equal, merit-based opportunities to all of our employees, valuing their diversity and rewarding them fairly
3. Are fair and honest with our customers, suppliers and business partners, only engaging with those who share our commitment to ethical business practice
4. Are especially mindful of our responsibility in the area of competition law and compete energetically, fairly and always within the law
5. Do not tolerate any form of bribery or corruption and are committed to the highest standard of business ethics in all our dealings
6. Use our Group's assets in a proper manner and for their designated purpose
7. Respect confidential information and are professional in all of our communications
8. Avoid conflicts of interest, are alert to and promptly report any suspected incidents of fraud and only offer and accept appropriate business gifts and entertainment
9. Embrace sustainability as a fundamental prerequisite to our future growth, continuously strive to meet the highest standards of environmental management and are fully committed to enhancing the lives of the communities which we serve
10. Finally, if we see or hear something illegal, unethical or unsafe – we 'Speak Up'

Employee training

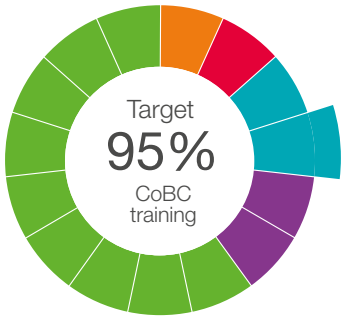
All relevant employees globally are trained and provided with a copy of the CoBC upon joining CRH. They are required to give their signed confirmation that they have read and understood its provisions. In addition, employees working in higher risk areas undertake face-to-face Advanced Compliance Training (ACT) on policies covering Competition, Anti-Bribery and Anti-Fraud/Anti-Theft principles on a 3-year cycle. We are in the process of developing online ACT modules which will provide supplementary annual training.

The Group Regulatory, Compliance & Ethics (RCE) function retains oversight to ensure training targets are met globally and reports to the Audit Committee bi-annually on the status of training completed.

The CoBC and other policies are currently translated into 23 languages and are reviewed and updated on an ongoing basis. The online CoBC and ACT modules will be translated into all languages necessary to ensure a user-friendly experience for a global employee base.

In 2016, we exceeded our target to ensure 95% of the relevant employees received both CoBC and ACT training:

- During 2016, 23,480 employees were trained on the CoBC: 16,384 in the Americas, 7,096 in Europe/Asia. Also in total during the current training cycle in Europe, 19,605 have been trained
- During 2016, 7,943 employees were trained on Competition/Antitrust, Anti-Fraud, Anti-Bribery (i.e. Advanced Compliance Training – ACT): 2,941 in the Americas and 5,002 in Europe/Asia. Also in total during the current training cycle, 10,008 have been trained in the Americas and 8,993 in Europe/Asia



Why does it matter?

We are committed to operating our global business to the highest ethical, legal and moral standards.

What's in place to manage it?

Our Code of Business Conduct and related policies and our Regulatory, Compliance & Ethics (RCE) Programme.

How are we performing?

Our RCE programme continues to develop to cover our diverse global footprint in an increasingly demanding regulatory environment.

What's next?

The collective goal is to ensure employees at all levels understand that, at CRH, there is never a good business reason to do the wrong thing.

Upholding good business conduct - continued

Raising concerns

CRH embraces a 'speak-up' culture and employees are actively encouraged to raise concerns surrounding actual or suspected unethical or unlawful behaviour. Procedures are comprehensively outlined in our CoBC and internal mechanisms include contacting local line management and/or escalating up to Managing Director or other senior divisional management. A network of country compliance managers is available to employees and other third parties who may wish to seek advice or raise concerns. Employees can also contact Legal & Compliance teams located within the Law Groups in Europe and the Americas and the Group Regulatory and Compliance (RCE) function. Requests for advice and reported concerns are treated with the utmost confidentiality to the greatest extent possible and may be made anonymously.

Our independent hotline

We provide an independent third-party operated 24/7 Hotline which people can use to raise concerns, both internally and externally (www.crhhotline.com). The Hotline is accessible in many different languages, and people can track progress of the investigation by logging into the Hotline system using their allocated code. We see this robust and independent process as vital to ensuring matters are fully and transparently addressed to assist us in upholding our high ethical standards.

Upon a concern being raised, it is assigned to the regional compliance manager who ensures it is passed to appropriate management for investigation. Once assigned, the investigator must upload regular updates to the Hotline system.

Our 'Triage Team' (made up of senior members of management representing Internal Audit, Europe, Asia and the Americas Law Groups and Group RCE) meets monthly to discuss significant concerns raised via the hotline and the progress of ongoing investigations. They provide advice and guidance to investigators where required. Overall responsibility for actions taken following receipt of Hotline concerns rests with the Group RCE function, managed by the Group RCE Director and Group Compliance Manager together with the Senior Competition Counsel.

In 2016, a total of 358 concerns were raised globally (covering Europe/Asia/the Americas). Of these:

- 50 allegations can be classified as suggested non-conformance with the CoBC
- 49 can be categorised as allegations of non-compliance with various company policies, procedures or internal controls
- The remainder of the concerns raised (259) were HR-related

Upon completion of investigations, 13 proven incidents resulted in disciplinary action. Of the remaining issues, many of the allegations were found to be without merit following a full investigation. Others resulted in new or enhanced internal controls. As part of ongoing training, employees are made aware that CRH will invoke its disciplinary procedures in the event of a proven breach of its policies or any rule of law. It is also communicated to employees that disciplinary action will be taken against any person shown to have retaliated against a person raised a valid concern.

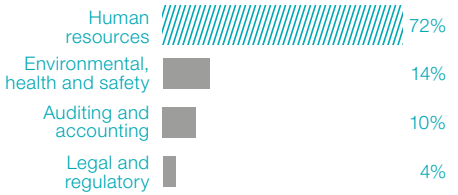
Investigations and proceedings

There were no investigations from external parties into allegations of corruption against CRH or any of its group businesses in 2016. Risks of corruption and fraud are monitored by the Regional Legal and Compliance teams as well as by Group RCE. In addition, Internal Audit separately and independently monitors these risks and any activity identified. Fraud alerts are communicated to the business upon identification of any pattern of activity that may impact business. CRH has robust internal controls to help in the fight against corruption and/or fraud as well as a committed training regime on these topics as outlined above. Refer to page 44-45 for items related to supply chain management.

Group companies are party to various legal proceedings, including some in which claims for damages have been asserted against the companies. Having taken appropriate advice, we believe that the aggregate outcome of such proceedings will not have a material effect on the Group's financial condition, performance of operations, or liquidity.

In 2015, the Secretariat of the Swiss Competition Commission imposed fines on the Association of Swiss Wholesalers of the Sanitary Industry and on major Swiss wholesalers including certain Swiss CRH subsidiaries. The fine attributable to these subsidiaries was CHF 34 million. While the Group remains of the view that the fine is unjustified and it has appealed to the Swiss Federal Appeals Court, a provision of €32m (2015: €32m) is recorded in the Group's Consolidated Balance Sheet.

Concerns reported to RCE by type 2016



% of total concerns

Concerns reported to RCE

number of total training hours

Upholding good business conduct - continued

Promoting ethical leadership

We support and encourage ethical leadership and, as outlined by the Group CEO in the introduction to the CoBC, it is a commitment that emanates from the very top.

Our CRH 'Leading with Integrity' manual is a practical guide for managers and directors for building a compliant business. It includes guidance on the promotion of the Hotline as well as the application of disciplinary action for breach of codes or policies. It also emphasises that management should foster an open culture whilst also giving guidance on receiving concerns and on how to deal with employees as well as dealing with the allegations raised.

Assessing risk

Mitigation against corruption risk is achieved through annual training, guidance and codes and supported through our network of country compliance managers. From time to time, necessary alerts are also sent out to the relevant businesses via the divisional risk functions often in conjunction with Group Risk and/or Group RCE. Risk workshops are conducted throughout the year by Group Risk (see page 63) and attended by a selection of cross-functional senior management. Workshop discussions are geared towards identification of barriers to the realisation of strategic objectives and determination of the adequacy of mitigation against those barriers.

This facilitates meaningful discussions around management's view of risks including corruption, and allows for a coordinated approach with Group Risk and Group RCE. Legal and Compliance teams also have regular discussions with management at the businesses within their remit, including following workshops, to discuss compliance risks identified.

The annual CRH Management Seminar took place in California at the end of January 2017 and was attended by over 250 people from across the Group worldwide.

At CRH, we believe that **"there is never a good business reason to do the wrong thing."** This belief sums up our culture and guides the business behaviours we set out in the CRH Code of Business Conduct (CoBC).

Ensuring high standards of corporate governance

Good corporate governance underpins the ability of the Board to address the challenges and opportunities that arise in our changing environment. We continuously review our governance structures and arrangements to ensure that these are of the highest standards.

Full details of our governance policies and structures can be found in the 2016 Corporate Governance Report on pages 62-71 of the 2016 Annual Report and Form 20-F and in the Governance Appendix. Both documents are available on www.crh.com.

The Board

The CRH Board is responsible for the leadership, oversight, control, development and long-term success of the Group. It is also responsible for instilling the appropriate culture, values and behaviour throughout our organisation. The roles of Chairman and Chief Executive are clearly defined and approved by the Board, which delegates responsibility for the management of the Group to the Chief Executive and executive management.

It is our practice that a majority of the Board comprises non-executive Directors. As of 28 February 2017, there are three executive and nine non-executive Directors, 33% of which are women. The independence of non-executive Directors is considered annually and the Board has determined that each of the current non-executive Directors is independent. All Directors retire at each Annual General Meeting and, unless they are stepping down from the Board, submit themselves for re-election to shareholders. Directors who are seeking re-election are subject to a satisfactory performance appraisal.

There is a formal schedule of matters reserved for Board consideration and decision. This includes appointments of Directors, strategic plans for the Group, sustainability updates, annual budget, major acquisitions and disposals and significant capital expenditure.

In 2016, there were seven full meetings of the Board.

Board Committees

The Board has established five permanent Committees to assist in the execution of its responsibilities. The current permanent Committees of the Board are the Acquisitions Committee, the Audit Committee, The Finance Committee, the Nomination & Corporate Governance Committee and the Remuneration Committee. In addition, ad-hoc committees are formed from time to time to deal with specific matters. The current membership and terms of reference of each committee are available on our website.

Each committee has Terms of Reference, under which authority is delegated to it by the Board. The Chairman of each committee reports to the Board on its deliberations and minutes of all committee meetings are circulated to all Directors. Chairmen of the committees attend the Annual General Meeting and are available to answer questions from shareholders.

Board membership: Independence

Board membership: Gender Diversity

Board membership: Geographical spread

Board membership: Tenure of non-executive Directors (excl. Chairman)

Why does it matter?

Good corporate governance enables us to meet the challenges and opportunities we face in a changing environment.

What's in place to manage it?

Our Governance policy is kept under review by the Nominations & Corporate Governance Committee.

How are we performing?

We are widely recognised as a leader in corporate governance.

What's next?

Continuing to review our governance structures and arrangements to ensure that we remain at the forefront of leading best practices.

Ensuring high standards of corporate governance - continued

Board renewal, development and evaluation

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:

- International business experience, particularly in the regions in which the Group operates or in which it intends to expand
- Skills, knowledge and expertise in areas relevant to the operation of the Board
- Diversity, including nationality and gender
- The need for an appropriately sized Board

During the ongoing process of Board renewal, each, or a combination, of these factors can take priority.

All newly appointed Directors receive extensive briefing materials and the Chairman agrees an individually-tailored and comprehensive induction programme.

Each year, the Senior Independent Director conducts a review of Board effectiveness including the balance of skills, experience, independence and knowledge of our company on the Board, the operation and performance of the Board and its Committees and the effectiveness of Board communications. This annual process is supplemented by an external evaluation by an external provider every three years.

An annual review of individual Director's performance is conducted by the Chairman and each Director is provided with feedback gathered from other members of the Board.

Sustainability governance

Sustainability values are embedded in all of our operations and our sustainability strategy is fully integrated with key Board priorities.

The Group Chief Executive is ultimately responsible for ensuring that our sustainability and CSR policies are implemented through the executive management team and line management. The Group Transformation Director has executive responsibility for sustainability performance which is reported as a formal Board Agenda item.

Compliance

In 2016, we implemented the 2014 UK Corporate Governance Code and complied with its provisions.

We also have procedures in place for compliance with our obligations under the applicable rules and regulations issued by the Securities & Exchange Commission.

Further detailed information on corporate governance may be found in the 2016 Annual Report & Form 20-F, as well as the Governance Appendix, both of which are available on www.crh.com.

How we collaborate and engage for sustainability

Through our sustainability actions we focus on delivering long-term value for our business and our stakeholders. We know that, in today's increasingly complex world, we can achieve much more when we collaborate with others.

In this section, we describe our approach to stakeholder engagement, including engagement with our suppliers and engagement around the key issue of human and labour rights.

2016 Performance

We maintained our open-door policy and hosted over 1,000 stakeholder engagement events.

2017 Focus

Working towards being more strategic in our partnerships, and measuring the wider value we deliver, both for our business and for society.

Image: CRH Serbia Cement Novi Popovac, organised the first 'Eko-day' within the grounds of the park located at the plant. Over 60 students from primary schools in the locality took part in various workshops and activities throughout the day, focused on learning about conservation and the local wildlife.

Engaging with stakeholders

Business is about people, and at CRH we believe success is built on developing transparent and trusting relationships with all stakeholders.

We take an inclusive, collaborative and responsive approach to developing stakeholder relationships, taking care to maintain transparency throughout. To maximise what we can achieve, we combine a global and local approach that makes the most of the knowledge and relationships we have at both a macro and micro level. At Group level, we focus on engaging shareholders and the investment community, employees, third-party survey and assessment organisations and other interested parties.

At the local level, our businesses thrive on regular engagement with customers, suppliers, neighbours and local communities. Interactions with legislative and regulatory authorities are handled at company level, product group or regional level, as appropriate. In addition, company representatives are involved with educational institutions in most of the countries in which we operate.

Our businesses are required to implement a community engagement plan where appropriate and we have a target that 90% of relevant businesses have such a plan by 2020.

Stakeholder dialogue is an ongoing practice at CRH and the outcomes inform continuous improvement processes within our business. Stakeholder input is particularly important in developing, implementing and continuously improving our sustainability policies and commitments, and it plays an important part in our Materiality Assessment (see page 68). This current Report has been influenced by stakeholder feedback on the need to clarify sustainability targets and provide greater transparency on key performance indicators.

We map our stakeholders across the entire value chain to ensure we understand their interests and meet their needs. In the following table, we list our key stakeholder groups and detail some of the ways we engage with them.

Why does it matter?

We believe that continued business success depends on maintaining excellent relationships with all stakeholders.

What's in place to manage it?

We take a strategic approach to stakeholder engagement at Group level, while empowering our businesses to deliver local engagement in an inclusive and transparent way.

How are we performing?

Our strong reputation shows we are succeeding. During 2016, our companies hosted over 1,000 stakeholder engagements and participated in many more.

What's next?

The outcome from stakeholder engagements informs continuous improvement processes.

1.

2.

1. John Keating, Chief Operating Officer, CRH Americas Materials, with a customer at a CRH Canada customer reception held in Toronto, Canada
2. CRH company, Pennsy Supply, in Pennsylvania, US, hosted a number of class tours for schoolchildren as part of the 'Rocks Build our World' educational programme. This free educational initiative is run by Oldcastle Materials and supports science curriculum through educational videos, hands-on exercises and classroom demonstrations.

Stakeholder group	Areas of interest	Key methods of engagement
Employees	• Senior management • Employees • Trades unions • Potential and new recruits • Leavers	• Business performance • Employee relationships • Health and safety • Corporate governance • Human and labour rights • Potential local impact	• Team meetings • Employee newsletters • Forums • Annual Euroform • One-to-one meetings • Employee surveys • Town Hall meetings • CEO blog • Performance reviews
Local Communities	• Neighbours • Local authorities • Charities and volunteer groups • Environmental groups	• Community issues • Planning matters • Potential local impact • Sustainability	• One-to-one meetings • Open days • Site tours • Participation in local events
Investors	• Institutional investors • Fund managers • Financial and SRI analysts • Rating agencies	• Business performance • Sustainability • Environment and climate • Employee relationships • Acquisition integration • Board and executive remuneration	• Annual General Meeting • One-to-one meetings • Surveys • Investor conferences and roadshows • Ratings
Customers	• Builders and contractors • Architects and engineers • Public sector • Private developers • Consumers	• Customer relations and contracts • Quality and delivery • Health and safety • Sustainable products • Product innovation • Partnerships	• Meetings and negotiations • Customer surveys • Formal market research • Social media • Company and corporate websites • Product information on packaging • Customer relationship development
Suppliers	• Suppliers of materials • Contract manufacturers • Service providers	• Quality and delivery • Contract performance • Local impacts • Health and safety • Corporate governance	• Supplier surveys • Contractual meetings • Tender quotations • Information requests
Government and Regulators	• National and local governments • Regulators • Local authorities	• Potential local impact • Corporate governance • Planning matters • Environment and climate • Natural capital • Health and safety	• Briefings and direct meetings • Multi-stakeholder forums • Industry associations • Audits • Open days
Academic and Scientific Community	• Universities • Researchers • Students • Industry associations	• Eco-efficiency • Product innovation • Natural capital • Environment and climate • Human and labour rights • Graduates and apprentices	• One-to-one meetings • Seminars and lectures • Graduate and apprenticeship programmes • Presentations • Round table discussions
Media	• TV and radio • National and local newspapers • Social media • Financial newspapers	• Business performance • Corporate governance • Employee relationships • Health and safety • Environment and climate • Product innovation	• Media surveys • Interviews • Media briefings • Press releases • Social media
NGOs and Pressure Groups	• Human and labour rights groups • Environmental organisations	• Corporate governance • Environment and climate • Human and labour rights • Eco-efficiency	• One-to-one meetings • Presentations • Participation in events • Open days

Managing our supply chain

Responsible sourcing

At CRH, we believe that buying better means both delivering the best procurement contracts available and providing supply chain assurance that integrates sustainability into our procurement decisions.

Our Supplier Code of Conduct and Ethical Procurement Code set clear minimum standards and expectations for our suppliers. We take care to benchmark our expectations and approach against the best standards in industry.

To be able to truly embed these standards across our supply chain, we ensure each interaction, negotiation and tender that engages suppliers has sustainability at its core.

In 2016, we met our target of training 100% of our procurement teams in responsible sourcing issues, tools and techniques, with expectations set as to where and how these should be utilised.

We have a greater ability to influence procurement decisions when we are able to combine tenders at a global or divisional level. Where this has happened we integrate sustainability risks and opportunities into the sourcing plan (in line with ISO 20400 protocols). The targets and objectives of the sourcing plan are then built into the tender requirements and scoring of that project.

We are also starting to assess and understand key commodity groups where we can leverage our purchasing power to influence a broader industry transition to a more sustainable world.

Case Study

We work collaboratively to improve standards in the supply chain.

At Rudus, our Finnish materials business, our commodity level risk assessment identified that there are potential environmental, safety, labour and governance risks in the supply chain for natural stone, which may still be an unregulated industry in the developing world. TFT's Responsible Stone Programme (RSP) sets clear, realistic standards, and TFT, an organisation dedicated to improving supply chain standards, works on the ground in India and China to drive standards, such as legal working hours and wages, good health and safety and statutory rights and benefits for workers. By joining with other responsible companies through the TFT and consolidating our business to a core pool of suppliers that are able to engage with the RSP, we have been able to ensure that our standards are being fully implemented.

At Rudus, 94% of imported natural stone products are from suppliers that have been assured by TFT, meaning that our customers can be satisfied that the sourcing of natural stone, wherever it is from, respects the environment and the rights of the people who worked to produce it

The Rudus Procurement Group, Finland, stand in front of a recent shipment of TFT-assured natural stone.

Why does it matter?

We have an extensive supply chain covering over 100,000 suppliers across our group of businesses. Each commodity group has a specific set of sustainability risks relating to its supply chain. As well as meeting the expectations of our investor and customer community, high ethical standards in our supply chain add value to our business through enhanced assurance, innovation and supplier relationships.

What's in place to manage it?

Our Supplier Code of Conduct and Ethical Procurement Code set out our standards and expectations for suppliers. These standards are adopted and certified annually by suppliers. We have a team dedicated to supporting the delivery of our responsible sourcing strategy which is based around the principles of the newly published ISO 20400 sustainable procurement guidelines.

How are we performing?

100% of CRH procurement teams have been trained in responsible sourcing tools and techniques.

What's next?

We plan to review and update our supplier Code of Conduct in 2017 and publish our Commodity Heat Map to help suppliers understand the sustainability aspects we consider critical to our success.

Managing our supply chain - continued

Supplier assessment, collaboration and development

The CRH Procurement Board oversees purchasing policy and is accountable for delivering our responsible sourcing objective. Our three core business lines: Heavyside Materials, Lightside Products and Building Materials Distribution, each have a specific supply chain footprint with different characteristics, challenges and opportunities. Our Heavyside Materials businesses receive a significant portion of raw materials from internal resources. This is a vertically-integrated business, which means that materials and products produced by one Group company may be used as raw materials by a sister company. The manufacture of building products, within our Lightside Products businesses, has a typical factory supply chain, while our Building Materials Distribution businesses have a typical retail supply chain. Because of the local nature of our business in the 31 countries in which we operate, many of our suppliers are also local. This means utilising and supporting local business and supply chains where we have an intricate knowledge of their performance and reputation.

We actively manage risk as part of our processes, ensuring that we do not become dependent upon individual suppliers and vice versa. Our major contracts are awarded following a rigorous competitive tendering process and decision criteria include value, quality, assurance and relevant CSR indicators.

We assess supply chain risk at a commodity level against 15 different sustainability aspects tailored to our business and Supplier Code of Conduct.

A Commodity Heat Map (to be published in our 2017 Report) identifies the risk profile and includes an opportunity assessment to understand and leverage areas where improvements could be made. By managing risk and opportunity at a commodity level, we are able to obtain a greater insight into our supply chain and to integrate improvements into commodity strategy plans and procurement decisions. We also use the process to identify requirements for additional assurance procedures for compliance above and beyond our Supplier Code of conduct self-assessment, declaration and verification process. We are targeting 100% compliance by suppliers with our ethical procurement code by 2020.

Due diligence of the supply chain is carried out by third parties in the form of desktop or onsite audits, or by CRH in the form of comprehensive onsite audits. All suppliers identified as being high risk have been evaluated and, in certain cases, audited. In addition, we engage with a number of industry partnership schemes where there is the opportunity to enable positive industry-wide change and help develop supplier performance.

Our due diligence process ensures we do not use conflict minerals by following the same procedures used to support our Modern Slavery Statement. Our disclosures are available on www.crh.com.

Case Study

Working with our suppliers to raise standards

We realised that as well as identifying if there are standards we cannot accept, our supplier assessment process can help raise standards in general. Areas where improvements can be made are identified in our baseline review. Following reassessment, we recognise where significant improvements have been made. We believe that recognising exceptional progress among our suppliers is important and leads to good relationships based on mutual respect and understanding.

It is through inspiring our suppliers to continuously improve that we can deliver lasting improvements to environmental, safety, labour practices and governance standards

Some of the CRH Responsible Sourcing Team with the recipient of a CRH award in Qingdao, China, in recognition of corporate social responsibility standards achieved.

Respecting human and labour rights

We respect human and labour rights and support the principles set out in the articles of the United Nations' Universal Declaration of Human Rights and the International Labour Organisation's Core Labour Principles. Our commitment to human and labour rights has been formalised through our Group Code of Business Conduct which is publicly available on www.crh.com. The Code is implemented across all CRH businesses and subsidiaries, and is actively promoted in our joint ventures and associates.

We carry out an annual review to monitor compliance with our policies regarding human and labour rights and emerging issues across all CRH companies. In 2016, we expanded the scope of this review to include certain items in relation to modern slavery. We conduct appropriate risk assessments and these have shown two potential risks: supply chain risks, and risks in emerging economies. The outcome of our 2016 review confirmed that our companies take their responsibilities in this area very seriously and that our policies in these areas are effectively embedded in our operations.

Our approach to managing supply chain risk is detailed on the previous page. In emerging economies, all potential acquisitions are subject to detailed due-diligence which incorporates human rights and other relevant issues.

Labour Practices

We monitor labour practices in all Group companies through an annual internal review. Our 2016 review confirmed that there were no cases of forced or compulsory labour at any location. It also confirmed that there were no employees or contractors under the relevant legal age working at any location. Apprenticeship and internship programmes are delivered in accordance with local legislation and are typically regulated by governmental educational agencies.

All of our companies respect employees' right to freedom of association. In 2016, overall reported trade union membership was 17%. A number of our companies are unable to disclose this information due to regional legal restrictions. Membership varies significantly by country, with union membership exceeding 70% in certain countries. Wage negotiation is carried out at a variety of levels, depending on local industry practice. In 2016, 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. Overall, the level of lost days due to industrial disputes was very low with just 960 days lost, equivalent to 0.005% of all man days in 2016. Most of these days were in support of national strikes rather than CRH-specific issues.

We endorse human and labour rights and support the principles set out in the articles of the UN's Universal Declaration of Human Rights and the International Labour Organisation's Core Labour Principles.

We have recently published our 'Commitment to Human Rights: Tackling Modern Slavery', which is available for download on www.crh.com.

Why does it matter?

We believe that upholding the highest standards protects our reputation, attracts the best people and fosters diversity.

What's in place to manage it?

Our commitment to human and labour rights has been formalised through our Group Code of Business Conduct.

How are we performing?

The 2016 review confirmed that our policies in the areas of human and labour rights are embedded in all of our operations.

What's next?

We have published our Modern Slavery Statement, which is available on www.crh.com. We will continue to improve our processes in line with evolving best practices.

How we protect the environment

A strong environmental performance is fundamental to our strategic focus on continuous business improvement and delivers significant financial and non-financial benefits.

In this section, we detail our environment and climate change policies and systems, progress against targets, and our future ambition to secure continued industry leadership in environmental management.

2016 Performance

Continued positive trends in environmental KPIs while effectively integrating acquisitions into environmental management systems and receiving external recognition for our environmental performance.

2017 Focus

Continue to work towards our environmental and climate change targets while ensuring consistency in our approach and leadership on key environmental issues for our industry.

Image: Tarmac, our UK materials business, sensitively operates a quarry at Panshanger Park, in Hertfordshire, UK, a historic park and garden that also includes a nature reserve. Refer to page 59 for more about biodiversity and the award-winning restoration at Panshanger Park.

Applying a robust policy

As a diversified company, our global activities vary across the full range of the building materials sector - from heavyside businesses to lightside manufacturing, and from construction to distribution. The potential environmental impacts and opportunities across these activities vary with each line of business. To ensure a consistent approach, we apply our Environmental Policy rigorously across all of our operating companies.

We check on the implementation of our Environmental Policy and requirements through our annual Environmental Review process, which covers all subsidiaries, joint ventures and associates. The Environmental Review process also confirms that potential environmental risks are being managed appropriately.

Environmental management is a line management responsibility which begins with individual company management teams and continues right up to Board level.

Location managers are accountable for ensuring the effective day-to-day implementation of the Group Environmental Policy. They are supported by a network of experienced Environmental Liaison Officers (ELOs) in each Division who engage with each other through divisional HSE Directors to share best practice and experience.

Acquisitions are systematically integrated to ensure consistent delivery of our Environmental Policy and processes.

Clear lines of responsibility ensure the effective implementation of our Environmental Policy across all our 3,800 operating locations. We believe this is key to harnessing sustained value from our environmental strategies in all areas of our business.

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

Comply
as a minimum, with all applicable environmental legislation and continuously improve our environmental stewardship, aiming all the time to meet or exceed industry best practice.

Ensure
that our employees and contractors respect their environmental responsibilities.

Address
proactively 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.

Develop
positive relationships and strive to be good neighbours in every community in which we operate.

Why does it matter?
Excellence in environmental management is vital to our strategic imperative of continuous improvement and to our licence to operate. As well as creating significant value through efficiencies, we deliver benefits to society and our business by managing our risks and opportunities.

What's in place to manage it?
We apply our robust Environmental Policy across all of our operating companies and it is delivered through appropriate environmental management systems. To monitor progress, we carry out a detailed annual Environmental Review across all locations.

How are we performing?
We are counted among the leaders in our sector for our environmental performance and we are making good progress against our targets, particularly our CO_2 reduction target.

What's next?
Actively evaluate our performance metrics to monitor progress across all material areas and link KPIs to the value we create for our business and wider society.

Mitigating our potential environmental impacts

Environmental performance goals

We have set a broad range of internal environmental performance goals designed to drive continuous improvement across our operations. Targets focus on our heavyside businesses which, through cement production, account for a significant portion of our emissions. To meet and exceed our goals, we continuously monitor and assess environmental performance, compliance and potential risks at local and Group level. Our annual Environmental Review of all Group companies, joint ventures and associates monitors progress and outcomes. Recommendations for improvement are reported to operating companies and the Board.

As a building materials business, we are naturally subject to stringent and continuously evolving laws, regulations, standards and environmental best practices. To address and comply with these standards, we require all our companies to implement an appropriate environmental management system (EMS), tailored to the specific line of business and local permitting regime. In many cases, our internal environmental goals exceed the local regulatory requirements. A total of 1,130 Group locations were certified to the ISO 14001 Environmental Management System (EMS) in 2016 and 71% of our subsidiary clinker plants were ISO 14001 certified. While ISO environmental certification is not common in the US, our US operations implement appropriate systems and comply with detailed local environmental permit requirements. It is our target that 90% of relevant businesses have a permitted or certified EMS by 2020.

Environmental compliance

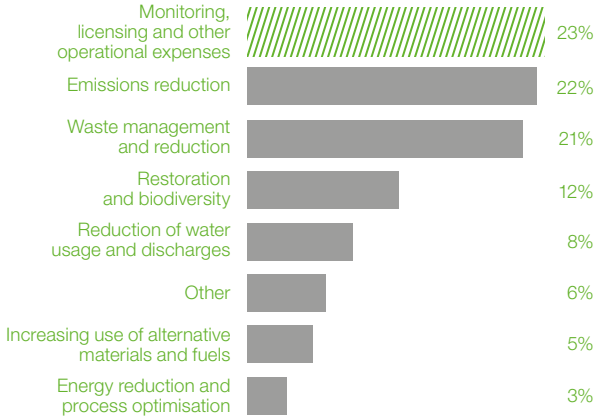
We are pleased to report excellent environmental compliance again in 2016. Our policy is to address and resolve compliance issues as soon as possible and most incidences of non-compliance that occurred in 2016 have already been resolved. We paid fines to regulatory authorities totalling €57k (€22k in 2015). These related to a number of minor issues.

Environmental investments

We continuously invest in equipment and processes to improve our environmental performance and realise sustainable innovation opportunities. Key areas of investment include carbon reduction, resource efficiency and biodiversity. Our total environmental expenditure in subsidiary companies in 2016 was €138m, including investments in specific environmental management projects and the environmental expenditure element of major investment projects. Including 100% of subsidiaries, joint ventures and associates on an equity share basis, our total environmental expenditure in subsidiary companies in 2016 was €143m. Our roadmaps are backed up by an investment programme and it is our target to have the major 2015 acquisitions fully integrated into environmental roadmaps by 2020.

We achieved the lowest CO_2 intensity per tonne of cementitious product of all CSI member companies* - testament to our successful approach. This is the single most significant metric for measuring environmental impact and we have reduced it by 22% on 1990 levels.

Significant areas of environmental expenditure 2016



*Based on 2016 Company Reports publicly available at end of May 2017.

Reducing our carbon emissions

Carbon disclosure

We believe we have a duty to disclose our greenhouse gas emissions in a transparent, consistent and clear way. Following a Materiality Assessment, we consider carbon dioxide (CO_2) to be our only relevant greenhouse gas. The Greenhouse Gas Protocol, developed by the World Resources Institute and the WBCSD, defines three categories of CO_2 emissions:

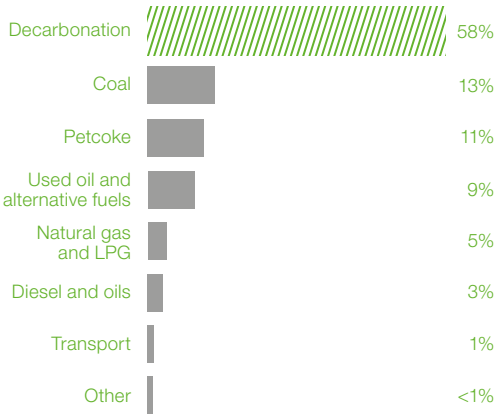
- Scope 1: Direct CO_2 emissions from sources controlled by an organisation. For CRH, this comprises emissions from the use of fuels, chemical decarbonation during the production of cement and lime and the transport of raw materials and finished products by our companies
- Scope 2: Indirect CO_2 emissions from purchased electricity
- Scope 3: Indirect emissions from all other activities. For us, this includes contracted transport of finished products and supply chain inputs

Scope 1 CO_2 emissions from all wholly owned subsidiaries amounted to 24.7m tonnes in 2016 and Scope 2 emissions totalled 2.5m tonnes. This represented an increase in absolute emissions compared with 2015, predominantly as a result of LH Assets business acquired in the third quarter of 2015 which, on an annual basis, doubled our cement capacity and changed the resulting profile of our emissions. Cement production now accounts for 86% of direct Group emissions, up from 65% in 2014 before the acquisition. Decarbonation, the chemical reaction that occurs in a cement or lime kiln, remains our single largest source of CO_2.

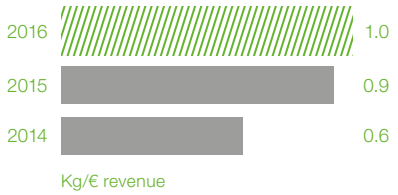
Scope 3 emissions were 1.3m tonnes, similar to the previous year.

When joint ventures and associates are included (proportionate to our shareholding), combined Scope 1 emissions amount to 29.5m tonnes, Scope 2 emissions are 2.8m tonnes and Scope 3 emissions are 1.4m tonnes.

CO_2 emissions by source (Scope 1) 2016



CO_2 emissions per unit revenue (Scope 1 + 2)



We are actively involved in industry-level discussions on climate change – both global and regional - through our membership of the CSI and industry associations such as The European Cement Association (CEMBUREAU), the European Lime Association (EuLA), the National Asphalt Pavement Association (NAPA) and the Portland Cement Association (PCA). CRH is currently Vice-Chair of the CSI and will become Chair in 2018.

Concrete construction offers a high level of "whole-life-performance" and can result in energy efficient buildings; shown is a building named "Toison d'Or" in Brussels, Belgium which has a BREEAM® Excellent certification and to which a CRH Structural Concrete Belgium brand, Ergon, supplied hollow core slabs and pre-stressed beams with concrete elements.

Delivering our CO_2 reduction target

In striving to reduce our emissions, we deliver carbon, energy and financial efficiencies for our business and help to address climate change on a societal level. We focus on reducing the carbon footprint of our products during manufacture and on increasing their contribution to reducing emissions from the built environment during their lifetime (see page 11).

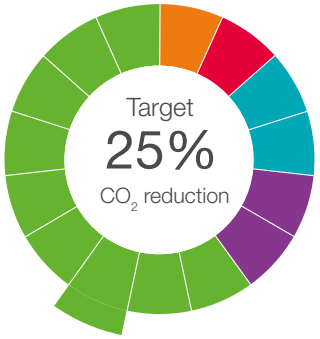
Across all of our activities, our businesses target energy and carbon efficiencies. In total, 86% of Group CO_2 emissions arise from cement activities and our Group target focuses on reducing specific net Scope 1 emissions from this activity. Having achieved our initial CO_2 reduction commitment three years ahead of target in 2012, we have pledged a 25% reduction in specific net CO_2 cement plant emissions by 2020, compared with 1990 levels (covering wholly owned cement plants in Belgium, Finland, Ireland, Poland, Spain, Switzerland and Ukraine which were owned by CRH when the goal was set in 2013).

Our 2016 specific emissions of 0.596t CO_2/t cementitious product are equivalent to a 22% reduction compared with 1990 emissions of 0.760t CO_2/t cementitious product. We are confident that we will deliver our 0.571t CO_2/t target by 2020.

Looking ahead, we will prepare an emissions reduction roadmap for the post-2020 period. The first step will involve reviewing the potential future emissions profile of all plants and aligning this to our capital investment programme. We will update on progress in our 2017 Sustainability Report.

We are on track to achieve our 2020 target of a 25% cut in specific net CO_2 cement emissions by 2020, compared with the 1990 baseline. 2016 emissions were 22% below the base year.

Refer to page 10 to discover how we are tackling our climate impacts and why we believe concrete is part of the solution



Cementownia Ożarów plant, Poland, has a focus on reducing CO_2 emissions across all areas of business activity by the increased use of alternative fuels and the reduction of fugitive and stack dust emissions. In 2016, the plant invested in new bag filters as part of the upgrading of air emission abatement equipment in order to meet increasingly stringent regulatory emissions limits.

Manufacturing low carbon cement

Because of the contribution of cement (clinker) production to our total emissions, the manufacture of low carbon cement is a key priority for achieving our CO_2 reduction target.

Approximately 60% of CO_2 in cement production is caused by the transformation of limestone into lime - a process called decarbonation. The remaining 40% arises from the fuels used to reach the high temperatures required in the kilns.

We focus our reduction strategies on using less clinker, replacing carbon intensive fuels in cement manufacture, and improving energy efficiency, while maintaining the high quality, performance and compliance of our products and processes.

Co-processing

Co-processing involves the use of alternative raw materials, such as waste and by-products from other industrial processes, to replace a portion of the raw materials or clinker used in cement manufacturing. Alternative raw materials can include fly-ash, slag and quarry overburden. Using quarry overburden as a co-processing material has the additional benefit of preserving resources and reducing energy use during quarrying of virgin raw materials. In 2016, we used a total of 5.6m tonnes of alternative materials in our subsidiary cement plants (2015: 3.8m tonnes).

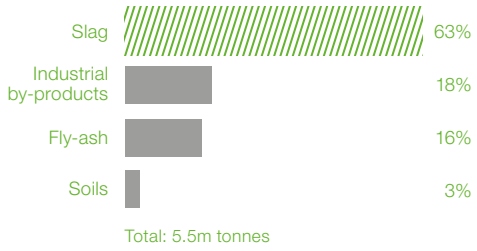
Our ambition is to further reduce our clinker factor (the proportion of clinker in each tonnes of cement) through the use of alternative materials. In some cases, we are limited by market requirements for specific products and, in others, by the availability of alternative materials. We are continuously working to overcome barriers through optimisation of clinker mineralogy and further development of blended cements. As a sector leader in co-processing, we actively promote the benefits of low carbon cement, simultaneously increasing market demand while mitigating against environmental impact.

Alternative fuels

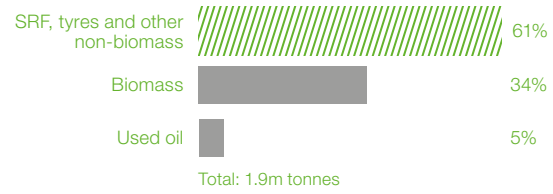
Our commitment to sustainability is in part evidenced by our extensive use of alternative fuels. By substituting traditional fossil fuels with alternative fuels we conserve natural resources, reduce CO_2 emissions, deliver financial efficiencies and support the circular economy by reusing by-products and waste from other industries.

The alternative fuels used by our cement plants typically include solid recovered fuels (SRF), waste tyres, solvents, used oil and carbon-neutral biomass (meat and bone meal, wastewater treatment plant residue, rice husk, etc.). In 2016, our subsidiary cement plants used 1.9m tonnes of alternative fuels (2015: 1.6m tonnes). This provided 45% of our total energy consumption for our plants in the European Union. We will continue to invest in alternative fuel handling systems to deliver further increases in the future.

Alternative materials used in CRH cement plants 2016



Alternative fuels used in CRH cement plants 2016



Why does it matter?

The manufacture of low carbon cement is key to achieving our CO_2 reduction target.

What's in place to manage it?

Reduction strategies focus on using less clinker and less carbon intensive fuels in cement manufacture.

How are we performing?

During 2016, a total of 5.6m tonnes of alternative materials and 1.9m tonnes of alternative fuels were used in our subsidiary cement plants.

What's next?

Increasing our use of alternative raw materials through optimisation of clinker mineralogy and continuous investment in alternative fuel handling systems.

Increasing our energy consciousness

Energy efficiency

Our industry has a significant opportunity to improve energy efficiency throughout the entire value chain, including through the supply of energy-saving products and solutions. To ensure we maintain momentum as we continue to grow, we set up a central Cement Group Technical Services (CGTS) entity in 2016 to support all cement businesses in the Group. A key focus will be the development of performance improvement roadmaps with energy saving as a key focus.

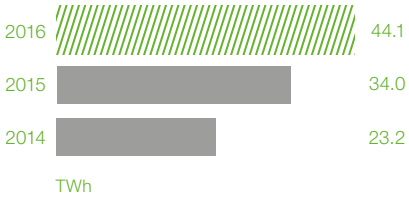
We are also increasingly introducing formal Energy Management Systems across our other activities. In Europe, over 700 of our locations have certified ISO 50001 Energy Management Systems. As with the ISO 14001 EMS standard, such certification is not common in other regions of the world and we apply other systems as appropriate. Over half of all Group companies (mainly higher energy users) have now set energy reduction targets and we saved approximately 988 GWh of energy through these activities in 2016.

In 2016, we used 44.1 TWh of energy. This represents a significant increase on 2015 (34.0 TWh) and is predominantly due to the full year reporting of our 2015 acquisitions. Energy conversion costs for 2016 were €940m, representing 5% of total cost of sales. This shows that energy efficiency is an integral part of our EMS, with a focus on implementing Group-wide energy and resource efficiency programmes, particularly in higher energy activities such as cement, which accounts for 70% of our total energy usage.

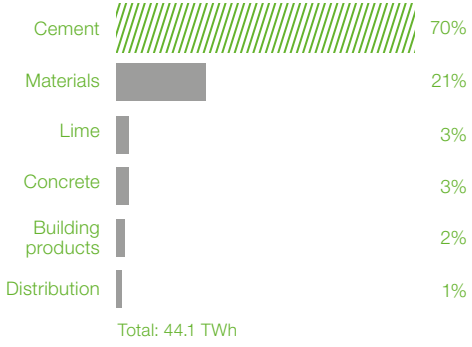
Energy efficient products

Over 80% of greenhouse gas emissions from buildings are released during their operational phase. We focus on ensuring our products reduce the environmental footprint of buildings throughout the life-cycle, including by improving the in-use energy performance of buildings. Concrete is a well-established, resilient building material, with thermal mass properties which deliver significant energy efficiency benefits during the lifetime of buildings by storing and releasing heat. This reduces the need for heating in cold weather and cooling in warm weather (see page 12). There are also a number of important innovations in our Lightside products. For example, Oldcastle BuildingEnvelope® offers products that meet the most stringent thermal performance requirements and reduce energy consumption and solar heat gain, resulting in increased energy efficiency of buildings throughout their life-cycle. In several of our businesses, we now use sophisticated building information modelling (BIM) tools to help architects and designers select and specify solutions with optimal energy performance for their design. We also provide materials for construction of renewable energy installations.

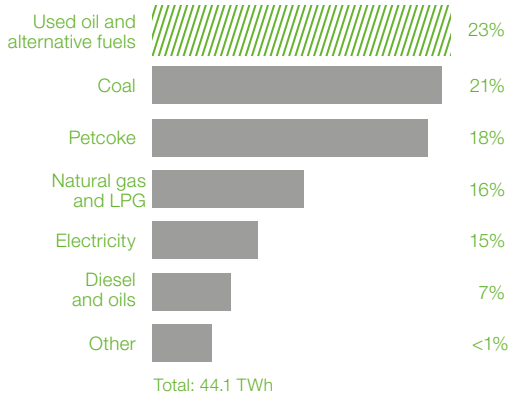
Energy use



Energy use by activity 2016



Energy use by source 2016



Why does it matter?

As well as the clear links between energy efficiency and cost savings, we have a significant opportunity to promote energy efficiency throughout the entire value chain.

What's in place to manage it?

Our energy management teams help to identify and implement energy saving programmes across our businesses. Innovation teams work to develop products that contribute to improved energy efficiency in the built environment.

How are we performing?

We saved approximately 988 GWh of energy in 2016 and purchased 771 GWh of 'green' electricity.

What's next?

Detailed performance improvement roadmaps will target further energy improvements while we continue to develop innovative energy efficient products.

Increasing our energy consciousness - continued

Renewable energy

Many of our companies actively pursue energy from renewable resources as part of their energy mix. As previously outlined, alternative fuels are widely used in our cement plants. We also operate on-site renewable energy generation systems at a growing number of locations, mainly solar panels and wind turbines. In 2016, we purchased 771 GWh of 'green' electricity from external suppliers.

On-site electricity generation

A number of our companies – most recently Marlux and Stradus Infra in Belgium - have partnered with local utilities to install wind turbines on-site which supply energy to their operations and feed the surplus to the grid. Several other companies have made significant investments in solar panels. For example, our distribution companies in Switzerland have covered the roofs of eight locations with photovoltaic solar panels and are connecting these to the national grid. While in the US, at a single Trap Rock Industries location two solar-panel systems now generate 3MW of power, meeting 60% of the site's peak electricity use.

Transport efficiencies

According to the Intergovernmental Panel on Climate Change (IPCC), transport is one of the main sources of global carbon emissions. It is also a significant source of other air emissions that have health and wider impacts.

We strive to optimise transport logistics across our companies to improve our customer service and reduce our energy consumption. While transport by road is the most common mode of transport, we make use of fuel-efficient rail, boat and barge transportation where possible. For example, our subsidiary Tarmac in the UK, recently expanded its rail transport division and a growing portion of aggregates delivery is by rail.

Overall, 57% of our Group companies have initiatives in place to optimise their transport use. For example through GPS route planning, load optimisation, fleet management, engine idling alerts and maximising back-loading. These transport efficiencies deliver multiple benefits, including reduced fuel consumption, a lower carbon footprint, reductions in other air emissions as well as improved profit margins and customer service.

As well as ensuring our own operations are as energy-efficient as possible, we have the opportunity to encourage energy savings along our value chain. We promote renewable energy products, generate electricity on-site and seek transport efficiencies. Also, many of our products have energy and CO_2 benefits and you can read more about this on pages 6-12.

1.

2.

1. Finland has a large land mass and shipping products to customers is the most efficient delivery method. Finnsementti, our cement business in Finland, has chartered the MV Furuvik vessel for 10 years, shipping approximately 350,000 tonnes of material each year along the west coast of Finland and between Denmark and the Finnsementti cement plant in Parainen.
2. Farrans, was awarded the contract as principal contractor in the development of Harburnhead Windfarm, a 52MW, 22 turbine site, located 20 miles south-west of Edinburgh, which was completed ahead of schedule in April 2017.

Managing emissions to air

Emissions to air can have significant impacts on human health and the environment if not properly controlled. Excluding CO_2, the main emissions from our activities are particulates, nitrogen oxide (NO_x) and sulphur oxide (SO_x). Particulate emissions may arise from point sources, such as cement production stacks. They can also arise as fugitive emissions, from quarrying, open storage of materials, transfer of materials through uncovered conveyors, and from loading and unloading operations. NO_x is formed during the combustion of fuels and SO_x is mostly formed from the oxidation of sulphur in raw materials, with only a small proportion from sulphur present in certain fuels.

We are committed to implementing all aspects of our Environmental Policy and reducing our impact on the environment, including reducing air emissions from all relevant activities.

We manage stack emissions by investing in modern, efficient abatement technologies and regular maintenance. Control of fugitive emissions is achieved through the building of enclosures for material storage and conveyor belts, and by paving plant areas and internal roads.

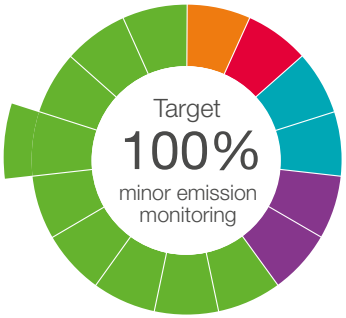
Due to the significance of particulate and NO_x emissions from cement activities, our specific emission reduction targets focus on this activity. Having achieved our 2015 particulate and NO_x emission reduction targets three years ahead of schedule, we are now on track to meet our 2020 emission reduction targets of:

- 80% reduction in average clinker particulate emissions compared with 2006 levels by 2020
- 22% reduction in average clinker NO_x emissions compared with 2006 levels by 2020

Total stack emissions to air over recent years are shown on pages 75-76. The change in the emissions profile in comparison with 2015 is due to the full year reporting of the 2015 LH Assets acquisition. However, emissions from individual facilities remain within the respective regulatory limits.

We have made good progress towards our targets and looking ahead, we are confident that we will deliver our 2020 commitments. We will continue to reduce particulate emissions through ongoing investment in new, more efficient filters at specific plants and also by improving the efficiency of operating plants. A number of significant investments are planned to reduce NO_x emissions such as the installation of new filter control technologies and the optimisation of abatement systems and operational parameters. CGTS are currently working to integrate our newly acquired cement capacity into our air emission reduction roadmap.

Minor emissions are increasingly in focus and we report on these, and the associated coverage rates of monitoring, on page 76. We are targeting 100% minor emissions monitoring in our subsidiary plants by 2020.



Why does it matter?

Air emissions can have significant impacts on human health and the environment if not properly managed.

What's in place to manage it?

We implement air quality improvement programmes and employ air abatement technologies to ensure our emissions to air are within appropriate limits.

How are we performing?

We achieved our 2015 air emissions reduction targets three years ahead of schedule and are on-track to meet our 2020 commitments.

What's next?

We are focused on meeting our 2020 targets and the requirements of forthcoming legislation, as well as looking at opportunities beyond 2020. We are also working to integrate newly acquired cement plants into our reduction roadmap.

Protecting water resources

Promoting access to and protecting the quality of water resources is a social and environmental issue globally. As a water-intensive industry, we depend on local water resources in order to operate. While we do not generally operate in water-stressed areas, we believe it is our obligation to carefully manage the amount of potable and abstracted water we use in our manufacturing and day-to-day activities. Increasing water efficiency and ensuring the water we discharge is treated to high standards are key environmental management priorities. Our target is that 75% of our relevant businesses will have water efficiency and quality programmes by 2020.

Water intake and discharge

In 2016, our companies used an estimated total of 88.8m m^3 of water, up from 54.5m m^3 in 2015. The increase was mostly due to full year reporting of our 2015 acquisitions. Water for process activities is often abstracted from several sources, not all of which may be metered. We are targeting improvements in water accounting across all relevant activities.

Our total water discharge in 2016 was estimated to be 22m m^3, with 86% discharged to surface water and the remainder discharged to public sewers. Water discharge can be difficult to quantify because of the contribution of storm water and the limitations in metering.

Water recycling

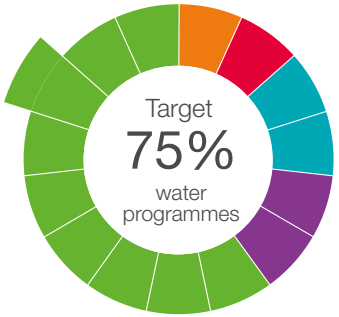
At 824 of our locations, we recycle water through various means including the use of water from settlement ponds and the use of closed-loop systems installed in our manufacturing processes. These measures reduced our 2016 water intake by 58% compared with the volumes we would have required had we not undertaken these activities.

Water quality

We use a variety of measures to protect local water quality including closely managing the water we discharge. We ensure the quality of discharged process water by using settling ponds and pH neutralisation systems. Some of our facilities also operate their own wastewater treatment plants.

To avoid potential spills of fuels and other polluting materials, we implement best practice in materials storage and it is our policy to decommission all unprotected underground storage tanks. There were no significant fuel spills in 2016.

The Metro Expo Light Rail operations and maintenance facility in Santa Monica, California, US, uses Storm-Capture units to harvest and store rainwater for reuse in landscape irrigation and vehicle washing. Oldcastle Stormwater Solutions, part of Oldcastle Precast, was involved in the design and construction of a concrete stormwater management system to reduce the impact on the municipal water supply in this high drought area.



Why does it matter?

Access to clean water is a global social and environmental issue globally. Properly managing our water use and discharge is an ongoing priority. Many of our products, for example stormwater management systems, are key contributors to the water resource management of the built environment.

What's in place to manage it?

We closely monitor our water use and discharge. Investing in water recycling systems is a key priority and we ensure the quality of water discharge through appropriate treatment systems.

How are we performing?

We recycle water at 824 locations and have reduced our water intake by 58% compared with the volumes required had we not undertaken water recycling activities.

What's next?

Increasing our focus on recycling water, reducing water usage and improvements in water accounting across relevant activities.

Enhancing biodiversity

Biodiversity loss and degradation has been described as one of the major environmental threats of our times. As a large-scale landholder, we have a duty and an opportunity to impact positively on biodiversity.

We strive to enhance natural habitats and promote a culture of appreciation and respect for biodiversity across our company locations. This includes mitigating potential negative impacts, such as fragmentation of biodiversity corridors, impacts on water quality and disturbance of birds, animals and plants. Environmental impact assessments associated with permit applications require biodiversity management plans and we have set a target that all locations deemed to be biodiversity-sensitive (those within, containing or adjacent to protected biodiversity areas) must have a biodiversity management plan in line with best international practice by 2020.

A total of 376 locations across our Group are noted for their biodiversity value due to the variety of species and habitats, or the presence of rare or protected species of flora and fauna.

Of our biodiversity-sensitive locations, 91% have implemented biodiversity management plans.

Extractive activities can also create rare habitats which are colonised by specialist species, such as sand martins and peregrine falcons. During the operating life of a quarry, we manage these habitats by adding specific features to support wildlife such as providing structures suitable for nesting of bats, birds, bees and other species. Other management measures include suspending blasting during nesting periods and excluding specific areas from quarrying to preserve valuable habitats. Biodiversity is also a key feature of site restoration planning (see page 59).

While many Group companies already implement sophisticated and award-winning biodiversity management programmes, we want to roll out this approach further, starting with biodiversity-sensitive areas. We are also planning to expand our work with partner organisations.

Our joint venture partner in India, My Home Industries, Pvt. Ltd., has a targeted programme of social and environmental initiatives, supporting community needs such as education and health. The company also involves local stakeholders in nature activities, such as plantation programmes.

> “Oldcastle’s commitment to preserving and enhancing biodiversity, which can be a challenge for its industry, is fueled by the dedication and passion of its employees and community partners. These teams go above and beyond meeting Wildlife Habitat Council certification requirements to successfully develop and manage award winning conservation programs with maximum value for both the environment and surrounding communities.”

Margaret O’Gorman, President, Wildlife Habitat Council

Why does it matter?

The United Nations Environmental Programme (UNEP) has described global biodiversity loss as a threat to ecosystem functions and the sustainability of human societies. As a large landholder, we have the opportunity to make a significant positive impact on biodiversity.

What’s in place to manage it?

Biodiversity is a key component of environmental management and we have set a target that all biodiversity-sensitive locations should implement a biodiversity management plan in line with best international practice by 2020.

How are we performing?

91% of biodiversity-sensitive locations have appropriate biodiversity management plans in place. We can point to many examples of positive impacts through our work.

What’s next?

We are focused on meeting our biodiversity management targets and expanding our work to protect and promote biodiversity with partner organisations.

Collaborating for biodiversity benefits

Northern leopard frog *(Lithobates pipiens)*

Working with external organisations including Bird Studies Canada and Waterloo Stewardship Council, our Canadian aggregates and concrete business, Dufferin, runs an extensive biodiversity and restoration programme. Of particular note is our Milton Quarry, located within a designated World Biosphere area, where we have created new habitats for wildlife and, through monitoring, know that over 120 bird species, 37 butterfly species and 6 amphibian species use these habitats, including the Northern leopard frog.

European badger *(Meles meles)*

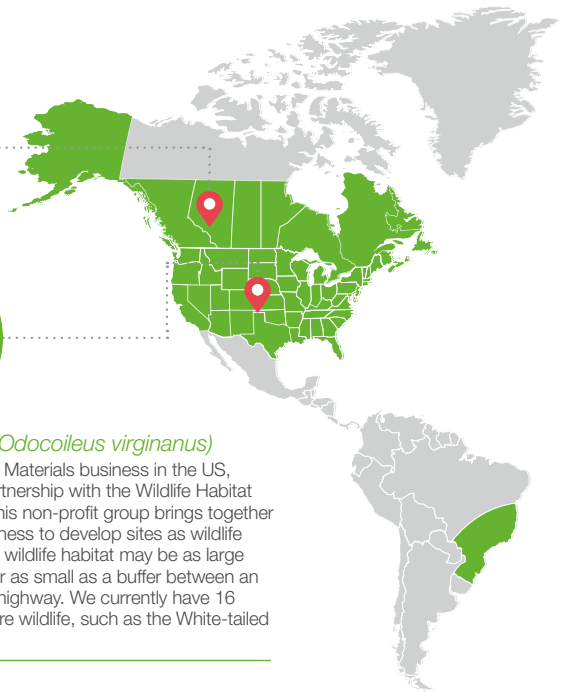
Roadstone, our Irish aggregates and concrete business, works closely with a range of governmental, conservation and local organisations to enhance biodiversity. This European badger was photographed at Belgard Quarry, close to Dublin city.

Anthyllis vulneraria

Rudus, Finland, received a special award for biodiversity at the European Aggregates Association (UEPG) 2016 awards for its LUMO programme, which, in collaboration with a range of stakeholders, promotes and conserves the diversity of nature, including this endangered plant, *Anthyllis vulneraria.*

White-tailed deer *(Odocoileus virginanus)*

Through our Oldcastle Materials business in the US, we have a national partnership with the Wildlife Habitat Council since 2004. This non-profit group brings together conservation and business to develop sites as wildlife habitats. The areas for wildlife habitat may be as large as depleted quarries or as small as a buffer between an operating plant and a highway. We currently have 16 certified locations where wildlife, such as the White-tailed deer, is fostered.



Greater musky fruit bat *(Ptenochirus jagori)*

Republic Cement works with a range of stakeholders and external organisations, including collaborations with the University of the Philippines and the World Wide Fund for Nature (WWF) in the enhancement of biodiversity conservation programmes within operating areas. Many bird, butterfly and bat species thrive at Republic Cement quarry locations. This Greater musky fruit bat, which is native to the Philippines, was photographed at the Teresa Quarry location.

Little ringed plover *(Charadrius dubius)*

Our French heavyside business, EQIOM, regularly works with external organisations, such as International Union for Conservation of Nature (IUCN) France. The first partnership between EQIOM and IUCN France was concluded in 2013 and was recently renewed in 2016. This partnership focuses on IUCN France providing expertise and support to allow for the development of EQIOM's biodiversity policy to protect species such as the Little ringed plover, and in turn EQIOM assists in several IUCN projects and initiatives.

Chamois goat *(Rupicapra rupicapra)*

Our Swiss materials business, Jura Aggregates and Concrete, works with external specialists, such as the Nature and Economy Foundation, in the preservation and promotion of biodiversity at company locations. This image of a Chamois goat was taken in the quarry of the Wildegg cement plant, where many species are known to inhabit and thrive.

Preserving natural and cultural heritage

Restoration

With over 1,400 quarries and pits, restoration planning is fundamental to our ambition to preserve natural and cultural heritage. We see ourselves as custodians of this land and once materials are fully extracted, we ensure areas are restored or another appropriate after-use identified. We manage the planning process in consultation with permitting authorities, local communities and other stakeholders and our target is for 100% of active quarries and pits to have restoration plans. Currently, 98% of such locations have restoration plans.

While reinstatement and landscaping of quarries and pits is typically carried out close to completion of excavation activities, restoration is a continuous process with the rate of reinstatement depending on the closure of excavation sites. On average, about 2% of total quarry and pit area is reinstated annually and in 2016, this amounted to 764 hectares.

Heritage

We make it a priority to conserve local heritage, recognising its importance to communities, nations and society as a whole. Examples on our sites include industrial heritage, Iron Age structures and medieval buildings. We believe in protecting this cultural heritage as an essential aspect of being a responsible company and this is integrated into relevant management plans. We are currently preserving cultural heritage at 103 locations. When opening new extractive areas, our companies employ archaeologists to survey the extractive operations and ensure we protect any archaeological or geological features for the long-term.

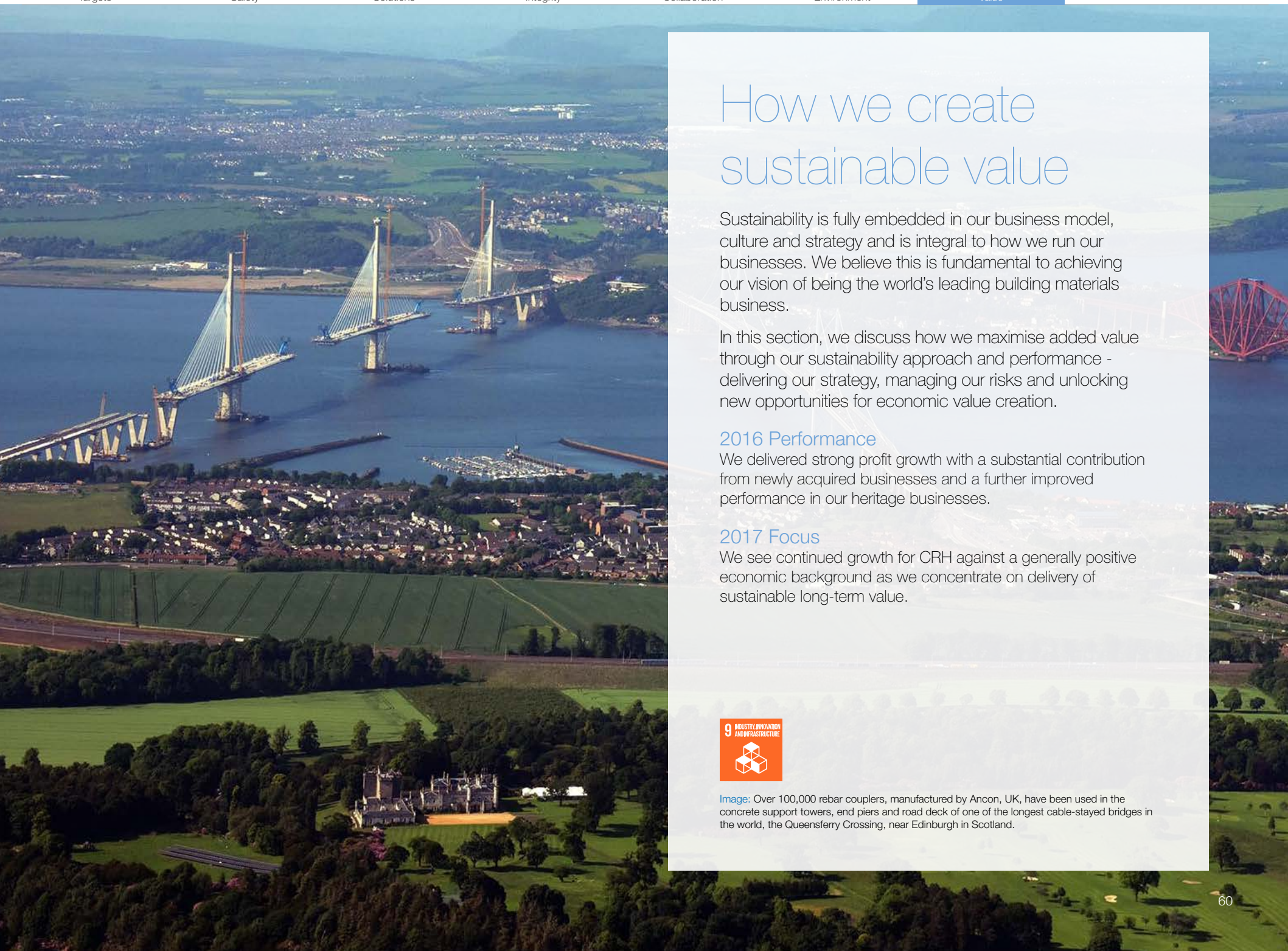
We see ourselves as custodians of our land and ensure appropriate after use and restoration of our quarries and pits

Case Study

Panshanger Park, in Hertfordshire, UK, is a historic park and garden, and part of the estate is also a country park and nature reserve. Tarmac, our UK materials business, has owned Panshanger Park since the 1980s and carries out phased mineral extraction from the active quarry. By carefully planning the award-winning restoration of the quarry there for agriculture, wetland and nature conservation use, Tarmac has been able to supply 160k-260k tonnes of building materials each year to local markets. Now that mineral extraction is nearing its end, Tarmac is working with a range of local stakeholders to deliver a new management plan for the country park.

Panshanger Park provides a haven for many varieties of wildlife.

An aquatic habitat at Panshanger Park.



How we create sustainable value

Sustainability is fully embedded in our business model, culture and strategy and is integral to how we run our businesses. We believe this is fundamental to achieving our vision of being the world's leading building materials business.

In this section, we discuss how we maximise added value through our sustainability approach and performance - delivering our strategy, managing our risks and unlocking new opportunities for economic value creation.

2016 Performance

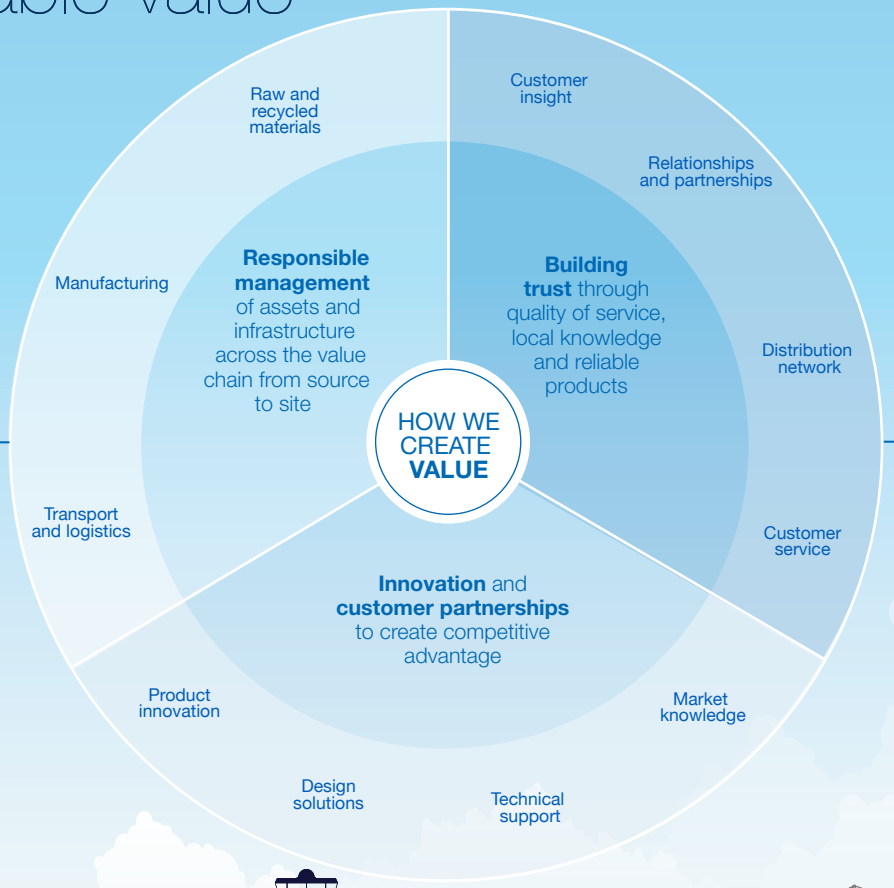
We delivered strong profit growth with a substantial contribution from newly acquired businesses and a further improved performance in our heritage businesses.

2017 Focus

We see continued growth for CRH against a generally positive economic background as we concentrate on delivery of sustainable long-term value.

Image: Over 100,000 rebar couplers, manufactured by Ancon, UK, have been used in the concrete support towers, end piers and road deck of one of the longest cable-stayed bridges in the world, the Queensferry Crossing, near Edinburgh in Scotland.

Creating sustainable value



The resources we need

NATURAL RESOURCES
- ✓ Mineral reserves
- ✓ Fuel and energy

OTHER INPUTS
- ✓ Asset management
- ✓ People
- ✓ Risk management
- ✓ Financial capital
- ✓ Intellectual property

The value we create

- ✓ Sustainable cities and resilient infrastructure
- ✓ Durable and high quality products
- ✓ Employment and skills development
- ✓ Environmental protection
- ✓ Local community capacity building
- ✓ Shareholder returns
- ✓ Government tax contribution

See how our strategy maximises our performance...

- ✓ Continuous improvement
- ✓ Disciplined and focused growth
- ✓ Leadership development
- ✓ Extracting the benefits of scale

We will continue to…

- ✓ Conduct our business responsibly and sustainably
- ✓ Expand our balanced portfolio of diversified products and geographies
- ✓ Maximise performance and returns in our business

Sustainable Development Goals

We have integrated sustainability principles into our business model, and we are focusing our efforts towards delivery of four of the UN SDGs

SUSTAINABLE DEVELOPMENT GOALS

Building a resilient business

Our vision is to be the leading building materials business in the world. To achieve this, we must create sustainable value and deliver superior returns for all our stakeholders. For us, sustainability is about ensuring our organisational longevity. Being commercially sustainable, finding new sources of competitive advantage and attracting the best talent ensures our business can thrive in the long-term.

With operations in 31 countries, and leadership positions in the major markets of Europe, the Americas and Asia, we are well on our way to achieving our vision. Our materials and products are found throughout the built environment - from critical infrastructure and iconic commercial real estate buildings to family homes in suburban neighbourhoods. Our vision is, however, not simply about achieving size and scale. It is about ensuring we build resilient businesses that are the best at what they do, that create sustainable value for all stakeholders and that deliver growth for our shareholders.

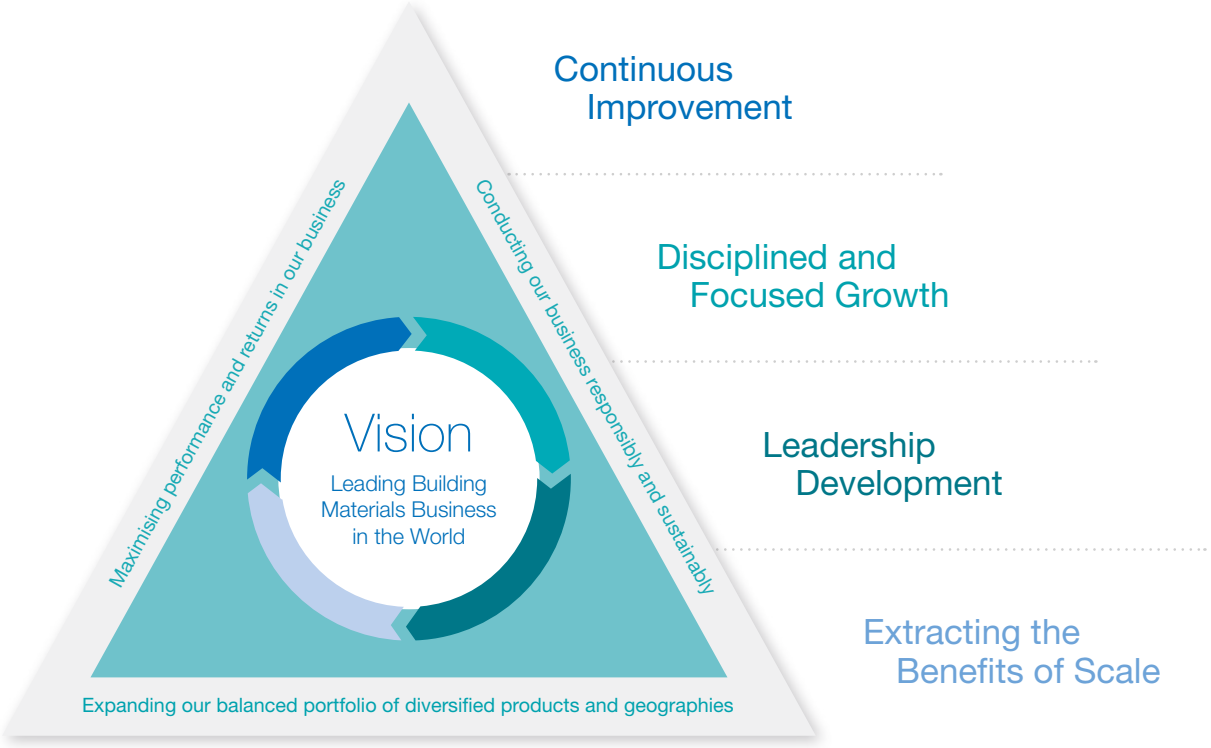
Our strategy to deliver this vision has been developed and refined over almost half a century as we have grown our operations and expanded into new markets across the globe.

It is centred on:

- Maximising performance and returns in our business
- Expanding our balanced portfolio of diversified products and geographies
- Conducting our business responsibly and sustainably

In this way, we aim to balance risk and return to deliver strong growth in the long-term while benefiting society as a responsible and sustainable business.

Our vision is to be the leading building materials business in the world and in doing so, to create value and deliver superior returns for all our stakeholders. Our strategy to deliver this vision includes conducting our business responsibly and sustainably.



Creating value through risk governance

Enterprise Risk Management (ERM) is critical to how we respond to a world full of increasing uncertainty and competition. Our risk-based value creation framework assists businesses in identifying, assessing and managing obstacles they face as they strive to achieve their strategic objectives. Effectively managing risk allows us to create value and maximise growth and performance opportunities for CRH.

We understand the importance of creating a robust ERM framework that 'lives and breathes' within our businesses. Sustainability related risks, for example in the areas of health and safety, emissions, energy and local communities, are assessed and incorporated into our ERM processes on an ongoing basis. Through these processes, we use our robust risk management practices to harness business opportunities that may arise from the various risks we face.

ERM in practice

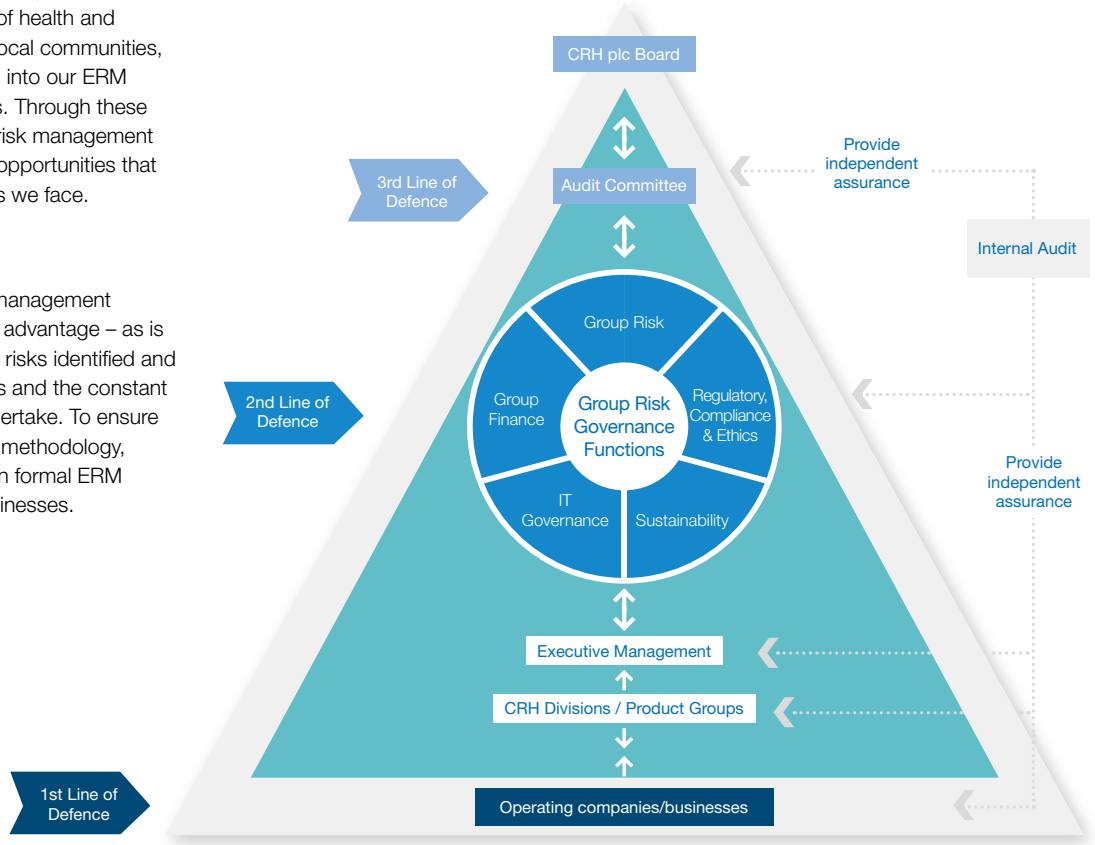
We recognise that strong risk management practices can be a competitive advantage – as is highlighted by the extent of the risks identified and managed within our businesses and the constant assessment processes we undertake. To ensure consistent delivery of our ERM methodology, among other processes, we run formal ERM workshops throughout our businesses.

Businesses monitor their risks as the relevant economic and political landscape changes, along with changes within the business that may alter strategic exposures.

Our management teams assess risk under four categories: Strategic, Operational, Financial and Compliance. They then optimise the allocation of resources and prioritise mitigating risks which could prevent the achievement of strategic objectives.

Sustainability risks and opportunities

Integrity is a core value at CRH and our businesses embrace both the desire and the need to "do business in the right way". Common sustainability risks managed by our businesses include health and safety, changing environmental legislation, climate change and energy impacts, the pursuit of innovation/sustainable products and stakeholder engagement.



Why does it matter?

Managing the barriers to the realisation of strategic objectives facilitates better decision-making thereby driving performance, creating growth opportunities and generating sustainable value for CRH. Our ERM framework enables the effective management of these barriers.

What's in place to manage it?

The ERM framework addresses risks across the various strands of CRH's strategy. It assists in driving performance, executing information assets and monitoring compliance with all laws and regulations (including an unwavering commitment to health and safety). In addition, the ERM framework contributes to achieving our objectives in sustainability, leadership development, talent management and finance.

How are we performing?

ERM methodologies are fully integrated into our risk management practices and utilised in strategic decision-making processes.

What's next?

Our ERM framework will continue to evolve to meet the strategic imperatives of our businesses and the Group as a whole, hence enhancing performance and creating competitive advantage.

Embedding sustainability principles

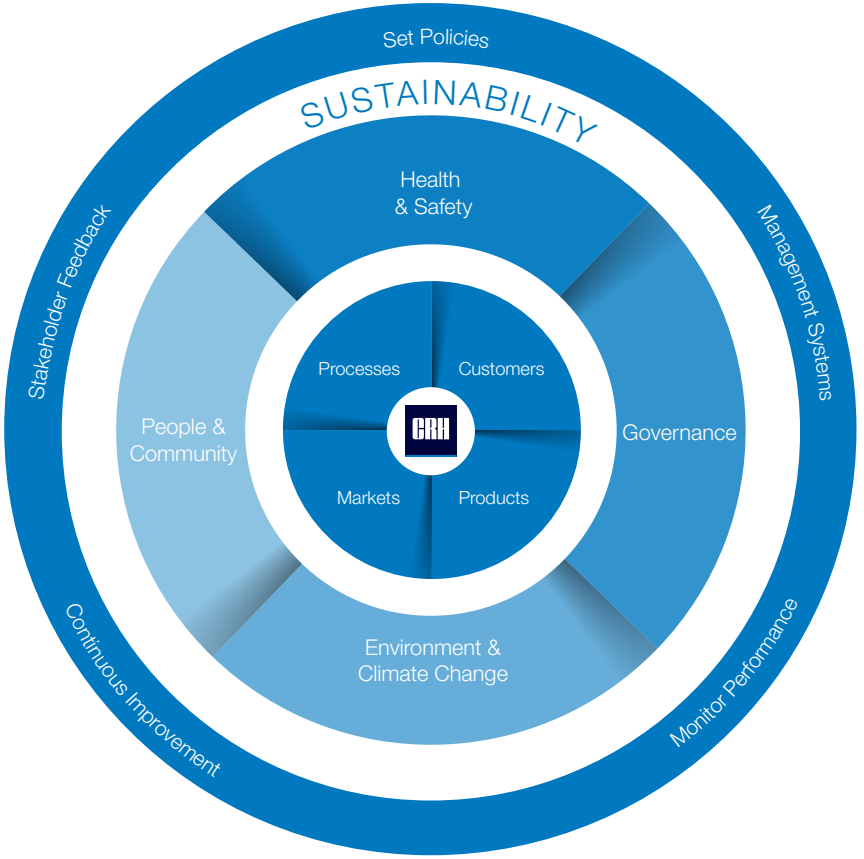
For almost five decades, we have grown to be a leader in the building materials industry by building better businesses across our international operations. We do not have a separate sustainability strategy; rather sustainability is embedded in our business strategy and is integral to how we run our businesses. The fundamentals of how we do business are managed within an established sustainability framework, based on four policy areas:

- Health & Safety
- Environment & Climate Change
- Governance
- People & Community

For each of these areas, we define and implement policies, develop management systems and monitor performance, at all times incorporating stakeholder feedback and aiming for continuous improvement.

Policy implementation and monitoring is a key management responsibility across all of our businesses. Managers are assisted by safety officers, environmental liaison officers, country compliance coordinators and human resource managers. To ensure effective monitoring and management, sustainability risks are integrated into our enterprise risk management (ERM) processes.

We monitor and report sustainability performance at business level and centrally through the sustainability support team, including financial and non-financial key performance indicators (KPIs). These well established, quantifiable measures are closely aligned to the Group's strategic priorities. As part of CRH's commitment to full and transparent reporting on its activities, we communicate progress against key safety, social and environmental indicators in both our Annual Report and our annual Sustainability Report.



> "We have embedded sustainability into our business strategy. Our approach to sustainability has, at its core, the ambition of harnessing the value creation opportunity from sustainability so that we can deliver long-term value for all of our stakeholders."

Mark Lowry, Group CSR & Sustainability Director

Creating economic value

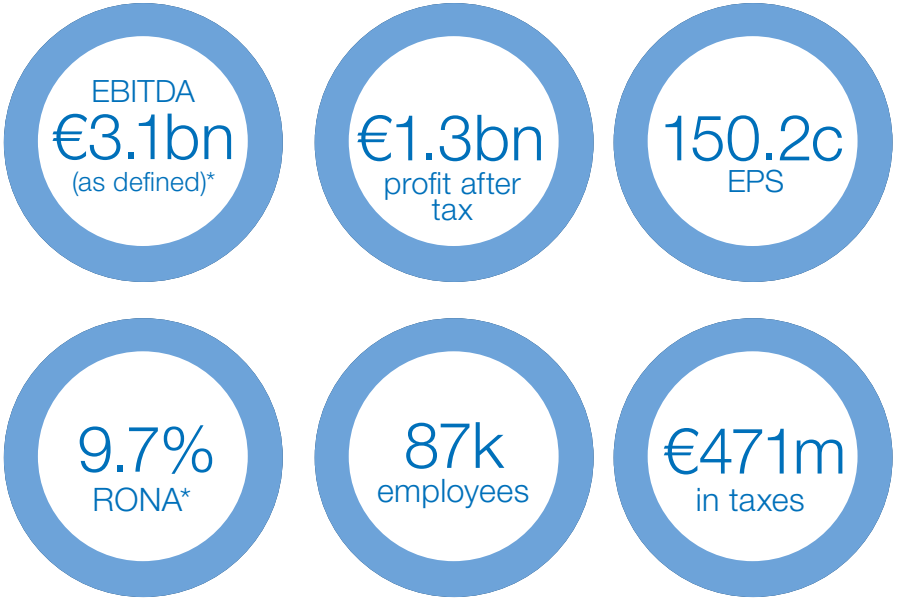
Our business model is based on identifying and acquiring strong businesses that complement our existing portfolio of building materials businesses and add value for our stakeholders. We maintain a constant focus on making our core businesses better so that they realise their full potential and help create further value.

To protect the Group from the impacts of low demand at the bottom of any one economic cycle, we balance our portfolio across geographies, products, sectors and end-use. We constantly monitor how capital is deployed across the Group and seek to identify where capital can be recycled into areas that offer better returns and/or superior growth. Our approach is underpinned by a constant focus on maintaining strong financial discipline and safeguarding the financial strength of the Group. This enables us to take advantage of opportunities as they arise.

Growth through acquisition

We excel at identifying, acquiring and integrating businesses that are positioned to succeed as part of the CRH Group. In 2016, we successfully integrated a record c. €8 billion of assets acquired during 2015. We undertake extensive sustainability due-diligence for all acquisitions, recognising that strong performance across environmental, social and corporate governance is a key indicator of a well-run business. In developing markets, we place particular focus on ensuring strong governance is in place, including human rights and other relevant social and ethical requirements. In 2016, we recorded total disposal proceeds of €283m and spent €213m on bolt-on acquisition and investment transactions.

Economic value CRH created for stakeholders in 2016 included:



*EBITDA is defined as earnings before interest, taxes, depreciation, amortisation, asset impairment charges, profit on disposals and the Group's share of equity accounted investments' profit after tax.

*Return on Net Assets is a key internal pre-tax measure of operating performance throughout the CRH Group and can be used by management and investors to measure the relative use of assets between CRH's business segments and to compare to other businesses.

1.

2.

1. CRH Canada's vertical integration strategy in action in the Greater Montréal Area, where Demix Construction and Demix Agrégats were contractor and aggregates supplier respectively for the construction of the Highway 25 Bridge.
2. Paulsen Group, part of CRH's Europe Distribution, is a specialist distributor of sanitary, heating and plumbing products in northern Germany. Paulsen operates a network of 55 locations which includes nine state-of-the-art showrooms, such as this one, in the city of Kiel, Germany.

Our sustainability performance

We are committed to promoting transparency by reporting on the breadth of our sustainability performance in a clear and comprehensive way.

In this section, we set out our reporting approach and summarise our recently updated materiality assessment and external assessments. We provide a detailed table showing a 3 year performance trend for key sustainability indicators, referenced to the GRI G4 Indicators and the CSI Key Performance Indicators. The section concludes with the assurance statement prepared by independent assurers DNV GL.

2016 Performance

We published our independently-assured 14th annual Sustainability Report in line with GRI G4 guidelines and received positive feedback from our stakeholders.

2017 Focus

Continuously improve our reporting and communications on sustainability so that all stakeholders are aware of our value-adding approach.

Image: In 2016, CRH Slovakia's Rohoznik cement plant invested in the installation of a new emissions automatic measurement system which will assist in monitoring air emissions from production processes at the site.

About our reporting

History

We published our first report on our sustainability performance in October 2004, titled: CRH CSR Report, Sustainable Performance and Growth.

This Sustainability Report, published mid-year in 2017, covers our activities during 2016. It is CRH's 14th annual report on sustainability.

Independent assurance

Our Report has been independently assured every year since 2005. You can find a detailed assurance statement on pages 84-85.

Global Reporting Initiative (GRI)

We have voluntarily adopted sustainability reporting guidelines developed by the GRI and our 2016 Report is prepared in accordance with the GRI G4 Sustainability Reporting Guidelines (comprehensive level). The GRI content index is provided from page 70.

Reporting scope and basis for reporting

This Report is based on data from 100% of our subsidiaries covering the calendar year 2016. Our principal subsidiaries are listed on pages 250-254 of the CRH Annual Report and Form 20-F 2016. In common with other large companies, we also own shareholdings in several joint ventures and associates, and a listing of these is provided on page 255 of the CRH Annual Report and Form 20-F 2016. Most of these companies supply sustainability data to the Group and actively participate in Sustainability and CSR programmes. We include key data on an appropriate % shareholding basis at points throughout this Report.

Data has been collated from 3,800 locations spread across 31 countries. We have a robust data collection and management process in place, as assured by DNV GL. Our basis for reporting follows the CSI definitions and GRI definitions, and these are publicly available at, http://www.wbcsdcement.org/ and www.globalreporting.org, respectively. Metric units are used throughout, unless stated otherwise.

This Sustainability Report has been informed by formal internal reports to the CRH Board on sustainability performance and was approved by Group executive management prior to publication.

We believe that the scope of this Report addresses the full range of environmental, social and governance (ESG) aspects of our organisation. We have considered the GRI's Reporting Principles for Defining Report Content. A formal materiality assessment carried out with the assistance of an independent third party ensures we identify and report on the most material topics related to our business (see page 68).

The boundary for all material aspects was considered to be within the organisation. We have considered the principles of stakeholder inclusiveness, sustainability context, materiality, completeness, balance, comparability, accuracy, timeliness, clarity and reliability and believe that this Report meets these principles.

Calculation methodologies

For reporting CO_2 emissions from cement activities, we use the WBCSD Cement Sustainability Initiative 'Cement CO_2 and Energy Protocol, Version 3.1, CO_2 Emissions and Energy Inventory'. We calculate CO_2 emissions from other activities using appropriate emission factors and in line with the World Resources Institute Greenhouse Gas Protocol (Revised Edition). We calculate Scope 2 emissions from electricity in line with the location-based method of the World Resources Institute Greenhouse Gas Protocol Scope 2 Guidance (2015), using International Energy Agency emission factors. CO_2 reduction targets have a base year of 1990 in line with the Kyoto Protocol.

For reporting energy, we convert quantities of energy used to multiples of kWh using appropriate calorific values where necessary. Data on reduction of energy consumption is consolidated from data reported by our businesses.

For reporting air emissions, we use the WBCSD-CSI Protocol "Guidelines for Emissions Monitoring and Reporting in the Cement Industry" (March 2012). The greater portion of air emissions are based on measurements - refer to page 75 for details of the portion of emissions from cement plants covered by continuous monitoring systems. Air emissions from certain facilities in the US are calculated using USEPA AP-42 factors. Air emission reduction targets have a base year of 2006, as the targets were agreed in 2007 and 2006 was the latest full year for which data was available.

Intended audiences

The key audiences for this Report are our stakeholders including employees, neighbours and local communities, current and potential investors, sustainability rating agencies, customers and suppliers, government and regulatory bodies, academia and the scientific community, media, Non-Governmental Organisations (NGOs) and pressure groups.

We believe that this Report provides a reasonable and balanced representation of the Group's material sustainability areas of impact and opportunity. It is designed to enable stakeholders to assess the Group's performance across these areas.

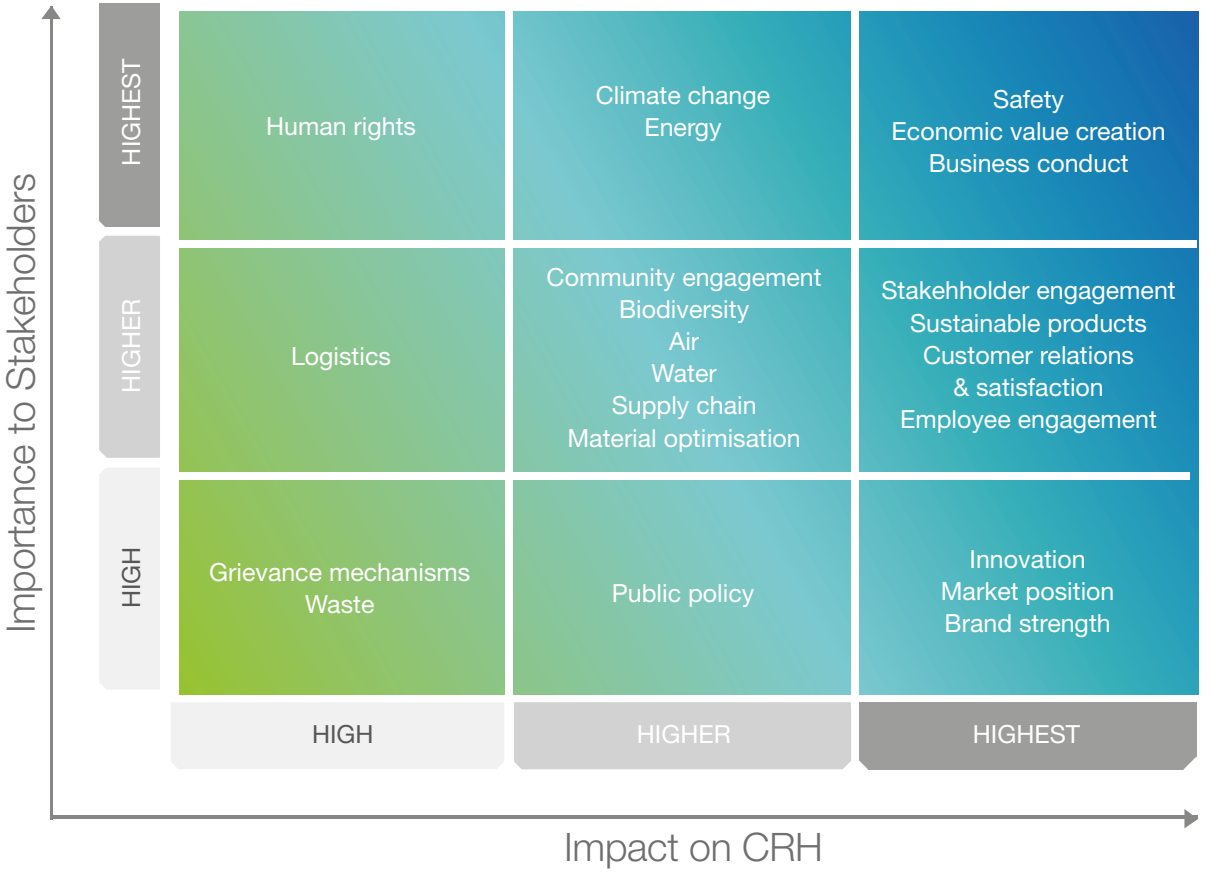
Assessing materiality

In the context of sustainability, we define materiality by identifying the issues and focus areas perceived to be the most significant to our organisation and our stakeholders. We use a range of internal and external processes to identify the ESG issues that are relevant to our business, society and key stakeholders. The outcome of our assessment informs our sustainability reporting and other activities.

In 2016, we carried out a new materiality assessment to capture potential changes as a result of our significant acquisitions and changing stakeholder expectations, including developments such as the publication of the UN Sustainable Development Goals and the Paris COP21 global climate agreement.

We conducted the assessment with an independent, external organisation to ensure a robust approach, following a process that was informed by international best practice guidelines and the Global Reporting Initiative G4 Sustainability Reporting Guidelines. The outcome provides a comprehensive and balanced understanding of material sustainability issues across our key focus areas, which have been evaluated and prioritised using internal and external stakeholder feedback. It has also enabled us to identify the UN SDGs to which our own sustainability actions are most closely aligned. The assessment included desktop research, detailed interviews with external as well as internal stakeholders, an online survey and workshops with internal stakeholders. The prioritisation done during the materiality review covered relevance for long-term organisational strategy, competitive position and financial value drivers. The result was reviewed and approved by senior management. Throughout the process, the diversification of CRH in terms of businesses and geographies was addressed.

We specifically address each of our focus areas in this Report and have policies and guidelines in place to support management in addressing key material sustainability issues across the Group.



External recognition and benchmarking

CRH was included in the FTSE4Good Index in its December 2016 Review.

In October 2016, CRH was reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe and the Ethibel Sustainability Index (ESI) Excellence Global.

In its November 2016 review, Vigeo Eiris maintained CRH in its family of indexes. These indexes distinguish companies achieving the most advanced Environmental, Social and Governance performance.

In December 2016, CRH maintained its place in the ECPI® Indices which are based on environmental, social and governance data.

CRH continued as a member of the MSCI Sustainability Indexes in 2016 and met information requests from MSCI during the year. MSCI Global Sustainability Indexes include companies with high ESG ratings relative to their sector peers.

(Footnote: The inclusion of CRH public limited company in any MSCI Index, and the use of MSCI logos, trademarks, service marks or index names herein, do not constitute a sponsorship, endorsement or promotion of CRH public limited company by MSCI or any of its affiliates. The MSCI Indexes are the exclusive property of MSCI. MSCI and the MSCI Index names and logos are trademarks or service marks of MSCI or its affiliates.)

The most recent oekom rating was in November 2015. CRH was again included in the "Prime" category, placing us among the leaders in social and environmental sustainability in the industry.

CRH was included in the STOXX® Global ESG Leaders indices – a series of ESG equity indices.

CRH has participated in the CDP since 2003. The CDP collates data on carbon emissions and carbon management on behalf of named institutional investors and rates companies for disclosure and performance. Since its launch in 2010, CRH has also participated in the CDPs Water Disclosure Project. Our responses are publicly available at www.cdp.net.

Other bodies

At operating company level, our businesses won over 650 external awards for environmental and safety performance.

Mapping our indicators to CSI and GRI

The table provides three years of performance data for sustainability indicators and a brief comment to explain the trend, where appropriate. Where relevant, GRI G4 reference indicator codes are shown with either the relevant figure or the page number where the information may be found. Pages within the Sustainability Report are labelled "p." while "AR p." refers to the page number within the CRH 2016 Annual Report and Form 20-F.

GRI data covers all Group subsidiary companies, on a 100% basis. The table also includes Key Performance Indicators in line with the common definitions agreed by the CSI of the WBCSD. Refer to www.wbcsdcement.org for definitions and note the footnotes regarding data coverage, which sometimes includes joint ventures and associates on a percentage shareholding basis.
For details on external assurance conducted by DNV GL please see pages 84 & 85.

Reference	Description	2016	2015	2014	Comment
	General Standard Disclosures				
	Strategy & Analysis				
G4-1	Statement from the most senior decision-maker	p. 3	p. 2-3	p. 1-2	
G4-2	Key Impacts, Risks and Opportunities	p. 5-15, 61-63, 68	p. 8, 10-11, 13	p. 10-12	
	Organisational Profile				
G4-3	Name of the organisation	p. 70	p. 6	p. 5	CRH plc
G4-4	Primary brands, products and services	p. 2, 27	p. 9, AR front inside cover	p. 8	
G4-5	Location of organisation's headquarters	p. 70	p. 6	p. 6	Dublin, Ireland
G4-6	Countries of operation	p. 2; AR p. 250-255	p. 7; AR p. 224-231	p. 6	
G4-7	Nature of ownership and legal form	p. 2. See comment	p. 6, 72. See comment	p. 7, 79. See comment	CRH is a public limited company, incorporated in Ireland
G4-8	Markets served	p. 2; AR p. 250-255	p. 7, 9	p. 6, 8, 9	
G4-9	Scale of organisation	p. 2, 32, 34, 62: AR p. 4, 22, 31, 43, 47	p. 7, 8, 9, 53; AR p. 24-25	p. 6, 8, 61; AR p. 22-24	
G4-10	Employees by employment type, gender and region	p. 33, 34	p. 53-54	p. 58-59; AR p. 121	Note that 56% of employees are employed on permanent contracts, 7% on fixed term contracts, less than 1% on temporary contracts and 37% on another basis. Note also that for the GRI breakdowns, all employees are included - these cannot be broken down by permanent or other employment types as CRH does not collect data on that basis. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Total employees	87,000	88,655	76,000 (p. 58)	
G4-11	Employees covered by collective bargaining agreements	p. 46	p. 57	p. 62	
G4-12	Description of the supply chain	p. 44,45	p. 58-59	p. 64-65	
G4-13	Significant changes during the reporting period	p. 70. See comment	p. 2, 12, 53. See comment	p. 79. See comment	2016: No significant changes 2015: LH Assets acquisition doubled CRH's cement capacity, increased the number of employees by 16,000 and opened new geographies 2014: No significant changes
G4-14	Precautionary approach or principle	p. 63, 68, 70 See comment	p. 11, 13, 72 See comment	p. 11-12, 79 See comment	CRH considers sustainability at operational level when developing and introducing products
G4-15	External charters	p. 3, 19, 26, 27, 44, 45, 46, 58	p. 2-3, 20, 25, 28, 32, 57	p. 1-2, 27-28, 33, 62	
G4-16	Membership of associations	p. 3, 19, 27, 44, 45, 46	p. 2-3, 20, 25, 28, 32	p. 1-2, 27-28, 33	
	Identified Material Aspects and Boundaries				
G4-17	List of entities included in the organisation's financial statements	AR p. 250-255	AR p. 224 -231	AR p. 162-166	
G4-18	Process for defining report content and aspect boundaries	p. 67, 68	p. 11, 80	p. 11, 87	
G4-19	List of material aspects	p. 68, 70-83	p. 11, 72-79	p. 11, 79-85	
G4-20	Internal aspect boundaries	p. 67	p. 80	p. 87	
G4-21	External aspect boundaries	p. 67	p. 80	p. 87	

Reference	Description	2016	2015	2014	Comment
	General Standard Disclosures continued				
	Identified Material Aspects and Boundaries continued				
G4-22	Restatements of information	p. 71. See comment	p. 72. See comment	p. 79. See comment	No reinstatements
G4-23	Scope or aspect boundary changes	p. 68, 71. See comment	p. 72, 80. See comment	p. 79. See comment	2016: No significant scope or boundary change 2015: For the locations acquired as part of the LH Assets acquisition, in the main body of this Report, data is included from the date of the acquisition in 2015 to year end 2015. However, please note the footnotes in relation to the reporting of the Cement Sustainability Initiative Key Performance Indicators on pg. 65 2014: Not relevant - first GRI G4 Report
	Stakeholder Engagement				
G4-24	Stakeholder groups engaged	p. 42, 43	p. 16-17	p. 13-14	
G4-25	Basis for identification of stakeholders	p. 42, 43, 68	p. 11, 16-17	p. 11, 13-14	
G4-26	Approach to stakeholder engagement	p. 13-15, 42, 43, 68	p. 16-17, 61-63	p. 13-14, 66-70	
G4-27	Topics raised by stakeholders	p. 13-15, 42, 43, 68	p. 16-17, 61-63	p. 13-14, 66-70	
	Report Profile				
G4-28	Reporting period	p. 67	p. 80	p. 87	
G4-29	Date of most recent previous report	p. 67	p. 80	p. 87	
G4-30	Reporting cycle	p. 67	p. 80	p. 87	
G4-31	Contact point	Inside back cover	Inside back cover	Inside back cover	
G4-32	GRI Content index	p. 70-83	p. 72-79	p. 79-85	
G4-33	External assurance	p. 67	p. 80	p. 87	
	Governance				
G4-34	Governance structure	p. 39; AR p. 59-61	p. 46-49; AR p. 52-55	p. 49-52; AR p. 54-60	
G4-35	Governance process	p. 39, 40; AR p. 59-61	p. 48-49; AR p. 52-55	p. 51-52; AR p. 54-60	
G4-36	Responsibility for sustainability	p. 40, 64	p. 10, 47	p. 11-12, 52	
G4-37	Stakeholder consultation processes	p. 40, 42, 43, 32; AR p. 70-71	p. 16-17, 53; AR p. 67-68	p. 51-52; AR p. 54-60	Note that stakeholder feedback is provided to the CRH Board when necessary
G4-38	Board composition	p. 39; AR p. 59-61	p. 46-47; AR p. 52-55	p. 49-52; AR p. 51-53	Board members have the skills, experience, independence and knowledge of the Company to bear on issues of strategy, including sustainability aspects
G4-39	Chair status	p. 39; AR p. 59	p. 47	p. 51	
G4-40	Board Nomination and selection process	p. 39, 40; AR p. 62-63, 67-68	p. 46-47; AR p. 56-58, 62-64	p. 51-52; AR p. 54-60, 66-68	
G4-41	Avoidance of conflict of interest	p. 39, 40; AR p. 59-61	p. 46-49; AR p. 51-53	p. 49-52; AR p. 51-53	Note that further details regarding avoidance of conflict of interest are provided in the Code of Business Conduct, p. 2, 30-31, available at http://www.crh.com/our-group/our-people/corporate-governance/codes-of-conduct. Note also that CRH implemented the 2014 UK Corporate Governance Code (the 'Code') and complied with its provisions in 2016. A copy of the Code can be obtained from the Financial Reporting Council's website, www.frc.org.uk
G4-42	Board role in Sustainability	p. 40; AR p. 18-19, 68	p. 47; AR p. 16, 65	p. 52; AR p. 58-60, 69-70	
G4-43	Board knowledge	p. 39, 40; AR p. 59-61, 67-69	p. 46-47; AR p. 52-55, 62-64	p. 51-52; AR p. 54-60, 69-70	
G4-44	Board evaluation	p. 40 AR p. 59-61, 74	p. 47; AR p. 52-55	p. 52; AR p. 54-60	Note that "conducting our business responsibly and sustainably" is central to the delivery of Group strategy
G4-45	Board's role in risk	p. 63; AR p. 18-19	p. 13	p. 11-12; AR p. 69-70	
G4-46	Board's role in ERM oversight	p. 40; AR p. 18-19, 96	p. 13; AR p. 112	p. 11-12; AR p. 69-70	
G4-47	Frequency of Board risk review	p. 63; AR p. 18-19, 96	p. 13; AR p. 112	p. 11-12; AR p. 69-70	
G4-48	Review and approval of Sustainability Report	p. 67	p. 80	p. 87	
G4-49	Critical concern reporting process	p. 37; AR p. 59-61	p. 48-49; AR p. 52-55	p. 51-52; AR p. 54-60	

Reference	Description	2016	2015	2014	Comment
	General Standard Disclosures continued				
	Governance continued				
G4-50	Detail on critical concerns	p. 72. See comment	p. 72. See comment	p. 80. See comment	Confidentiality concerns: CRH does not disclose the minutes of Board meetings as this may include commercially-sensitive information
G4-51	Remuneration policies	AR p. 72-95	AR p. 70-106	AR p. 72-95	
G4-52	Remuneration processes	AR p. 72-95	AR p. 70-106	AR p. 72-95	
G4-53	Stakeholder input to remuneration	AR p. 72-95	AR p. 70-106	AR p. 72-95	
G4-54	Ratio of highest pay to median pay	p. 72. See comment	p. 73. See comment	p. 80. See comment	Currently unavailable. CRH does not centrally collect data on the level of pay to each of its employees in all operating countries (required for median pay figure). CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
G4-55	Ratio of increase in highest pay to median	p. 72. See comment	p. 73. See comment	p. 80. See comment	Currently unavailable. CRH does not centrally collect data on the level of pay to each of its employees in all operating countries (required for median pay figure). CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Ethics and Integrity				
G4-56	Values and codes of conduct	p. 36, 37	p. 48-49	p. 53-54	
G4-57	Advice mechanisms	p. 37	p. 49	p. 54	
G4-58	Concern mechanisms	p. 37	p. 49	p. 54	
	Specific Standard Indicators				
	Category: Economic				
	Aspect: Economic Performance				
G4-DMA	Disclosure on management approach	p. 64; AR p. 13, 120, 138, 139, 143	p. 2-3, 6, 8-9, 12	p. 1-2, 5, 7, 17	
G4-EC1	Direct economic value generated and distributed	€27.1 billion sales (p. 65, AR p. 1-3). See comment	€23.6 billion sales (p. 7, 62; AR p. 24-25). See comment	€18.9 billion sales (p. 6, 17; AR p. 22-23, 81). See comment	CRH discloses financial information in the Annual Report and Form 20-F in line with International Financial Reporting Standards (IFRSs)
G4-EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	p. 10-12; AR p. 104	p. 10-11, 14, 32-35; AR p. 116	p. 11-12, 33-37; AR p. 97	
G4-EC3	Coverage of the organisation's defined benefit plan obligations	AR p. 176-184	AR p. 190-198	AR p. 143-146	
G4-EC4	Financial assistance received from government	p. 72. See comment	p. 74. See comment	p. 81. See comment	We do not report on the monetary breakdown required by GRI as the value is not significant in the context of 2016 Group Revenues of €27.1 billion
	Aspect: Market Presence				
G4-DMA	Disclosure on management approach	p. 34, 72; AR p. 59-61	p. 54-55; AR p. 52-55	Not applicable	Note that the topics covered by the indicators within this aspect are managed through the Social Policy, evaluated and monitored through the Social Review, and the results of the Social Review are reviewed by the CRH Board
G4-EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operation	p. 71. See comment	p. 55. See comment	p. 57-59. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-EC6	Proportion of senior management hired from the local community at significant locations of operation	p. 34; AR p. 59-61. See comment	p. 54; AR p. 52-55. See comment	p. 59. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Indirect Economic Impacts				
G4-DMA	Disclosure on management approach	p. 5-8, 13-15	p. 6, 8-9, 58-63	Not applicable	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-EC7	Development and impact of infrastructure investments and services supported	p. 5-8, 13-15	p. 6, 8-9, 61	p. 5, 8-9, 66.	
G4-EC8	Development and impact of infrastructure investments and services supported	p. 13-15, AR p. 13.	p. 6, 8-9, 58-63	p. 5, 8-9, 63-70.	
	Aspect: Procurement Practices				
G4-DMA	Disclosure on management approach	p. 44, 45	p. 58-59	Not applicable	
G4-EC9	Proportion of spending on local suppliers at significant locations of operation	p. 44. See comment	p. 59. See comment	p. 64	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Environmental				
	Aspect: Materials				
G4-DMA	Disclosure on management approach	p. 7, 8, 10, 29	p. 28-31, 40	p. 31-32, 42-43	
G4-EN1	Materials used by weight or volume	430m tonnes (p. 29)	359m tonnes (p. 31)	303m tonnes (p. 43)	

Reference	Description	2016	2015	2014	Comment
	Environmental continued				
	Aspect: Materials continued				
	Virgin raw materials	350m tonnes (p. 29)	275m tonnes (p. 31)	250m tonnes (p. 43)	
	Associated process materials	8m tonnes (p. 29)	5.4m tonnes (p. 31)	2m tonnes (p. 43)	
	Semi-manufactured components	45m tonnes (p. 29)	54m tonnes (p. 31)	31m tonnes (p. 43)	
	Packaging materials	185k tonnes (p. 29)	140k tonnes (p. 31)	200k tonnes (p. 43)	
	Total tonnes of waste and by-products reused by CRH	27m tonnes	24.4m tonnes (p. 31)	19.4m tonnes (p. 43)	
CSI KPI	% alternative materials (clinker and cement)	13.9%	14.7%	11.8%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details
CSI KPI	clinker : cement ratio	76.5	74.5	78.7	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details
G4-EN2	Percentage of materials used that are recycled input materials	7% (p. 29)	8% (p. 31-40)	7% (p. 43)	
	Aspect: Energy				
G4-DMA	Disclosure on management approach	p. 5, 6, 53, 54	p. 28-31, 36-37	p. 31-32, 38-39	
G4-EN3	Energy consumption within the organisation	158.6 PJ (44.1 TWh, p. 53), p. 10, 67	122.4 PJ (34.0 TWh, p. 36)	83.6 PJ (23.2 TWh, p. 38)	Note that of the total of 44TWh energy, renewable energy was 11TWh. CRH neither sells energy nor heating, cooling and steam. Energy in the category "heating, cooling and steam" purchased by CRH is negligible
G4-EN4	Energy consumption outside of the organisation	p. 50	p. 33	p. 34	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-EN5 and CSI KPI	Energy intensity	886 kcal/kg clinker (p. 73). See comment	855 kcal/kg clinker (p. 64). See comment	848 kcal/kg clinker (p. 72). See comment	Refers to kiln fuels (internal energy)
G4-EN5 and CSI KPI	Energy efficiency (kcal per kg of clinker)	886	855	848	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
CSI KPI	% fuel substitution for virgin fuels	33.4%	33.9%	23.3%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
CSI KPI	% biomass in kiln fuel	10.6%	12.1%	9.0%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
G4-EN6	Reduction of energy consumption	p. 54, 67	p. 30, 32, 35-37	p. 38-39	
	Energy saved as a result of energy reduction targets	3,557 TJ (988 GWh)	720 TJ (200 GWh, p. 36)	454 TJ (126 GWh, p. 38)	
	Types of energy included in the reductions	Fuel and electricity	Fuel and electricity	Fuel and electricity	
	Basis for calculation	Year-on-year	Year-on-year	Year-on-year	
	Standards, methodologies, assumptions	p. 67	p. 80	p. 87	
G4-EN7	Reductions in energy requirements of products and services	p. 6, 10, 11, 27	p. 28, 30, 32, 35	p. 38, 40, 72	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Water				
G4-DMA	Disclosure on management approach	p. 48, 49, 56	p. 28-29, 41	p. 31-32, 42, 45	
G4-EN8	*Total water withdrawal by source*	88.8m m^3 (p. 56)	54.5m m^3 (p. 41)	37.5m m^3 (p. 45)	
	Quarry water	34%	33% (p. 41)	none reported	
	Surface water	27%	31% (p. 41)	64% (p. 45)	
	Groundwater (well)	27%	19% (p. 41)	24% (p. 45)	
	Utility (mains)	9%	13% (p. 41)	12% (p. 45)	
	Rainwater	3%	4% (p. 41)	included in surface water %	
	Water Intake by Activity				
	Materials	74%	73% (p. 41)	64% (p. 45)	
	Cement	20%	18% (p. 41)	15% (p. 45)	
	Concrete	4%	5% (p. 41)	6% (p. 45)	
	Lime	1%	3% (p. 41)	12% (p. 45)	

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Water continued				
	Building products	1%	1% (p. 41)	1% (p. 45)	
	Clay	na	<1% (p. 41)	2% (p. 45)	
CSI KPI	Total water withdrawal by source[1], million cubic metres	18.3	11.0	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Surface, million cubic metres	8.0	4.4	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Groundwater, million cubic metres	4.9	3.1	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Quarry, million cubic metres	3.6	2.2	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Utility, million cubic metres	1.2	0.8	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Rain, million cubic metres	0.6	0.5	-	CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
CSI KPI	Total water consumption (GWT for Cement Sector)[1], million cubic metres	9.7	5.0		CSI KPI for Water. Refers to cement plants only. Refer to note 1 for coverage
G4-EN9	Water sources significantly affected by withdrawal of water	P. 74. See comment	p. 74. See comment	p. 81. See comment	None identified as significantly affected.
G4-EN10	Percentage (and total volume) of water recycled and reused	58% (p. 56)	65% (p. 41)	68% (p. 45)	
CSI KPI	% of sites with a water recycling system[1]	40%	22%	-	CSI KPI for Water. Refers to cement plants only. Refer to note 3 for coverage
	Aspect: Biodiversity				
G4-DMA	Disclosure on management approach	p. 48, 49, 57, 58	p. 28-29, 42	p. 31-32, 46-47	
G4-EN11	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	p. 57, 58, 74. See comment	p. 42-43, 75. See comment	p. 46-47, 81. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-EN12	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas	p. 57, 58	p. 42-43	p. 46-47	
G4-EN13	Habitats protected or restored	p. 57, 58, 74. See comment	p. 42-43, 75. See comment	p. 46-47, 82. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-EN14	Total number of IUCN red list species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	p. 74. See comment	p. 75. See comment	p. 82. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Emissions				
G4-DMA	Disclosure on management approach	p. 10, 48, 49, 50, 51, 55	p. 28-29, 32-35, 38-39	p. 31-32, 33, 36-37, 40, 41	
G4-EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	24.7m tonnes (p. 50), p. 51, 67	19.7m tonnes (p. 33, 64)	10.3m tonnes (p. 34, 72)	
CSI KPI	Total gross CO_2 emissions (million tonnes)	22.80	22.56	9.56	CSI KPI for Climate Change for cement plants only. Refer to note 1 for coverage
CSI KPI	Total net CO_2 emissions (million tonnes)	20.90	20.81	9.08	CSI KPI for Climate Change for cement plants only. Refer to note 1 for coverage
G4-EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	2.5m tonnes (p. 50)	2.1m tonnes (p. 33)	1.4m tonnes (p. 34)	
G4-EN17	Other indirect greenhouse gas (GHG) emissions (Scope 3)	1.3m tonnes (p. 50)	1.5m tonnes (p. 33)	1.1m tonnes (p. 34)	
G4-EN18	Greenhouse gas (GHG) emissions intensity	p. 51, p. 74	p. 33, 64	p. 34, 72	
	Sales intensity (kg/Revenue)	1.0 kg/€ revenue (p. 50)	0.9 kg/€ revenue (p. 33)	0.6 kg/€ revenue (p. 34)	
CSI KPI	Specific gross CO_2 emissions (kg per tonne of cementitious product)	630	622	657	CSI KPI for Climate Change for cement plants only. Refer to note 1 for coverage
CSI KPI	Specific net CO_2 emissions (kg per tonne of cementitious product)	578	573	624	CSI KPI for Climate Change for cement plants only. Refer to note 1 for coverage
G4-EN19	Reduction of greenhouse gas (GHG) emissions	p. 10, 51, 67	p. 28-30, 32-37	p. 34-37, 42	
	Renewable electricity purchased by CRH	771 GWh	396 GWh	250 GWh	

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Emissions continued				
G4-EN20	Emissions of ozone-depleting substances (ODS)	p. 75. See comment	p. 75. See comment	p. 82. See comment	No significant emissions
G4-EN21	NOx, SOx, and other significant air emissions	p. 67, 75.	p. 38-39, 64	p. 40-41, 72	
	Total NOx	40.2k tonnes	28.5k tonnes (p. 38)	14.9k tonnes (p. 40)	
	Total SOx	20.9k tonnes	8.9k tonnes (p. 38)	7.4k tonnes (p. 40)	
	Total Particulates	7.6k tonnes	2.8 tonnes (p. 38)	3.2 tonnes (p. 40)	
	NOx by Activity (%)				
	Cement	89%	91% (p. 38)	72% (p. 40)	
	Materials	9%	7% (p. 38)	14% (p. 40)	
	Lime	1%	1% (p. 38)	9% (p. 40)	
	Concrete	1%	1% (p. 38)	1% (p. 40)	
	Clay	na	<1% (p. 38)	4% (p. 40)	
	Building Products	<1%	<1% (p. 38)	<1% (p. 40)	
	SOx by Activity (%)				
	Cement	93%	86% (p. 38)	64% (p. 40)	
	Materials	3%	6% (p. 38)	9% (p. 40)	
	Lime	2%	4% (p. 38)	5% (p. 40)	
	Concrete	2%	3% (p. 38)	4% (p. 40)	
	Clay	na	1% (p. 38)	18% (p. 40)	
	Building Products	<1%	<1% (p. 38)	<1% (p. 40)	
	Particulates by Activity				
	Cement	74%	50% (p. 38)	23% (p. 40)	
	Materials	21%	37% (p. 38)	33% (p. 40)	
	Lime	3%	7% (p. 38)	12% (p. 40)	
	Concrete	2%	4% (p. 38)	22% (p. 40)	
	Clay	na	2% (p. 38)	10% (p. 40)	
	Building Products	<1%	<1% (p. 38)	<1% (p. 40)	
CSI KPI	% clinker produced with monitoring of major and minor emissions	88.0%	91.6%	74.6%	CSI KPI for Emissions Monitoring. Refers to cement plants only. See note 2 for details
CSI KPI	% clinker produced using continuous monitoring of major emissions	100.0%	78.0%	98.1%	CSI KPI for Emissions Monitoring. Refers to cement plants only. See note 2 for details
	Particulates				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Specific (g per tonne of clinker)	97	65	64	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Total (tonnes per year)	2,635	1,739	594	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Coverage rate	100.0%	78.0%	82.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	*NOx*				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Specific (g per tonne of clinker)	1,327	1,279	1,474	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Total (tonnes per year)	36,042	34,336	13,736	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Coverage rate	100.0%	78.0%	82.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	SOx				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Specific (g per tonne of clinker)	497	384	542	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Total (tonnes per year)	13,487	10,294	5,052	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details
	Coverage rate	100.0%	78.0%	82.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Emissions continued				
CSI KPI	VOC/THC (total hydrocarbons including methane and ethane expressed as carbon)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Specific (g per tonne of clinker)	55	28	45	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Total (tonnes per year)	1,120	513	310	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	% of clinker produced with monitoring	75.2%	68.3%	60.1%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	PCDD/F (sum of 17 congeners of NATO scheme expressed as I-TEQ)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Specific (ng per tonne of clinker)	33	23	18	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Total (mg per year)	631	422	108	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	% of clinker produced with monitoring	69.7%	68.0%	51.3%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	Hg (mercury and its compounds expressed as mercury)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Specific (mg per tonne of clinker)	24	26	13	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Total (kg per year)	507	496	89	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	% of clinker produced with monitoring	78.2%	70.3%	60.1%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	HM1 (sum of cadmium and thallium and their compounds expressed as cadium and thallium)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Specific (mg per tonne of clinker)	10	10	6	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Total (kg per year)	209	190	31	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	% of clinker produced with monitoring	77.0%	68.0%	44.6%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
CSI KPI	HM2 (sum of antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium and their compounds expressed as antimony, arsenic, lead, chromium, cobalt, copper, manganese, nickel and vanadium)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Specific (mg per tonne of clinker)	326	263	178	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Total (kg per year)	6,659	4,649	512	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	% of clinker produced with monitoring	75.2%	66.0%	25.3%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details
	Aspect: Effluents and Waste				
G4-DMA	Disclosure on management approach	p. 30, 48, 49, 56	p. 28-29, 30-31, 40-41	p. 31-32, 44-45	
G4-EN22	Total water discharge by quality and destination	22m m^3 (p. 56)	19m m^3 (p. 41)	15m m^3 (p. 45)	
	Discharged to surface water	86% (p. 56)	81% (p. 41)	75% (p. 45)	
	Discharge to public sewer	14% (p. 56)	19% (p. 41)	25% (p. 45)	
CSI KPI	Total water discharge by destination[1], million cubic metres	8.6	6.0	-	CSI KPI for Water. Refers to cement plants only. See note 1 for details
CSI KPI	Discharge to surface water, million cubic metres	8.5	5.9	-	CSI KPI for Water. Refers to cement plants only. See note 1 for details
CSI KPI	Discharge to public sewer, million cubic metres	0.1	0.1	-	CSI KPI for Water. Refers to cement plants only. See note 1 for details
CSI KPI	Discharge to other, million cubic metres	<0.1	<0.1	-	CSI KPI for Water. Refers to cement plants only. See note 1 for details
G4-EN23	Total weight of waste by type and disposal method	1.9m tonnes (p. 30)	1.2m tonnes (p. 40)	1.1m tonnes (p. 44)	
	Inert waste	1.3m tonnes (p. 30)	931k tonnes (p. 40)		
	Non-hazardous waste	473k tonnes (p. 30)	339k tonnes (p. 40)		
	Hazardous waste	48k tonnes (p. 30)	23k tonnes (p. 40)	7k tonnes (p. 44)	
G4-EN24	Total number and volume of significant spills	p. 56, 76. See comment	p. 41, 75. See comment	p. 82. See comment	No significant spills
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous	48k tonnes (p. 30). See comment	23k tonnes (p. 40). See comment	7k tonnes (p. 44). See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-EN26	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff	p. 76. See comment	p. 75. See comment	p. 82. See comment	None identified as significantly affected

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Effluents and Waste continued				
CSI KPI	% of active sites with quarry rehabilitation plans	88.9%	94.6%	85.7%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details
CSI KPI	No. of active quarries within, containing or adjacent to areas designated for their high biodiversity value	23	19	5	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details
CSI KPI	% of sites with high biodiversity value where biodiversity management plans are actively implemented	73.9%	73.7%	100%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details
	Aspect: Products and Services				
G4-DMA	Disclosure on management approach	p. 8-9, 27, 29	p. 30-31, 40.	Not applicable	Not material. The page references below cover the topic in general terms rather than meet the percise requirements of the GRI for this indicator.
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	p. 9, 27	p. 30.	p. 42	
G4-EN28	Percentage of products sold and their packaging materials that are reclaimed by category	p. 29	p. 31-40.	p. 43-44	
	Aspect: Compliance				
G4-DMA	Disclosure on management approach	p. 48, 49	p. 28-29	p. 31-32	
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations	€57k (p. 49), p. 77. See comment	€22k (p. 29)	€168k (p. 32)	Note that we are not aware of any non-monetary sanctions or cases brought through dispute mechanisms
	Aspect: Transport				
G4-DMA	Disclosure on management approach	p. 9, 50, 54	p. 33, 36-37	Not applicable	
G4-EN30	Significant environmental impacts of transporting products and other goods and materials.	p. 50, 54	p. 33, 36-37	p. 34, 39	
	Aspect: Overall				
G4-DMA	Disclosure on management approach	p. 48, 49	p. 28-29	p. 31-32, 48	
G4-EN31	Total environmental protection expenditures and investments by type	€138m (p. 49)	€75m (p. 29)	€57m (p. 48)	
	Aspect: Supplier Environmental Assessment				
G4-DMA	Disclosure on management approach	p. 44-45	p. 58-59	Not applicable	Note that CRH's Supplier Code of Conduct, available on www.crh.com, includes safety, environmental, labour practice, human rights, society and other people & community criteria; screening and audits reflect all these criteria
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	p. 44, 45	p. 58-59. See comment	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	p. 44, 45	p. 58-59	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Aspect: Environmental Grievance Mechanisms				
G4-DMA	Disclosure on management approach	p. 44, 45	not applicable	Not applicable	
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	p. 44, 45	p. 58-59	p. 64-65	Not applicable. Note that there were no environmental grievances filed in 2016 through the relevant mechanism, the CRH Hotline
	Category: Social				
	Aspect: Employment				
G4-DMA	Disclosure on management approach	p. 32-35	p. 52-56	p. 57-59	
G4-LA1	Total number and rates of new employee hires and employee turnover by age group, gender and region	p. 77	p. 54-55	p. 58	
	New employees by region				
	America	56%	58%	55%	
	Europe	43%	39%	45%	
	Asia	1%	3%	0%	
	New employees by gender				
	Male	82%	82%	78%	
	Female	18%	18%	22%	
	Employee turnover by region		p. 55	p. 58	

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Category: Social continued				
	Aspect: Employment continued				
	America	54%	59% (p. 55)	59% (p. 58)	
	Europe and Asia	46%	41% (p. 55)	41% (p. 58)	
	Employee turnover by age		p. 55	p. 58	
	Under 29 years	39%	36% (p. 55)	36% (p. 58)	
	30 - 49 years	39%	41% (p. 55)	41% (p. 58)	
	Over 50 years	22%	23% (p. 55)	23% (p. 58)	
	Employee turnover by gender		p. 55	p. 58	
	Male	82%	85% (p. 55)	85% (p. 58)	
	Female	18%	15% (p. 55)	15% (p. 58)	
	Employee gender balance by category	p. 34	p. 54	p. 59	
	Length of service				
	<1 year	16%	15% (p. 53)	14% (p. 58)	
	1-4 years	26%	27% (p. 53)	24% (p. 58)	
	5-9 years	17%	17% (p. 53)	19% (p. 58)	
	10-14 years	14%	13% (p. 53)	14% (p. 58)	
	15-19 years	10%	10% (p. 53)	10% (p. 58)	
	20-24 years	7%	7% (p. 53)	8% (p. 58)	
	>25 years	10%	11% (p. 53)	11% (p. 58)	
	Employees by category				
	Operations	69%	69% (p. 54)	68% (p. 58)	
	Clerical/Admin	20%	20% (p. 54)	21% (p. 58)	
	Management	11%	11% (p. 54)	11% (p. 58)	
G4-LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation	p. 35	p. 55	p. 58	
G4-LA3	Return to work and retention rates after parental leave, by gender	p. 78. See comment	p. 76. See comment	p. 83. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Labour/Management Relations				
G4-DMA	Disclosure on management approach	p. 35	p. 55	Not applicable	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-LA4	Minimum notice periods regarding operational changes, including whether these are specified in collective agreements	p. 35	p. 55	p. 58	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
	Aspect: Occupational Health and Safety				
G4-DMA	Disclosure on management approach	p. 18-24	p. 20-25	p. 20-28	
G4-LA5	Percentage of total workforce represented in formal joint management–worker health and safety committees that help monitor and advise on occupational health and safety programs	70% (p. 20)	64% (p. 21)	68% (p. 27)	
G4-LA6	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender	p. 18-24	p. 22-23, 25, 53	p. 23, 25, 28	Accidents to females account for just 6% of all accidents and 2% of all work days lost in 2016. Accident data cannot be disclosed by region due to confidentialty concerns
	Group Frequency Rate	1.9 (p. 21)	1.9 (p. 22)	2.1 (p. 23)	
	Group Severity Rate	51 (p. 21)	47 (p. 22)	58 (p. 23)	
	Accidents by Injury Type and Cause	p. 21	p. 22	p. 23	
	Work-related Fatalities	p. 22	p. 23	p. 25	
	Occupational Illnesses	p. 24	p. 25	p. 28	

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Occupational Health and Safety continued				
	Absenteeism by Type				
	Medically Certified	88%	91% (p. 53)	91% (p. 58)	
	Medically Uncertified	7%	5% (p. 53)	5% (p. 58)	
	Other	3%	3% (p. 53)	2% (p. 58)	
	Accidental Injury	2%	1% (p. 53)	2% (p. 58)	
CSI KPI	No. of fatalities (directly employed)	0	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	Fatality rate per 10000 (directly employed)	0	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	No. of fatalities (indirectly employed)	1	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	No. of fatalities (involving 3rd parties)	2	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	No. of lost time injuries (directly employed)	18	15	5	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	No. of lost days (directly employed)	444	409	195	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	LTI rate per 1m man hours (directly employed)	1.34	1.93	1.04	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	Severity rate per 1m man hours (directly employed)	33	53	41	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	No. of lost time injuries (indirectly employed)	24	11	4	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
CSI KPI	Lost time injuries per 1m manhours (indirectly employed)	1.18	1.36	1.81	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details
G4-LA7	Workers with high incidence or high risk of diseases related to their occupation	p. 24	p. 25	p. 28	
G4-LA8	Health and safety topics covered in formal agreements with trade unions	p. 20	p. 21	p. 27	Note that one breakdown required by GRI for this indicator is not available; CRH does not centrally collect data on the details of union agreements. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Aspect: Training and Education				
G4-DMA	Disclosure on management approach	p. 23, 33	p. 24, 48, 56-57	p. 57-58, 60-61	
G4-LA9	Average hours of training per year per employee by gender, and by employee category	33.0 hours per employee (p. 33), p. 79	26.1 hours per employee (p. 56)	23.6 hours per employee (p. 60)	Note that training is provided equally to both genders
	Training by Category (% of total training hours)	p. 33	p. 56	p. 60	
	Operations	69% (p. 33)	73% (p. 56)	72% (p. 60)	
	Clerical/Admin	19% (p. 33)	14% (p. 56)	14% (p. 60)	
	Management	12% (p. 33)	13% (p. 56)	14% (p. 60)	
	Training by type	p. 33	p. 56	p. 60	
G4-LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	p. 33, 35	p. 56	p. 60-61	
G4-LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	p. 33, 79	p. 56	p. 60	Note that performance reviews are provided equally to both genders
	Operations	26% (p. 33)	19% (p. 56)	14% (p. 60)	
	Clerical/Admin	36% (p. 33)	28% (p. 56)	22% (p. 60)	
	Management	53% (p. 33)	48% (p. 56)	44% (p. 60)	
	Aspect: Diversity and Equal Opportunity				
G4-DMA	Disclosure on management approach	p. 34, 35	p. 52, 54	p. 57-58, 60-61	
G4-LA12	Composition of governance bodies and breakdown of employees per employee category according to gender, age group, minority group membership, and other indicators of diversity	p. 39; AR p. 69	p. 54; AR p. 64	p. 51; AR p. 56-57	
	Aspect: Equal Remuneration for Women and Men				
G4-DMA	Disclosure on management approach	p. 34, 35	p. 52, 54	p. 57-58, 60-61	
G4-LA13	Ratio of basic salary and remuneration of women to men by employee category, by significant locations of operation	p. 79. See comment	p. 76. See comment	p. 83. See comment	Currently unavailable. CRH does not centrally collect data on pay to each of its employees in all operating countries by gender. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic

Reference	Description	2016	2015	2014	Comment
	Specific Standard Indicators continued				
	Aspect: Supplier Assessment for Labour Practices				
G4-DMA	Disclosure on management approach	p. 44-45, 80. See comment	p. 58-59	Not applicable	Note that CRH's Supplier Code of Conduct, available on www.crh.com, includes safety, environmental, labour practice, human rights, society and other people & community criteria; screening and audits reflect all these criteria
G4-LA14	Percentage of new suppliers that were screened using labour practices criteria	p. 44-45, 80. See comment	p. 58-59. See comment	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
G4-LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken	p. 44-45, 80. See comment	p. 58-59	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Aspect: Labour Practices Grievance Mechanisms				
G4-DMA	Disclosure on management approach	p. 37, 46	p. 58-59	p. 64-65.	
G4-LA16	Number of grievances about labour practices filed, addressed, and resolved through formal grievance mechanisms	p. 37, 46, 80. See comment	p. 49, 77. See comment	p. 54, 84. See comment	The CRH Hotline is available for employees with grievances, full details on individual grievances handled locally are not collected centrally. CRH does not centrally collect information to report fully on this indicator and is currently developing its internal reporting in this area
	Total number of concerns reported to RCE	358 (p. 37)	285 (p. 49)	242 (p. 54)	
	Human Rights				
	Aspect: Investment				
G4-DMA	Disclosure on management approach		p. 12, 48, 57	p. 18, 53, 62	
G4-HR1	Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	p. 46, 64, 80. See comment	p. 12	p. 18	Note: Certain breakdowns required by GRI for this indicator are not applicable for CRH in 2016 as 2016 bolt-on acquisitions were in Europe, North America and Australia, and hence did not require separate human rights screening
G4-HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained	p. 33, 80. See comment	p. 48-49, 77. See comment	p. 54, 84	2016: Note that in 2016 there were 53,000 hours training in human rights and 96% of relevant employees received training covering human rights topics 2015: Note that in 2015 there were 62,000 hours training in human rights and 94% of relevant employees received training covering human rights topics 2014: Note that in 2014 there were 38,000 hours training in human rights and 95% of relevant employees received training covering human rights topics
	Aspect: Non-discrimination				
G4-DMA	Disclosure on management approach	p. 34-46	p. 52-54	p. 47-59	
G4-HR3	Total number of incidents of discrimination and corrective actions taken	p. 80. See comment	p. 77. See comment	p. 84. See comment	2016: There were a total of 6 alleged instances of discrimination. All were investigated fully with policies and training reinforced wherever necessary and disciplinary action taken as appropriate 2015: There were a total of 3 alleged instances of discrimination. All were investigated fully with policies and training reinforced wherever necessary and disciplinary action taken as appropriate 2014: There were a total of 16 alleged instances of discrimination. All were investigated fully with policies and training reinforced wherever necessary and disciplinary action as appropriate
	Aspect: Freedom of Association and Collective Bargaining				
G4-DMA	Disclosure on management approach	p. 44-46	p. 57-59	Not applicable	
G4-HR4	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be violated or at significant risk	p. 44-46, 80. See comment	p. 57-59. See comment	p. 62, 64-65	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Child Labour				
G4-DMA	Disclosure on management approach	p. 44-46	p. 57-59	Not applicable	
G4-HR5	Operations and suppliers identified as having significant risk for incidents of child labour, and measures taken to contribute to the effective abolition of child labour	p. 44-46, 80. See comment	p. 57-59. See comment	p. 62, 64-65	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Forced or Compulsory Labour				
G4-DMA	Disclosure on management approach	p. 44-46	p. 57-59	Not applicable	
G4-HR6	Operations and suppliers identified as having significant risk for incidents of forced or compulsory labour, and measures	p. 44-46, 80. See comment	p. 57-59. See comment	p. 62, 64-65	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Aspect: Security Practices				
G4-DMA	Disclosure on management approach	p. 35, 46	p. 52, 57	p. 57, 62	

Reference	Description	2016	2015	2014	Comment
	Human Rights				
	Aspect: Security Practices continued				
G4-HR7	Percentage of security personnel trained in the organisation's human rights policies or procedures that are relevant to operations	p. 81. See comment	p. 77. See comment	p. 84. See comment	2016: Note that 44% of Group companies have security personnel on site and 91% of these personnel have received relevant training on social and human rights. 2015: Note that 42% of Group companies have security personnel on site and 84% of these personnel have received relevant training on social and human rights. 2014: Note that 34% of Group companies have security personnel on site and 87% of these personnel have received relevant training on social and human rights.
	Aspect: Indigenous Rights				
G4-DMA	Disclosure on management approach	p. 81. See comment	p. 77. See comment	p. 84. See comment	Not applicable. CRH does not have a presence in countries of concern
G4-HR8	Total number of incidents of violations involving rights of indigenous peoples and actions taken	p. 81. See comment	p. 77. See comment	p. 84. See comment	Not applicable. CRH does not have a presence in countries of concern
	Aspect: Assessment				
G4-DMA	Disclosure on management approach	p. 44-46	p. 57-59	Not applicable	
G4-HR9	Total number and percentage of operations that have been subject to human rights reviews or impact assessments	p. 44-46, 81. See comment	p. 57-59	p. 62, 64-65	Note that 60% of companies carried out human rights assessments in the past 3 years (Europe: 51%, Americas: 80%, Asia: 67%). The challenge of gender diversity was the only topic reported to have been identified
	Aspect: Supplier Human Rights Assessment				
G4-DMA	Disclosure on management approach	p. 44-46	p. 57-59	Not applicable	Note that CRH's Supplier Code of Conduct, available on www.crh.com, includes safety, environmental, labour practice, human rights, society and other people & community criteria; screening and audits reflect all these criteria
G4-HR10	Percentage of new suppliers that were screened using human rights criteria	p. 44-46, 81. See comment	p. 58-59. See comment	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
G4-HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	p. 44-46, 81. See comment	p. 58-59	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Aspect: Human Rights Grievance Mechanisms				
G4-DMA	Disclosure on management approach	p. 36, 37, 46	p. 48-49, 57	p. 53-54, 62	
G4-HR12	Number of grievances about human rights impacts filed, addressed, and resolved through formal grievance mechanisms	p. 81. See comment	p. 57, 78. See comment	p. 54, 85. See comment	None known
	Society				
	Aspect: Local Communities				
G4-DMA	Disclosure on management approach	p. 13-15	p. 61-63	p. 66-70	
	Donations	€5.8m (p. 14)	€5m (p. 62)	€3.2m (p. 68)	
	Civic & Community	41%	42% (p. 62)	46% (p. 68)	
	Other	16%	20% (p. 62)	12% (p. 68)	
	Community Development & Environment	22%	17% (p. 62)	16% (p. 68)	
	Education & Research	17%	13% (p. 62)	18% (p. 68)	
	Arts & Culture	3%	5% (p. 62)	6% (p. 68)	
	Job Creation	1%	3% (p. 62)	2% (p. 68)	
G4-SO1	Percentage of operations with implemented local community engagement, impact assessments, and development programs	p. 13-15, 42, 81. See comment	p. 61-62, 64	p. 69, 72	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
G4-SO2	Operations with significant actual and potential negative impacts on local communities	p. 13-15, 81. See comment; AR p. 218	p. 38-39, 42-43, 61	p. 67	Note that potential negative impacts from dust, noise, blasting and traffic are mitigated against and associated mainly with extractive locations, the physical location and numbers of these are listed in the Annual Report
CSI KPI	% of sites with community engagement plans in place	81.8%	89.3	95.2%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details
	Aspect: Anti-corruption				
G4-DMA	Disclosure on management approach	p. 36-38	p. 48-49	p. 53-54	
G4-SO3	Total number and percentage of operations assessed for risks related to corruption and the significant risks identified	p. 36-38, 81. See comment AR p. 105	p. 48-49; AR p. 116. See comment	p. 53-54; AR p. 69-70, 96-98. See comment	All operations are assessed for risks related to corruption. Further details on risks are disclosed in the 2015 Annual Report on Form 20-F
G4-SO4	Communication and training on anti-corruption policies and procedures	p. 36-38, 81. See comment AR p. 70, 105	p. 48-49; AR p. 67, 116. See comment	p. 53-54; AR p. 69-70	Some breakdowns requested by GRI are currently unavailable. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic

Reference	Description	2016	2015	2014	Comment
	Society continued				
	Aspect: Anti-corruption continued				
G4-SO5	Confirmed incidents of corruption and actions taken	p. 38, 82. See comment	p. 49.	p. 54	Note that there were no investigations from external parties into allegations of corruption against CRH or any of its group businesses in 2016
	Aspect: Public Policy				
G4-DMA	Disclosure on management approach	p. 36-38, 40	p. 48-49, 62	p. 53-54, 68	
G4-SO6	Total value of political contributions by country and recipient/beneficiary	p. 82. See comment	p. 78. See comment	p. 85. See comment	No significant contributions
	Aspect: Anti-competitive Behaviour				
G4-DMA	Disclosure on management approach	pp. 36-38	pp. 48-49	p. 53-54	
G4-SO7	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes	p. 37, 38, 82. See comment	p. 49.	p. 54	Certain breakdowns required by GRI cannot be disclosed for confidentiality reasons
	Aspect: Compliance				
G4-DMA	Disclosure on management approach	p. 36-38	p. 48-49	p. 53-54	
G4-SO8	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with laws and regulations	p.37, 38, 82. See comment	p. 49	p. 54	
	Aspect: Supplier Assessment for Impacts on Society				
G4-DMA	Disclosure on management approach	p. 44-45, 82. See comment	p. 58-59	Not applicable	Note that CRH's Supplier Code of Conduct, available on www.crh.com, includes safety, environmental, labour practice, human rights, society and other people & community criteria; screening and audits reflect all these criteria
G4-SO9	Percentage of new suppliers that were screened using criteria for impacts on society	p. 44, 45, 82. See comment	pp. 58-59	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
G4-SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken	p. 44, 45, 82. See comment	p. 58-59	p. 64-65	Not available. CRH does not gather data in the categories required by GRI, refer to the pages referenced for details on our approach to supplier assessment. CRH reviews annually the scope of data collection and where appropriate and practicable in future will gather and report on this topic
	Aspect: Grievance Mechanisms for Impacts on Society				
G4-DMA	Disclosure on management approach	p. 37, 38	p. 49	Not applicable	
G4-SO11	Number of grievances about impacts on society filed, addressed, and resolved through formal grievance mechanisms	p. 37, 38. See comment	p. 49. See comment	p. 54	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI. CRH is currently developing its internal reporting in this area
	Category: Product Responsibility				
	Aspect: Customer Health and Safety				
G4-DMA	Disclosure on management approach	p. 26	p. 60	p. 63	
G4-PR1	Percentage of significant product and service categories for which health and safety impacts are assessed for improvement	p. 26	p. 60	p. 63	
G4-PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes	p. 82. See comment	p. 79. See comment	p. 85. See comment	None known
	Aspect: Product and Service Labelling				
G4-DMA	Disclosure on management approach	p. 26, 82 See comment	p. 60	p. 63	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-PR3	Type of product and service information required by the organisation's procedures for product and service information and labelling, and percentage of significant product and service categories subject to such information requirements	p. 26	p. 60	p. 63	
G4-PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes	p. 82. See comment	p 79. See comment	p. 86. See comment	None known
G4-PR5	Results of surveys measuring customer satisfaction	p. 26	p. 60	p. 63	

Reference	Description	2016	2015	2014	Comment
	Product Responsibility continued				
	Aspect: Marketing Communications				
G4-DMA	Disclosure on management approach	p. 26, 83. See comment	p. 60	Not applicable	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-PR6	Sale of banned or disputed products	p. 26	p. 60	p. 63	
G4-PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship, by type of outcomes	p. 26	p. 60	p. 63	
	Aspect: Customer Privacy				
G4-DMA	Disclosure on management approach	p. 26, 83	p. 60	p. 63	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	p. 83. See comment	p. 79. See comment	p. 86. See comment	None known
	Aspect: Compliance				
G4-DMA	Disclosure on management approach	p. 26. See comment	p. 60	p. 63	Not material. The page references below cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator
G4-PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	p. 83. See comment	p. 79. See comment	p. 86. See comment	No significant fines

(1) KPIs for Climate Change, Alternative Fuels & Materials, Major Emissions, Minor Emissions and Water (except where stated) include subsidiaries on a 100% basis together with joint ventures and associates on a percentage shareholding basis, excluding Kunda and Yatai.

(2) KPIs for Health & Safety, Emissions Monitoring and Local Impacts include only cement subsidiary companies.

(3) KPI for % of sites with a water recycling system include subsidiaries on a 100% basis together with joint ventures and associates on a 100% basis, excluding Kunda and Yatai.

DNV GL Assurance Statement

Scope of engagement

DNV GL Business Assurance Services UK Limited ("DNV GL", "us" or "we") were commissioned by CRH Group Services Limited to provide limited assurance to CRH plc ("CRH") over the Subject Matter presented in CRH's Sustainability Report 2016 (the "Report") for the reporting year ended 31st December 2016.

Subject Matter

The scope and boundary of our work is restricted to the following areas (collectively the "Subject Matter"):

1. ISAE 3000 Selected Information

The performance indicators included within the Report (the "Selected Information"), listed below:

Cement Sustainability Initiative (CSI) indicators

- Climate Change: Total CO_2 emissions (Gross) (metric tonnes); and Total CO_2 emissions (Net) (metric tonnes);
- Emissions Monitoring: % Clinker produced with monitoring of major and minor emissions; and % Clinker produced using continuous monitoring of major emissions;
- Emissions: Particulates, specific (g/tonne of clinker); Particulates, total (tonnes per year); NO_x, specific (g/tonne of clinker); NO_x, total (tonnes per year); and SO_x, specific (g/tonne of clinker); SO_x, total (tonnes per year);
- Minor Emissions: VOC/THC, specific (g/tonne of clinker); VOC/THC, total (tonnes per year); PCDD/F, specific (ng/tonne of clinker); PCDD/F, total (mg per year); Hg, specific (mg/tonne of clinker); Hg, total (kg per year); HM1, specific (mg/tonne of clinker); HM1, total (kg per year); HM2, specific (mg/tonne of clinker); and HM2, total (kg per year);
- Water: Total water consumption (GWT for Cement Sector); and
- Health and Safety: Number of fatalities (directly employed); Fatality rate per 10,000 (directly employed); Number of fatalities (contractors/subcontractors); Number of fatalities (involving third parties); Number of lost time injuries (directly employed); Number of lost days (directly employed); Lost Time Incident (LTI) rate per 1 million man hours (directly employed); Severity rate per 1 million man hours (directly employed); Number of lost time injuries (indirectly employed); and LTI rate per 1 million man hours (indirectly employed).

Group level indicators

- Environment: Total greenhouse gas (GHG) emissions (Scopes 1, 2 & 3) (million tonnes); Total NO_x emissions (thousand tonnes); Total SO_x emissions (thousand tonnes); Total Particulates emissions (dust) (thousand tonnes); and Total Water intake (million m^3); and
- Health and Safety: Group fatalities (employee and contractor); Group lost time injuries; Group LTI; and Group severity rate.

To assess the Selected Information, which includes an assessment of the risk of material misstatement in the Report, we have used CRH's About our Reporting section (the "Data Criteria"), which can be found on page 67 of the Report.

2. AA1000 Principles

The nature and extent of adherence of the Report to the AA1000 AccountAbility principles of inclusivity, materiality and responsiveness (the "AA1000 Principles"). To assess the AA1000 Principles we have used the publicly available AA1000 AccountAbility Principles Standard (AA1000APS) 2008 (the "Principles Criteria").

3. GRI G4 Guidelines

Preparation of the Report in accordance with the GRI G4 Sustainability Reporting Guidelines (the "GRI G4 Guidelines"). To assess the preparation of the Report in accordance with the GRI G4 Guidelines we have used the publicly available GRI G4 Guidelines (the "GRI G4 Criteria"), available at https://www.globalreporting.org/information/g4/Pages/default.aspx

We have not performed any work, and do not express any conclusions, on any other information outside of the Subject Matter that may be published in the Report or on CRH's website for the current reporting period or for previous periods.

Our conclusions

1. Selected Information

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information is not fairly stated and has not been prepared, in all material respects, in accordance with the Data Criteria.

This conclusion relates only to the Selected Information, and is to be read in the context of this Assurance Report, in particular the inherent limitations explained below.

2. AA1000 principles

Based on our work undertaken, nothing has come to our attention that leads us to conclude that the Report is not in adherence with the AA1000 Principles as described in the Principles Criteria. We comment on the nature and extent of each individually below.

3. GRI G4 Guidelines

We believe that the report is in line with the "Comprehensive" requirements of the GRI G4 Guidelines.

Standards and level of assurance

For the Selected Information, we performed a limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 revised – 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' (revised), issued by the International Auditing and Assurance Standards Board. This standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance.

For the AA1000 Principles, our assurance engagement was planned and performed to meet the requirements of a Type 1 "moderate level" of assurance as defined by AA1000 Assurance Standard (A1000AS) 2008. For consistency, in this Assurance Report we also refer to this scope as limited assurance.

DNV GL applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2011 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for, a reasonable assurance engagement; and the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We planned and performed our work to obtain the evidence we considered sufficient to provide a basis for our opinion, so that the risk of this conclusion being in error is reduced but not reduced completely.

Basis of our conclusion

1. Selected Information

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information. Our work included, but was not restricted to:

- Assessing the appropriateness of the Data Criteria for the Selected Information;
- Reviewing Group procedures, policies and guidance for data collection, aggregation, measurement, analysis and reporting of specified performance information at site, and Group levels, and assessing their alignment with the Data Criteria;
- Conducting interviews with CRH's management to obtain an understanding of the key processes, systems and controls in place to generate, aggregate and report the Selected Information;
- Visits to sites selected in conjunction with CRH, including: Republic Cement, Norzagaray (Philippines), Republic Cement, Teresa (Philippines), My Home Industries (India), Tarmac (UK), CRH Ciment (Romania)-Medgidia Plant, APG Canada (Canada), Dufferin Concrete (Canada), Mississauga Cement (Canada), to review process and systems for preparing the Selected Information at site level for consolidation at Group level. Also, performing limited substantive testing on a selective basis of the Selected Information to check that data had been appropriately measured, recorded, collated and reported at site level. These sites were chosen to provide a representative sample, based on the type and tonnage of material produced, geographical location, and based on whether the site was a legacy plant or a recent acquisition.
- Visiting CRH's headquarters in Dublin (Ireland) to review the processes for gathering and consolidating the Selected Information and checking its consolidation;
- Reviewing that the evidence, measurements and their scope provided to us by CRH for the Selected Information is prepared in line with the Data Criteria;
- Reading the Report and narrative accompanying the Selected Information in the Report with regards to the Data Criteria.

2. AA1000 Principles

We are required to plan and perform our work in order to

DNV GL Assurance Statement

form an opinion over the adherence of the A1000 Principles of the Report. Our work included, but was not restricted to:

- Reviewing the current sustainability issues that could affect CRH and are of interest to stakeholders;
- Reviewing CRH's approach to stakeholder engagement and interviews with three external stakeholders;
- Reviewing information provided to us by CRH on its reporting and management processes relating to the AA1000 Principles; and
- Interviewing senior management, selected in conjunction with CRH, with responsibility for management of sustainability issues and reviewing selected evidence to support the issues discussed.

3. GRI G4 Guidelines

We reviewed the Report to form an opinion over its preparation against the GRI G4 Guidelines.

Inherent limitations

All assurance engagements are subject to inherent limitations as selective testing (sampling) may not detect errors, fraud or other irregularities. Non-financial data may be subject to greater inherent uncertainty than financial data, given the nature and methods used for calculating, estimating and determining such data. The selection of different, but acceptable, measurement techniques may result in different quantifications between different entities.

Our assurance relies on the premise that the data and information provided to us by CRH have been provided in good faith. DNV GL expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Assurance Report.

Our competence, independence and quality control

DNV GL established policies and procedures are designed to ensure that DNV GL, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV GL) and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. Our multi-disciplinary team consisted of professionals with a combination of environmental and sustainability assurance experience.

Responsibilities of the management of CRH and DNV GL

The management of CRH has sole responsibility for:

- Preparing and presenting the Selected Information in accordance with the Data Criteria;
- Preparing the Report in adherence to the AA1000 Principles;
- Designing, implementing and maintaining effective internal controls over the information and data, resulting in the Preparation of the Selected Information that is free from material misstatements;
- Measuring and reporting the Selected Information based on their established Data Criteria; and
- The contents and statements contained within the Report and the Data Criteria.

Our responsibility is to plan and perform our work to obtain limited assurance about:

- Whether the Selected Information has been prepared in accordance with the Data Criteria and to report to CRH in the form of an independent limited assurance conclusion, based on the work performed and the evidence obtained; and
- Whether the Report is in adherence to the AA1000 Principles as described in the Principles Criteria, and comment on the nature and extent of each individually.

We have not been responsible for the preparation of the Report.

Observations

Our observations and areas for improvement were raised in a separate report to CRH's management. Selected observations are provided below. These observations do not affect our conclusions set out above.

1. Selected Information

- We continued to note a high commitment to sustainability performance at all sites visited. Also, strong emphasis continued to be given to safety of employees, contractors and third parties working on, or visiting, its sites. The sites' management were aware of the requirements from CRH and the expectation to manage and report on sustainability data. Moreover, there continued to be a thorough review of performance at Board level, which demonstrates top management buy-in and commitment.
- We noted the use of software to manage EHS data is well established in CRH. The software was used to collect and aggregate site level data, thus reducing the risk of manual errors. In addition, we saw evidence of checks performed by CRH headquarters over data accuracy and completeness, to identify data irregularities. We recommend increasing the frequency of data reporting from sites using this software, which will allow greater visibility to CRH over sustainability performance beyond year-end.
- For one of the sites we visited, we were unable to assure energy and water use KPIs during the visit. This data was not a material contributor to overall Group level data, and CRH has since incorporated the correct data. It should also be noted that other sites reviewed did not have the same issues, therefore the problem was not found to be systemic. We would recommend increased oversight of data from this site in the future.

2. AA1000 Principles

- Inclusiveness: CRH engaged with a wide range of stakeholders, at site as well as Group level. The Report reflects CRH's commitment to provide information and data that enables stakeholders to evaluate the organisation's economic, social and environmental performance. Each site was responsible for managing their own external stakeholder engagement practices individually, to tailor to the local context. Feedback received from the Stakeholder interviews we conducted demonstrated a high level of senior management buy-in and involvement in engagement activities.
- Materiality: CRH conducted a materiality exercise in 2016 which was based upon an extensive stakeholder engagement exercise. CRH also maintained a range of internal processes which we found effective in identifying sustainability issues of relevance and importance to the business and stakeholders. This included a number of knowledge sharing and best practice workshops with local environmental and health and safety officers as well as regional executives. Through these processes, CRH was able to identify and address material sustainability issues to stay informed of trends and changes related to sustainability.
- Responsiveness: The external stakeholders we interviewed indicated a high level of responsiveness from CRH, and the people and community sections of the Report describe how CRH is responding to some of its key stakeholder needs. We saw evidence that CRH held regular feedback meetings with employees on EHS and social matters across different regions and business lines. CRH has made changes to the Report based on feedback received from an extensive external stakeholder engagement exercise conducted in 2016 as part of its materiality process.
- The Report highlights examples of how CRH has engaged with a number of individual stakeholders, by including specific issues raised by stakeholder groups and how CRH has responded to these, however CRH could further better demonstrate how it is responding at a strategic level to stakeholder needs.

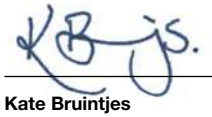
For and on behalf of DNV GL Business Assurance Services UK Limited

6th June 2017

[ELECTRONIC SIGNATURE]

Gareth Manning
Principal Consultant and Lead Assuror
UK Sustainability, DNV GL – Business Assurance

[ELECTRONIC SIGNATURE]



Kate Bruintjes
Principal Consultant and Reviewer
UK Sustainability, DNV GL – Business Assurance

DNV GL Business Assurance Services UK Limited is part of DNV GL – Business Assurance, a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance. www.dnvgl.co.uk/BetterAssurance

AA1000 Licensed Assurance Provider 000-10

Glossary

Abbreviation	Explanation
Accident	In the context of safety statistics, a non-fatal work-related injury to a company's, contractor's or sub-contractor's employee working at a CRH location (office, production, distribution, etc.) or contract location, or in work-related transit from or between those locations, leading to an absence of one or more days (or shifts) from work (not counting the day of the accident)
Accident Frequency Rate	The number of accidents per 1 million manhours worked
Accident Severity Rate	The number of lost days due to accidents per 1 million manhours worked
Aggregates	Crushed stone, sand and gravel, used for production of cement, concrete and asphalt, used in drainage applications, and also as a base material under foundations, roads and railroads
Asphalt	A mixture of bitumen and aggregates. Used for road and highway surfaces
bn	One billion units
BREEAM®	Building Research Establishment Environmental Assessment Method, one of the most widely used sustainability assessment method for masterplanning projects, infrastructure and buildings
Building Envelope	The physical separator between the interior and exterior of a building. Components of the envelope are typically: walls, floors, roofs, windows, doors and their associated structures
Building Products	In relation to the breakdown of CRH activities in this Report Building Products includes building envelope products, fencing and security systems, roller shutters and awnings and construction accessories
C&D	Construction and demolition, in the context of waste, C&D materials consist of the debris generated during the construction, renovation, and demolition of buildings, roads, bridges, etc.
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
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 a blend of aggregates, normally natural sand and gravel or crushed rock, bound together by a hydraulic binder e.g. portland cement and activated by water to form a dense semi homogenous mass
CO_2	Carbon dioxide, in the context of this Report, a greenhouse gas, generated by fuel combustion and decarbonation and/or oxidation of carbon in raw materials
CSI	Cement Sustainability Initiative
Decarbonation	The dissociation of calcium carbonate to calcium oxide with the evolution of carbon dioxide, occurs in the production of clinker and lime
DGNB	German Sustainable Building Council, provides a certifications system for buildings, which assesses the entire life cycle of a building
Distribution	In relation to the breakdown of CRH activities in this Report Distribution includes DIY stores, specialist building materials suppliers and builders' merchants
EBITDA	Earnings before interest, taxes, depreciation, amortisation, asset impairment charges, profit on disposals and the Group's share of equity accounted investments' profit after tax
Employee or Contractor Fatality	Work-related death of a company's, contractor's or sub-contractor's employee at a CRH location (office, production, distribution, etc.) or contract location. Exemptions to reporting are in accordance with the CSI Guidelines and in summary include death due to natural causes, death due to criminal or illegal acts or death while in transport to and from work
Fatality Ratio	Number of fatalities per 10,000 employees
GHG	Greenhouse gas
GRI	Global Reporting Initiative
GWh	Measure of energy, Gigawatt hour = 10^6 kWh
ISO 9001	An internationally agreed standard that sets out the requirements for a quality management system
ISO 14001	An internationally agreed standard that sets out the requirements for an environmental management system
ISO 20400	An internationally agreed standard that sets out the requirements for sustainable procurement standards
k	One thousand units
KPI	Key performance indicator
LEED®	Leadership in Energy and Environmental Design, one of the most widely used verification systems for green buildings
Lime	Calcium oxide, created by decarbonation of limestone, and calcium hydroxide; it is a highly alkaline material with a wide range of uses in the agricultural, building/construction and other industries
m	One million units
m^3	Cubic metres
Materials	In relation to the description of CRH activities in this Report Materials includes cement, aggregates, asphalt, readymixed concrete, precast and architectural concrete
Natural Capital	Defined as the world's stocks of natural assets which include geology, soil, air, water and all living things, from which humans derive a wide range of ecosystem services, which make human life possible
NGOs	Non-Governmental Organisations
NO_x	Nitrogen oxides, trace atmospheric gases, mainly NO and NO_2, formed and released into the atmosphere when fuels are burned at high temperatures
Precast Concrete	A construction product produced by casting reinforced concrete in a reusable mould or form which is then cured in a controlled environment, transported to the construction site and lifted into place
PJ	Measure of energy, Petajoule = 10^{15} Joule = 0.27 TWh
RAP	Recycled Asphalt Pavement
Readymixed Concrete	Concrete that is manufactured in a factory or batching plant, according to a set recipe, and then delivered to a work site by truck mounted in–transit mixers.
Recordable Incidents	This refers to all injuries (both onsite and offsite) including fatalities, accidents and all injuries requiring medical treatment (but not first aid) to a company's, contractor's or sub-contractor's employee working at a CRH location (office, production, distribution etc.) or contract location, or in work-related transit from or between those locations
SDG	United Nation's Sustainable Development Goals
SO_x	Sulphur oxides, gases formed and released into the atmosphere when fuel containing sulphur, mainly coal and oil, is burned
Specific	A term defining emissions on a per tonne of product basis
TWh	Measure of energy, Terawatt hour = 10^9 kWh
Tonnes	Metric tonnes
WBCSD	World Business Council for Sustainable Development
WMA	Warm-Mix Asphalt

Note on Forward-looking Statements

In order to utilise the "Safe Harbor" provisions of the United States Private Securities Litigation Reform Act of 1995, CRH plc (the 'Company'), and its subsidiaries (collectively, 'CRH' or the 'Group') is providing the following cautionary statement.

This document contains certain forward-looking statements with respect to the financial condition, results of operations, business, viability and future performance of CRH and certain of the plans and objectives of CRH.

These forward-looking statements may generally, but not always, be identified by the use of words such as "will", "anticipates", "should", "expects", "is expected to", "estimates", "believes", "intends" or similar expressions.

By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that may or may not occur in the future and reflect the Company's current expectations and assumptions as to such future events and circumstances that may not prove accurate. A number of material factors could cause actual results and developments to differ materially from those expressed or implied by these forward-looking statements, certain of which are beyond our control and which include, among other things: economic and financial conditions generally in various countries and regions where we operate; the pace of recovery in the overall construction and building materials sector; demand for infrastructure, residential and non-residential construction in our geographic markets; increased competition and its impact on prices; increases in energy and/or raw materials costs; adverse changes to laws and regulations; approval or allocation of funding for infrastructure programmes; adverse political developments in various countries and regions; failure to complete or successfully integrate acquisitions; and the specific factors identified in the discussions accompanying such forward-looking statements and in the Principal Risks and Uncertainties included on pages 102 to 107 of the Directors' Report and in the Risk Factors included on pages 220 to 229 of the Annual Report and Form 20-F.

You should not place undue reliance on any forward-looking statements. These forward-looking statements are made as of the date of this Report. The Company expressly disclaims any obligation to update these forward-looking statements other than as required by law.

Mark Lowry
Group CSR &
Sustainability Director

We welcome feedback and comments from stakeholders on our sustainability reporting.

FSC www.fsc.org
RECYCLED
Paper made from recycled material
FSC™ C101537

CRH plc

Belgard Castle
Clondalkin
Dublin 22
D22 AV61
Ireland

Telephone: +353 1 404 1000
E-mail: mail@crh.com

Website: www.crh.com

Registered Office
42 Fitzwilliam Square
Dublin 2
D02 R279
Ireland

Telephone: +353 1 634 4340
Fax: +353 1 676 5013
E-mail: crh42@crh.com

CRH® is a registered trade mark of CRH plc.

Cover image: One World Trade Centre, formerly known as the Freedom Tower, dominates the New York City, US skyline. CRH, and companies supplied several components of this iconic building. Tilcon NY supplied the concrete used for the superstructure of the building, including the core and the floors, while Oldcastle BuildingEnvelope® supplied the high-end glass panels of the building's spire. The building itself rises to 1,362 feet, and its antenna to a total height of 1,776 feet, making it not only the tallest building in the US, but also the tallest building in the Western Hemisphere.