



Creating a Sustainable Built Environment

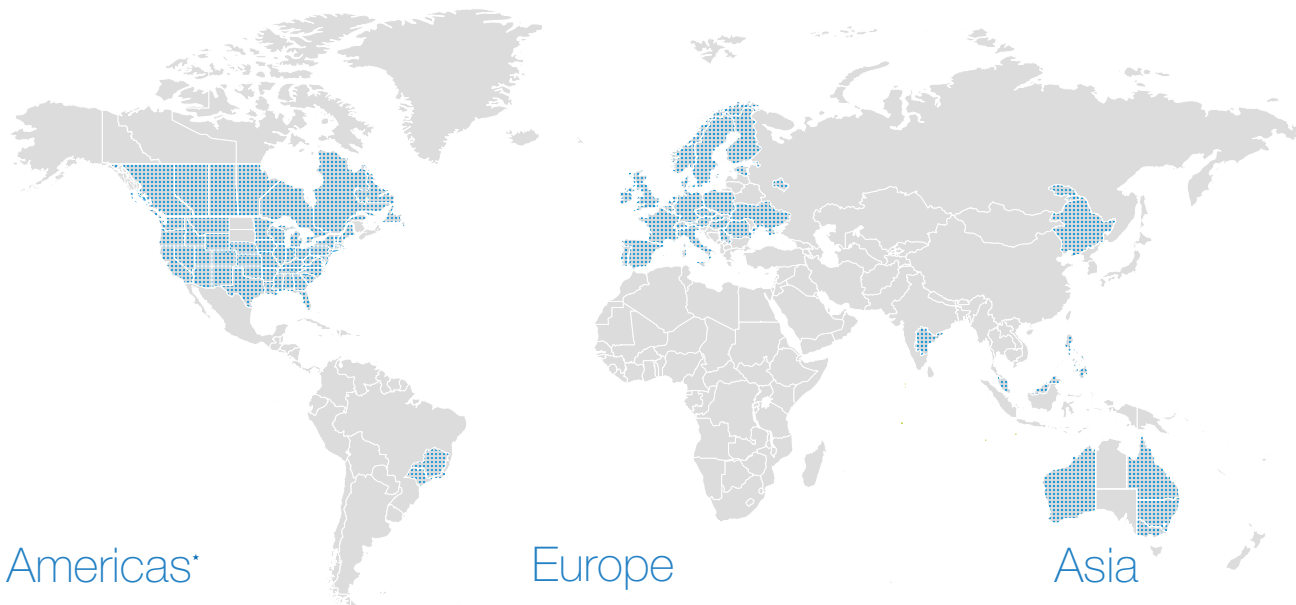
CRH Sustainability Report 2017



Our global business

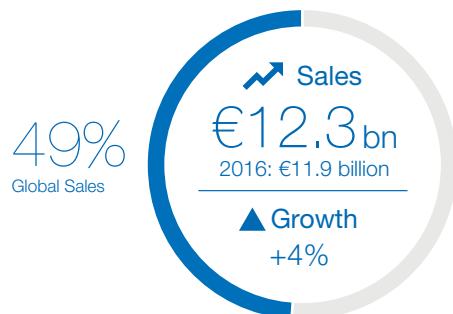
CRH's global footprint spans 32 countries and over 3,600 operating locations, serving customers across the entire building materials spectrum, on five continents, worldwide.

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



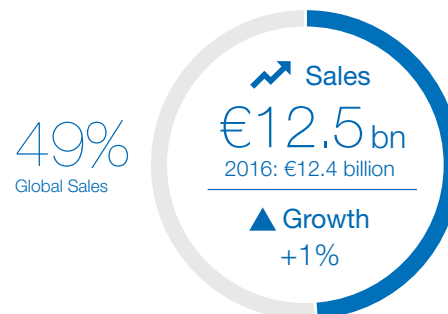
Americas*

- #1 Building Materials Company in North America
- Organised in two segments:
 - Heavyside Materials
 - Heavyside & Lightside Products
- Operations in 46 states, seven Canadian provinces and Southeast Brazil
- c. 41,200 employees
- c. 1,650 operating locations



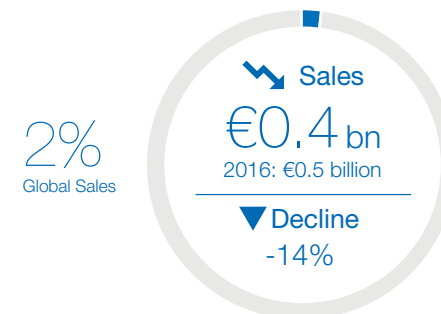
Europe

- #1 in Heavyside Materials
- Organised in three segments:
 - Heavyside Materials & Products
 - Lightside Products
 - Building Materials Distribution
- Operations in 24 countries
- c. 42,700 employees
- c. 1,950 operating locations



Asia

- #2 Cement producer in the Philippines
- Regional leadership positions in China and India
- Lightside operations in Malaysia and Australia, which report to Europe Lightside Division
- c. 1,400 employees
- 12 operating locations



* Our discontinued operations Americas Distribution employed approximately 3,900 people, across over 200 locations in 31 US states in 2017. Total Group revenue from continuing operations was €25.2 billion while Group revenue from continuing and discontinued operations was €27.6 billion.

With the global population expected to reach 9.8 billion by 2050, the way that people interact with buildings, infrastructure and cities will change. CRH is leading the way through innovation to help shape the structures of the future, in collaboration with our valued customers and partners. Together, we can create a sustainable built environment for all.

Albert Manifold, CRH Chief Executive

A message from our Chief Executive

At CRH, Sustainability and Corporate Social Responsibility (CSR) are essential components of our business. As a global leader in building materials, we are very conscious of the important role we play in advancing the global sustainability agenda. Uniquely within our industry, our diversified portfolio and vertically integrated business model allows us to provide innovative building solutions that help deliver a more sustainable environment.

In 2017, our ongoing commitment to sustainable development resulted in our inclusion in the Dow Jones Sustainability Index (DJSI) Europe. This

is the gold standard for corporate sustainability, and CRH's inclusion comes as a result of a lengthy evaluation based on strict economic, environmental, social and long-term shareholder related criteria.

This wasn't the only sustainability landmark we achieved in 2017. Our operating companies took home nearly 900 sustainability awards last year. Our CO₂ emissions are now 22% lower than they were in 1990, and we're on course to reduce our emissions to 25% below 1990 levels by 2020.

Building a more sustainable future is not something we can do alone. We participate in many initiatives, for example, we are a founding member of the new Global Cement and Concrete Association (GCCA). This will develop the role of cement and concrete in sustainable construction and promote innovation throughout the construction value chain. Cement and concrete, as with all of our materials and products, have a key role to play in creating a sustainable built environment.

Diversity is another cornerstone of our sustainability agenda. Throughout 2017, we continued to progress diversity initiatives aimed at recruiting people from a wide range

of backgrounds, knowing that this will add knowledge and skills to our business.

All of this puts us well on track to achieve our 2020 sustainability objectives (which you can read about on page 19). Given how important an issue sustainability is to the world we live in, our strong track record in this area will continue to play an important part in helping us achieve our ambition to be the leading building materials business in the world.

For us, sustainability and good business go hand in hand. In 2017, we continued to focus on identifying, acquiring and integrating businesses that enhance our existing portfolio. We also pursued opportunities to reallocate capital from low growth to high growth areas. This included our decision to divest our Americas Distribution business, where we saw limited prospects for further growth. Instead, through our acquisition of Suwannee American Cement (together with certain other materials assets in Florida) and our agreement to purchase Ash Grove Cement, we are investing in cement and aggregates businesses in the southern US and west of the Mississippi, where there is high population growth, and thus high demand. These businesses will be fully integrated into our sustainability programmes.

In 2017, we also maintained our uncompromising focus on making our workplaces safe for our people. Ninety-four percent of our sites were accident free. We deeply regret, however, that a number of fatalities occurred at our operations last year. We are determined to learn from these incidents and do even more to ensure that all of our people return home safe to their families at the end of each working day.

Looking ahead, we are focusing on four of the UN Sustainable Development Goals, which maximise value creation for our shareholders while also contributing to a sustainable future. With a balanced portfolio of businesses, CRH is well positioned to capitalise on ongoing economic growth. Our focus now is on consolidating and building upon the gains made in 2017. Against this backdrop, we believe 2018 will be a year of further progress for our Group.

I would like to thank everyone working in CRH's family of businesses around the world for their hard work, and commitment to our sustainability initiatives during 2017. I am deeply grateful for their continued commitment to our business.

Albert Manifold, Chief Executive
April 2018



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

What's inside this year's report

This year's report opens with a series of articles giving examples of how we are responding to some of the global trends that will shape our future. We then go into more detail on each of our material areas. We finish with details of our reporting process, additional data and our verification statement.

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Our response to selected trends shaping our future

As one of the world's leading building materials companies, we have a unique insight into the global trends that are shaping our future. By understanding and responding to these in the right way, we drive returns in our business while contributing to delivery of the United Nations' Sustainable Development Goals (SDGs).

In this year's report we are exploring three of these trends and describing our value-adding response:

- Building solutions for a changing world
- Upholding human rights in our transparent global supply chains
- On the move: creating safer road transport networks for all who use them



Building solutions for a changing world

At CRH, we produce and supply the materials that build the world – a world that is changing fast. To enable our customers to serve a growing global population, we must be at the forefront of building materials innovation. With our global footprint, we have an opportunity – and a responsibility – to provide building solutions that will create the sustainable communities of the future. Here, we discuss what drives innovation and we highlight some of the innovations at CRH that are shaping modern-day sustainable buildings.

The rise and rise of cities

Urban areas - especially cities - are now home to more than half of the world's seven billion people. In the next 30 years, we could see an additional 2.5 billion people living in urban areas. Whether this is good or bad news depends on how these burgeoning cities grow and adapt. As highlighted by experts, to accommodate such growth humanely, we would need to build a city of one million people every week. And therein lies the challenge or, as we see it at CRH, the opportunity.

The products and materials we provide build the homes, roads, workplaces and infrastructure to support a growing population. But to create cities that sustain jobs and prosperity without straining land and resources will require industry-wide innovation. We need to work together to create an integrated approach to sustainable construction across the entire value chain.

What drives innovation at CRH?

As one of the world's leading building materials companies, the drivers of sustainable innovation at CRH operate on a number of levels:



Global influence

With a footprint spanning 32 countries and five continents, we must understand and address long-term global issues and trends – such as the energy challenge, pressure on natural resources and the need to respond and adapt to climate change. We are committed to making the most of our innovation potential and collaborating with others to address these challenges.



Local market-led

The markets in which we operate around the world have very different needs and opportunities – particularly driven by developments in building regulation and public policy. We respond to these drivers by developing solutions that meet the needs of

specific markets, while offering the potential to be capitalised upon and expanded into other markets in the future.



Customer-led

Our customers span the entire building materials spectrum and produce some of the most sustainable buildings in the world. From architects and construction companies to public bodies – what they need drives sustainable product innovation at the business level. Responding quickly and effectively to address immediate customer needs across our diverse portfolio is key.



How we add value

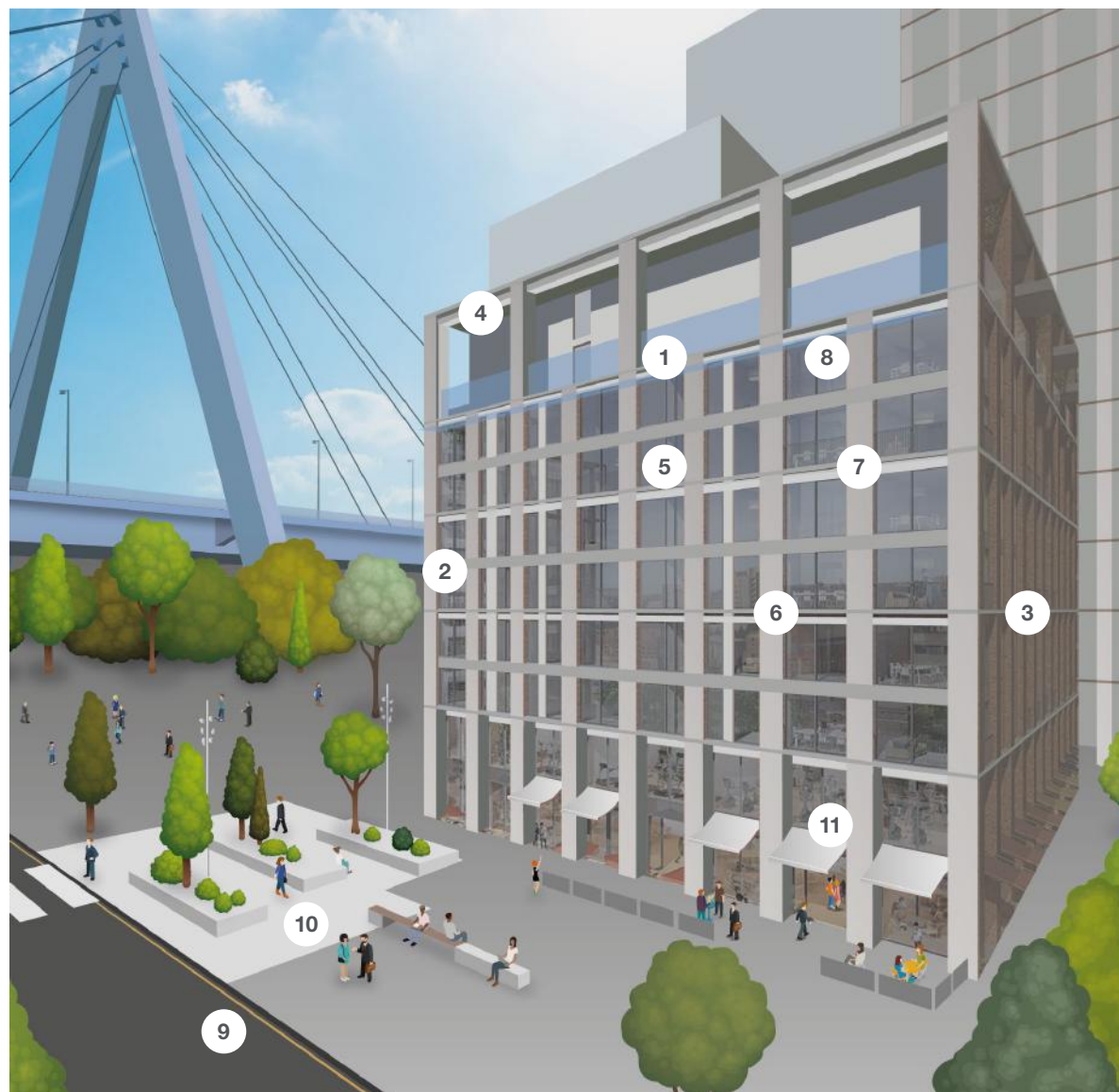
We are focused on delivering innovation in sustainable building materials, working with our customers and partners to promote sustainable development. Working together, we develop market-leading innovations that lead to win-win solutions, enabling our customers' sustainable business growth, and, as their business grows, so does ours.

Around the world, our companies focus on meeting customers' needs and anticipating and responding to market drivers. Innovating sustainable building solutions is one of the key ways we contribute to delivering the UN Sustainable Development Goals. Our four focus SDGs (see page 20) help us consider trends driving customer demand in the built environment, in areas including digital construction, resilient communities, responsible sourcing, the circular economy and carbon neutrality.



Our work on building solutions for a changing world supports the above UN SDGs.

Innovating the future: solutions for a more sustainable built environment



- 1 Balcony connector products that reduce thermal bridging, delivering energy saving
- 2 Concrete masonry units with recycled content
- 3 Concrete with low embodied energy and carbon savings supported by life-cycle analysis and locally sourced
- 4 Skylights with energy savings from solar heat gain
- 5 Glass with energy savings from solar heat gain
- 6 Precast concrete flooring and walling elements delivering energy savings
- 7 High performance glass and glazing products that incorporate innovative thermal break technologies for superior thermal performance, while providing essential daylight and ventilation for the building
- 8 Vaulted ceilings with improved thermal comfort, daylight and ventilation, containing recycled content and lower embodied energy
- 9 Lower carbon warm-mix asphalt with high recycled content and sustainable run-off design
- 10 Permeable paving connected to sustainable urban drainage systems
- 11 Shutters and awning products, reducing solar heat gain

Meeting the carbon challenge

We are serious about reducing the carbon footprint of our products. We look at the whole-life impacts of construction materials and the opportunities they present for reducing the carbon emissions of buildings across the entire value chain (see page 32).

Unlocking the potential of concrete

Concrete, one of our key products, is the future of sustainable building materials. Resilient and durable, it can last for many hundreds of years and withstand all kinds of weather. Its application is evolving in markets around the world, particularly due to its thermal mass property which offers wide-ranging benefits for solving the energy challenge. For example, in Europe, we are involved in a project which is demonstrating the intelligent use of concrete for storing and using thermal energy for heating buildings. Pipe systems carry the heat stored in concrete to different rooms. When installed in a normal residential house at an initial cost of €3,000, the investment is paid back through energy savings in just three years. The thermal mass properties of concrete can also be used to store energy produced by renewable technologies, such as solar and wind. These technologies produce energy at irregular time intervals that do not always match when it needs to be used. Concrete offers great potential to store this energy and maximise the benefits of renewables in buildings.

Alternative building materials

While cement is the most cost-effective binder and suitable for a variety of end-uses, our

companies also support the development of other materials. One such example is CO₂ Stone, a new innovation under development by our company De RuwBouw Groep in the Netherlands. It combines aggregates, CO₂ and a binder to create a new, hard, stone-like building material that is suitable for use in certain applications. A revolution in reducing greenhouse gas emissions, the construction of one house with the stone removes 5,000 kg of CO₂ from the environment.

Smart building envelopes

The building envelope is fundamental to sustainable construction, providing a physical barrier between the inside and the outside of a building. Products that close the building envelope include custom-engineered curtain walls and window walls, architectural windows, storefront systems, doors, skylights and architectural glass. The building envelope offers huge opportunities for sustainability, particularly thermal and energy saving through products such as Reliance™ Curtain Wall, Solar Shelf™ and Solar Eclipse™ sunshades.

Connecting the inside to the outside

The way we connect the external building envelope to the concrete core is becoming more innovative and technological. Today's connectors decouple the external building envelope from the internal core, reducing the influence of the temperature outside the building on the temperature inside. This greatly improves the thermodynamics of the building to reduce temperature fluctuation and energy loss.

Case Study



In April 2017, Cementbouw, Netherlands, part of our Europe Heavyside Division, was one of the first companies in the world to become certified by the Concrete Sustainability Council (CSC), highlighting the sustainability and transparency around the responsible sourcing of concrete.

The CRH Innovation Centre for Sustainable Construction

The CRH Innovation Centre for Sustainable Construction (ICSC) provides expertise and leadership to identify and analyse global, market and construction trends and new growth opportunities and maximise the value of sustainable innovation. Currently focused on developing a combined innovation strategy for our Europe Heavyside activities, it organises, supports and aligns innovation initiatives with the overall aim of strengthening our leadership position in the future of building materials. Its focus is on knowing our markets, sharing information, building knowledge and ultimately bringing innovation to the next level.

For example, by bringing together expertise from two of our Group companies, Struyk Verwo Infra (SVI) and Cementbouw, we have been able to provide customers with sustainable, recycled concrete products. At the end of its life, concrete products are collected at the Cementbouw Recycling site, where the concrete is crushed in its aggregates recycling process, resulting in secondary concrete granulates. Cementbouw Recycling supplies these secondary concrete granulates to SVI to produce new, high value concrete products meeting the sustainability ambitions of their customer demanding responsibly sourced and sustainable products.

ICSC invests in future generations as well as innovation. In collaboration with universities, ICSC annually offers PhD and Masters students the opportunity to carry out research activities and obtain their degrees. Present projects include research on low-carbon concrete and carbon capture, from which results are expected to be implemented over the next two years.

Upholding human rights in our transparent global supply chain

In today's complex, globalised economy, creating a transparent and responsible supply chain is fundamental to the sustainable growth of any business. Our customers and stakeholders want assurance that the products we supply are produced in a responsible way. That means understanding, evidencing and managing the social, environmental and other impacts of the things we source at every stage in the value chain. It is a highly complex challenge and one we have taken significant steps to improve in recent years. Now we are further increasing our scrutiny of issues such as human rights, ensuring we meet ever changing stakeholder requirements and legislative demands, as well as our own standards for our supply chain.

Together, our companies purchase around €17 billion of goods and services from over 160,000 suppliers every year. They also extract and supply raw materials such as aggregates, sand and gravel directly to both internal and external customers. With such a vast and complex supply chain, understanding the impacts of our sourcing and taking direct action to improve these impacts is an ongoing priority. Not only does this help us better understand and manage our business risks, it also enables us to realise opportunities to drive efficiency, innovation and improve sustainability and foster collaboration.

Our Responsible Sourcing Strategy

We have systemised our Group sourcing strategy in five clear stages – known as our “pathway to impact”:

Monitoring the drivers: Creating a compelling argument of how and why improved sustainability is good for business and delivering value beyond financial benefits.

CRH Group Policy: Developing clear and robust policies and standards that reflect best practice standards and provide a strong foundation for all our businesses.

Enablers: Developing the tools and processes that enable our procurement teams, sourcing specialists and suppliers to meet our expanding standards.

Risk and priority analysis: Identifying the risks and prioritising areas for improvement for specific commodities.

5-step process: Integrating the needs created by our risk and priority analysis into our strategic category management plans across our organisation.

See page 42 for more on our supply chain systems

Aiming for world-class policies and standards

Our aim is to develop a responsible sourcing approach that is world class, both in its formation and application. In 2017, we developed our processes to meet the principles set out in ISO 20400, the world's first international standard for responsible sourcing which aims to increase supply chain transparency and sustainability. We have reviewed our Group policies and standards to ensure they reflect this best practice and will publish updated versions in 2018. Following this, our focus will shift to engaging and developing the sourcing function across our global companies to ensure we achieve the true scope of our ambition.

Understanding our risks and opportunities

Our main challenge comes down to the sheer size and complexity of our supply chain. We cannot tackle everything, and we are not interested in just ticking boxes without achieving real impact and improvement. Understanding where our main risks are and prioritising areas for improvement is key to achieving real progress with our suppliers. We assess risk at the commodity level, in line with ISO 20400 best practice. We use twelve assessment criteria covering areas such as health and safety, human and labour rights, environment, climate change and governance. We then enhance our Category Strategy Plans - based on the risks identified and accompanying opportunity assessment - to drive improvement actions at the point where we have most influence with our suppliers.

People-positive supply chain management

€17 billion

per year in goods and services purchased worldwide

Products & Components		22%
Primary Materials		21%
Transport & Logistics		13%
Contractors & Services		13%
Fixed & Mobile Equipment		12%
Other		12%
Fuel & Energy		7%

168,000 suppliers worldwide

Americas

46%

Europe

49%

Rest of the World

<1%

Asia

5%

* % of total spend

Five step procurement process:

Managing risks and opportunities at the commodity level

1. Identify clear sustainability risks and opportunities alongside commercial needs and objectives
2. Category and market analysis
3. Create sourcing options to shape the commodity strategy
4. Strategy execution
5. Supply management

Our supply chain risks

High ☐
Low ☐

Commodity

	Safety	Health	Labour Practices	Equality & Development	Social Value	Energy & CO ₂	Environmental Stewardship	Resource Efficiency	Circular Economy	Water	Economic Growth	Governance & Ethics
Building Components	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mobile Equipment Assets & Parts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Fixed Equipment Assets & Parts	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Transport & Logistics	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Contractors & Services	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Outcomes



Reduced business risks

Scoping our contracts and projects to meet sustainability requirements as well as commercial requirements offsets risk.



Financial benefits

Sustainability and innovation are often linked and we are able to capture procurement savings through this approach.



Proactive management of suppliers

Enables control of issues such as human rights and labour practices prior to committing orders to suppliers when we have maximum leverage. See our case study on page 42.



Improved efficiencies

We challenge our key suppliers to optimise the use of recycled and secondary materials and minimise the use of raw materials where possible.



Opportunities for collaboration

By focusing at a commodity level we are able to identify the right sector scheme to work with for maximum impact.



Bespoke CSR plan for key commodity groups

See page 12 for an insight in to how we are managing natural stone.



Our work on upholding human rights in our transparent global supply chain supports the above UN SDG.

Upholding human rights in the supply chain

Human rights issues have become increasingly high-profile in recent years as society demands greater transparency and responsibility across global supply chains. As a result, developments in human rights-specific legislation are driving up standards and increasing transparency among businesses.

At CRH, upholding human and labour rights has always underpinned everything we do – because we believe there is never a good business reason to do the wrong thing. We are confident that we uphold human rights to the highest standards within our own operations, as demonstrated through an annual Social Review, which confirms that our policies on human and labour rights are embedded across all our global operations (refer to page 43). Being able to say the same thing with confidence about our global supply chain is another challenge entirely – one we see as an increasing priority.

We recognise that our impact on human rights can occur anywhere along the value chain ranging from issues relating to labour rights, child labour and forced labour to poor health and safety standards and impacts on local communities. With such a complex, global supply chain, the only way to address the issues is by working with our suppliers, industry peers and other

stakeholders to proactively tackle the areas that pose the greatest human rights risks.

We use risk assessment to identify our high-risk commodities when it comes to human rights. These currently include natural stone, wear parts and some alternative fuel sources. Country risk and supply chain complexity also plays a significant part in this and we are developing our capabilities in these areas. Where we find human rights challenges in the supply chain, we explore them with our partners openly and transparently, ensuring we adopt an appropriate level of interaction or intervention as required – because we believe this is the only way our industry will make progress in understanding and tackling the issues it faces.

Looking ahead

We aim for continuous improvement in all areas of sustainability performance. We plan to use our annual human rights statement to demonstrate progress and drive continuous improvement in the associated processes. On the supply chain component, after we roll out our updated policies, our focus will be on ensuring that 100% of our relevant suppliers are compliant with these and the target date for this is 2020. This is one of the ways we can realise our ambition to work collaboratively, as that's where we think we can have the greatest impact.

We support the introduction of the UK Modern Slavery Act, which aims to tackle issues relating to trafficking and forced labour. In 2017, we published our statement in response to the Act. You can find our statement, “Commitment to Human Rights: Tackling Modern Slavery” on the CRH website www.crh.com.

Case Study

Focus on Natural Stone

Natural Stone is one of the commodities where we have identified corporate social responsibility risks and opportunities. Several of our companies provide natural stone pavers, walling and other construction products as part of our range. While much of this natural stone is sourced locally to the marketplace, we also source natural stone from further afield.

Globally, China and India are the largest producers of natural stone. But recently, studies have highlighted adverse human rights impacts such as child labour, excessive working hours and poor health and safety standards in these markets. The implications for customers can be significant. For example, in September 2017, leading retailers withdrew a number of products made from granite after instances of child labour and poor labour practices were uncovered at quarries and stone processing sites in India.

To help manage the risks, we joined the TFT Responsible Stone Programme in 2016. Its mission is to ensure the sourcing of natural stone respects and improves the lives of the people working in stone supply chains. TFT helps members embed standards into their supply chains by working with them and their suppliers to break down and implement these expectations in a way that is appropriate to the context of their operations. Our involvement is an example of how we bring our systemised approach to responsible sourcing to life. We are able to trace the thread of activity from the initial risk assessment through to category management planning, contracting, third party audit, improvement and engagement plans, and finally public disclosure of results.

We are currently working with TFT to build transparency within our Chinese supply chain – covering four factories. The overall aim is to ensure that TFTs Respect for Workers guidelines are applied; these cover areas including labour rights, safety, diversity and grievance mechanisms. So far, we have participated in baseline assessments and transformation plans, and we look forward to updating on our progress in future sustainability reports.



Natural stone awaiting shipment at a CRH supplier in Shandong, Northeast China.

On the move: creating safer road transport networks for all who use them

Roads touch all our lives, every day. They keep society moving and enable the flow of goods and services we have come to depend on. As the population grows, the number of people using the world's roads is increasing, as is the number of people living in urban areas. This means more cars, more public transport, more service vehicles, more cyclists and more people using pedestrian areas. All this leads to increased contact between different users - and increased risk of accidents. Managing these impacts requires efficient and safe road transport networks that are designed not just to keep people moving, but to improve the safety of everyone that uses them.



The global road safety challenge

Road safety is a global challenge, with 1.25m people dying on the world's roads every year. The UN has set specific targets as part of the 2020 Sustainable Development Goals to provide access to sustainable transport systems for all and to halve the number of global deaths and injuries from road traffic accidents. As well as improving the safety of our own transport operations, our businesses are involved in a wide range of innovative collaborations with customers, industry partners, safety bodies and other key stakeholders that aim to improve the safety of the road networks and that of the construction industry as a whole.

Building safer road networks

We support the development of safer road networks through our core businesses: predominantly supplying road construction materials such as asphalt and aggregates and undertaking road construction projects for both public and private sector customers. Asphalt is the primary building material used in road surfacing. It consists of aggregates bound together with bitumen, a by-product of the oil industry. Aggregates such as sand, gravel and crushed stone are essential ingredients of roads and pavements. Our Americas Materials Division is the number one producer of both asphalt and aggregates in North America. A significant portion of our work is awarded through public procurement for federal, provincial, state and local government authority road and infrastructure

projects. Our heavyside businesses in the UK, Ireland, Poland and Switzerland also produce asphalt which supplies predominantly government and local authority customers for the construction and maintenance of national road networks.

To maintain our leadership positions, our products must be safe, sustainable and meet the highest quality standards. We ensure value for our customers through quality control, innovation and rigorous product testing. We are also committed to improving sustainability in road construction, with significant investment in recycled materials and warm-mix asphalt technologies that consume less fuel, release fewer emissions and contribute to climate change mitigation.

Improving safety in our own road transport operations

In addition to enabling the building of safer road networks, we uphold the highest safety standards in our own transport operations. Transport-related incidents account for 60% of accidents in our industry, and we have work to do to achieve our ambition of zero accidents in our operations. Despite our focus on fatality elimination, this year, we are saddened to report three fatalities as a result of road traffic accidents across our global businesses.

Alongside other modes of transport such as train and boat, road transport is an integral part of our business. Our companies produce, receive and deliver millions of tonnes of diverse products and materials globally. In 2017, our drivers completed

over 4m one-way product delivery trips, covering 197m km, while our contractors covered an additional 700m km.

An uncompromising approach to safety drives us to ensure safe and responsible transport. It is a complex challenge which requires a

multi-faceted approach. While we are able to exert significant control over what happens on our own sites and among our employees, we have far less control when our vehicles are out on the road. In certain regions, we also have less control over the standards and behaviours we are able to require of our contractors.

To reduce the risks, we take a holistic approach. This combines robust controls and investment in technology with training and monitoring of employees and contractors to ensure safe driver behaviours:

Our approach



Safe vehicle –

high standards of vehicle maintenance and use of external safety devices such as automatic braking systems and external CCTV cameras to aid driver vision.



Safe driver –

improving driver behaviours and capabilities through, for example, coaching and technical training, defensive driving training, in-cab video surveillance and telematics. Regular health checks also target driver health and wellbeing.



Safe load –

developing clear internal standards that specify what a safe load is and provide detailed guidance on how to secure different types of products, supported by dedicated load security training for employees and contractors.



Our work on creating safer road transport networks for everyone who uses them supports the above UN SDG.

Our sustainability focus areas

In the previous section, we described our response to some of the sustainability trends shaping our shared future. Now, we share our approach to managing our sustainability priorities within a framework that is integrated into our business strategy and seeks to deliver long-term value for our stakeholders.

Our sustainability priorities include:

- Creating sustainable value at CRH
- Embedding a culture of safety
- Creating solutions for our customers
- Developing and empowering our people
- Collaborating and engaging for sustainability
- Protecting the environment
- Building a resilient and sustainable business



Echelon Masonry, an Oldcastle Architectural company and part of our CRH Americas Products Division, supplied the Mesa Community College Performing Arts Center with an inner and outer shell of sound-reflective materials. A variety of masonry was chosen both for structure and finish, with the exterior shell required to be resilient to Arizona's extreme climate.

Creating sustainable value at CRH

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

We have a role in establishing a sustainable society through the creation and development of sustainable buildings and infrastructure to meet the needs of our evolving cities and the way we live, work and play.

Our Americas Products company Oldcastle BuildingEnvelope®, supplied 21,000 square metres of glass to the McKinney & Olive Class A+ office building in Dallas, Texas. Designed by world-renowned architect Cesar Pelli, this one-of-a-kind, 41,000 square metre, 20-storey structure is the tallest building in Uptown Dallas and features a distinctive geometric design including a sheer glass facade.

Why is this important?

We deliver our strategy through a dynamic business model which is focused on value creation and growth. However, we recognise the need to create value beyond our economic contribution in order to succeed in the long-term and harness the opportunities from sustainability. This is fully in line with the CRH Group strategy.



We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards creating sustainable value supports the above SDG.

What are the challenges?

We have seen strong growth this year and we expect continued growth for CRH against a generally positive economic background as we focus on the delivery of sustainable, long-term value.

The challenge is to ensure sustainability is viewed within our organisation as a multidimensional opportunity that will help to identify strategies and practices that contribute to a more sustainable world and, simultaneously, drive shareholder value. Specific obstacles that we are working on include more clearly linking sustainability improvements to financial delivery and assessing the wider value chain impacts from our actions.

Continuing the success of our 2020 targets, we are in the process of creating a vision for our next generation of targets, focusing on both interim and long-term goals.

What's in this section?

- Delivering long-term value and sustainable growth
- Setting out our sustainability targets and ambitions
- Contributing to the UN Sustainable Development Goals



Delivering long-term value and sustainable growth

CRH operates businesses engaged in the production and supply of a broad range of building materials in local markets around the world. With an integrated, end-to-end value chain, we source and recycle the raw materials, manufacture and design resilient and high quality building solutions, and deliver to customers through our distribution network. Every day our employees deliver for customers in the residential, non-residential and infrastructure market segments in 32 countries worldwide.

Our business model is our platform for sustainable value creation and growth. It's been a consistent feature of our success, enabling a compound Total Shareholder Return of 15.8% since 1970; or, put another way, €100 invested in our shares in 1970 would now, with dividends reinvested, be worth €97,000.

INPUTS

What we need to do business

Manage inputs for maximum return and aim to recycle capital to drive efficiencies across our value chain.



Financial capital

Capital is mainly generated from our own efficiencies to drive long-term success



Natural capital

Raw materials, recycled materials and fuel are our key natural resources



Social and human capital

The talent of our people helps to differentiate us in the communities where we operate



Intellectual capital

Our business systems, operations and intellectual property make CRH distinctive

Our drivers for value and growth creation

Dynamic capital management

Identifying where financial capital can be recycled into areas offering superior returns and/or better growth

Responsible asset & infrastructure management

Working to do more with the capital that drives our business forward across our value chain from raw and recycled materials, through manufacturing and to our logistics businesses

Balanced portfolio management

Identifying, acquiring and integrating businesses that complement our existing portfolio, mitigating against marketplace volatility

Forward-looking product management

Creating competitive advantage by innovating in partnership with our customers across product development, design solutions and technical support

Long-term relationship management

Getting it right for customers in terms of service and distribution and upholding our values in every interaction with all our stakeholders

Activated through our strategy

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



Read more on page 61

Future proofed by:



Risk management
Read more on page 67



Our integrated approach to sustainability
Read more on page 66

OUTPUTS

How we create value

...financially

- EBITDA • Profit after tax • EPS • RONA

...for society

- High quality products for resilient infrastructure • Jobs and skills development for 85,000 employees • Tax • CO₂ prevented • Community capacity building

...for our business

- Financial strength • Reduced cost of funding on capital markets • Cash to invest in acquisitions • Cash to invest in current portfolio to drive returns

We recycle capital, and maintain discipline across the cycle

Setting out our sustainability targets and ambitions



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.

As we look towards setting our post-2020 targets, we plan to use our materiality assessment processes to more explicitly link our targets to our focus UN SDGs.

Area	2020 target
Safety	Zero fatalities
Employee engagement	95% of employees to receive training
Business conduct	95% of relevant employees to have been trained in CoBC
Community engagement	90% of relevant companies to have Community Engagement Plans
Supply chain	100% of relevant suppliers to be compliant with the Ethical Procurement Code
Environment	90% of relevant locations to have a permitted/certified environmental management system
Environment	2015 acquisitions to be integrated into environmental roadmaps
Climate	Specific reduction in CO ₂ emissions (25% by 2020 on 1990 levels, designated plants)
Air	Specific reduction in particulates emissions (80% by 2020 on 2006 levels, designated plants)
Air	Specific reduction in NO _x emissions (22% by 2020 on 2006 levels, designated plants)
Air	100% clinker to be produced with monitoring of minor emissions
Waste	95% of relevant companies to have waste reduction/recycling programmes
Water	75% of relevant companies to have water efficiency and quality programmes
Biodiversity	90% of relevant locations in sensitive areas for biodiversity to have a biodiversity management plan
Biodiversity	100% of relevant extractive sites to have a restoration plan

Long-term ambition

Develop and implement safety programmes that set the standard for an industry-leading culture of safety

Develop training programmes that can adapt to the ever-changing needs of our employees

Ensure all of our employees are committed to the highest ethical, legal and moral standards

To build on our reputation as a responsible company to develop trusting relationships and create a long-term positive impact in the communities in which we operate

To go beyond our own supply chain and positively influence the transition towards sustainable resource management

To drive environmental protection measures across our business and the wider industry

To have a designated procedure to integrate acquired businesses into our environmental roadmaps

To create value from our climate activities, achieving efficiencies through industry-leading specific emissions and our value chain, including products in use

To reduce air emissions in so far as is possible, to industry-leading levels at all plants

To reduce air emissions in so far as is possible, to industry-leading levels at all plants

To have a designated monitoring procedure in place that can be employed by all locations

To integrate circular-economy thinking into all aspects of waste and resource management

To protect water resources in all areas of our influence

To protect and enhance biodiversity within our sphere of influence

To ensure our operations enhance natural capital, landscapes and heritage

Contributing to the UN Sustainable Development Goals

Launched in 2015, the UN SDGs are a global call to action for people, planet and prosperity. They include 17 bold commitments and 169 targets to be delivered by 2030.

In this interview, Mark Lowry, CRH Group CSR and Sustainability Director explains how CRH is working to embed the SDGs within its sustainability approach.

Q. You first introduced how your material issues link to the SDGs in your 2016 report. What has CRH done since to develop its understanding?

Like all companies, we're on a journey to embed the SDGs into our business planning and activities. We set out how our material sustainability topics align with the SDGs in our 2016 Sustainability Report. This year, we took another step forward, engaging an internal working group to explore how we contribute to the specific targets behind each SDG. Our purpose was to define where we make our biggest contribution towards global sustainable development so we can begin to scale up our future contribution.

Q. What were the outcomes of the review and how has it influenced your approach?

It is quite a complex process; we contribute to many of the SDGs in some way through our business but, to make the biggest difference, we believe we need to focus on those SDGs that most closely align to the areas where we have the greatest influence and impact. Having investigated the detailed targets behind each SDG and how they align with our business and sustainability approach, we confirmed that the

goals identified in 2016 are indeed the most relevant to our business:

- Industry innovation and infrastructure (SDG 9)
- Sustainable cities and communities (SDG 11)
- Responsible consumption and production (SDG 12)
- Climate change (SDG 13)

Now, we are starting to develop our approach to scale up our contribution in future years.

Q. How will you measure your contribution?

Throughout this year's report, we have identified examples of our activities that contribute to these four SDGs and the innovative and collaborative initiatives that support them. Looking to the future, we are investigating some exciting opportunities; for example, how we can use "big data" through a collaborative approach to measure our contribution to the SDGs in a more defined and targeted way.

Q. What are the next steps?

The SDGs represent a real opportunity for sustainable business growth - fostering new opportunities and building relationships with stakeholders, while contributing to societal challenges and protecting the environment. Now that we are confident of the areas where we must focus, we will work to further align the SDGs with our strategy, putting them front and centre of our post-2020 sustainability targets and short, medium and long-term action plans.

We will update our stakeholders on progress in our 2018 report and, as always, we welcome feedback as we continue to develop our approach.



How we embed a culture of safety

There are multiple hazards associated with our industry – from kilns operating at over 1,400°C, to working at height and operating heavy machinery. Because of this, we must integrate safety into everything we do.

Our culture of safety sets us apart and we are united in our common goal – that nobody gets hurt at work. The development of a strong safety culture is driven by management and employees at every level and is a core part of doing business with integrity.

A worker at CRH Canada's Mississauga plant using appropriate Personal Protective Equipment to safely carry out welding.

Why is this important?

Health and safety has long been a strategic priority for CRH, driven by the very basic requirement for our people to be safe as they carry out their daily work. We demand the highest safety standards in everything we do. The health and safety of our employees and contractors is non-negotiable.



We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards embedding a culture of safety supports the above UN SDG.

What are the challenges?

As we continue our efforts to ensure safe and responsible operations, we are very aware of the challenges we face.

Our industry involves dangerous work and achieving zero accident status at every location continues to be the goal. While 94% of locations were accident free in 2017, ensuring consistency in the application of our safety processes across our global business, some of which are at different stages in the development of their safety culture, continues to be a focus.

While in 2017 the number of accidents continued to reduce, we deeply regret that ten fatal accidents involving our employees and contractors occurred. We are determined to improve on this by learning from these accidents and preventing them by implementing new programmes and initiatives and addressing the significant challenge that contractor management brings.

What's in this section?

- Applying a robust policy
- Managing safety
- Measuring our safety performance
- Developing our safety culture
- Promoting health and wellbeing



Applying a robust policy

Our Health & Safety Policy is applied rigorously across all of our Group companies, along with clear lines of responsibility 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. They coordinate and facilitate company health and safety programmes and processes. 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 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 Cement Sustainability Initiative (CSI) and regional industry associations including CEMBUREAU in Europe and the National Asphalt Pavement Association in the US.

CRH's Health & Safety Policy 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.

Every person at CRH is empowered to take responsibility for their own safety.

Safety

Our stakeholders tell us

"Our safety risks aren't limited to our facility sites; they also occur while our people are out on our paving and construction sites and delivering to our customers' sites every day. It means we need a holistic approach to managing safety in our family of businesses – one that exceeds robust policies and procedures to safe behaviours and engagement from our employees, contractors and customers. It's a complex challenge that is constantly evolving as our business grows."

Lee Cole, Vice President of Environment, Health and Safety, CRH Americas Materials

What's in place to manage it?

Our collaborative approach integrates safety into everything we do. There are clear lines of responsibility for Health & Safety Policy implementation and processes are based on integrated risk assessment systems. We make necessary investments and incentivise safety at every level of the organisation.

How are we performing?

We continue to invest in initiatives targeted at promoting and maintaining a strong culture of safety and in the past five years over €160 million has been invested in this area. In 2017 accidents continued to reduce, however, we deeply regret that a number of fatal accidents occurred in our businesses.

What are the challenges?

Building materials production and distribution can be hazardous and particular hazards are associated with heavy vehicles, working at height and using mechanised processes.

What's next?

The relentless focus on ensuring the health and safety of all who work at CRH will continue. The elimination of fatalities, accidents and recordable incidents across our business and the wider industry is our goal.

Managing safety

Measuring and benchmarking our performance is a central part of our safety management strategy. In addition to the ongoing monitoring of key performance indicators, 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 fed back to our operating companies through our network of safety officers and at safety best practice meetings.

In 2017, 83% of our 3,600 locations were audited for safety by either internal safety managers or external agencies. These audits allow us to measure the implementation of our Fatality Elimination Plan across all Group companies. The Plan continues to be a cornerstone of our safety management approach and the standard every location must achieve. This risk-based approach focuses on the elimination of hazards in the first instance.

Continued development of our safety culture is a key focus for our Group and we emphasise behavioural safety and employee risk awareness. Our 'no compromise' approach to safety management continues to enhance our safety culture. Senior management engagement around safety is key to building a leading safety culture with internal targets in place to measure performance.

The participation of all stakeholders is critical in improving safety and eliminating risks in our workplaces. Regular safety meetings with employees took place at all of our businesses in 2017 and 71% of employees were involved in formal joint management/worker safety dialogue. Safety is also an integral part of discussions with trade unions. Topics discussed include safety initiatives, contractor management and ongoing Fatality Elimination Plan actions.

Safety performance is incentivised where appropriate through recognition and in bonus structures. We run several internal safety award schemes at business unit and regional levels which recognise superior safety performance, safety innovations and safety achievements. Any breaches of safety procedures are subject to disciplinary action.

The elimination of hazards at source is a continued priority for CRH. During 2017, there were significant investments in machinery guarding, mobile plant safety upgrades, improvements in platforms and fall protection measures, electrical system upgrades, pedestrian/mobile plant segregation and noise and dust reduction initiatives. Transport safety for both on-site and off-site transport remains a high priority and over the last 5 years we have invested over €160 million in all aspects of health and safety including transport safety.

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

Case Study

Keeping safety at the forefront of people's minds

The 2017/18 Annual Europe Safety Campaign, which ran from November 2017 to February 2018, consisted of a series of locally developed programmes with a focus on occupational health and transport safety in addition to dedicated central initiatives rolled out across the business units.

The dedicated initiatives consisted of a specifically designed workshop for frontline leaders, which focused on 3 key areas:

- positive behavioural reinforcement
- planning for effective safety communication
- responsibilities around contractor safety management

The workshop pack consisted of a training DVD, facilitator notes and participant pledges.

These workshops were further supported by a series of individual interviews with people injured in accidents in our industry in recent years. All support material was produced in 14 languages.



Safety Management 2017

Accidents investigated	100%
Safety meetings	100%
Near misses recorded	99%
% Group Companies	

Employee Safety Management 2017

Safety induction	100%
Disciplinary measures	100%
Risk assessments	99%
% Group Companies	

Measuring our safety performance

Our safety performance is measured throughout our businesses on a real time basis with weekly, monthly and annual reports being reviewed by senior management. Achieving the goal of zero injuries at every location is an ongoing challenge, and we see understanding safety performance as key to achieving our target.

By focusing on results, learning from system failures and implementing robust safety strategies, we continuously drive our improvement cycle. We investigate every accident to identify risks and share the lessons learned across the Group to prevent future accidents. We analyse recordable incidents and near misses with high potential to cause harm, with the aim of preventing recurrence.

Eliminating fatalities

Eliminating fatalities continues to be the highest priority across the Group. We have developed our mandatory 'Fundamentals for Fatality Elimination' which focus on the top causes of fatalities including mobile plant movements, being struck by falling objects, failure by individuals to abide by established plant isolation (Lock Out/Tag Out) procedures, and falls from height. Compliance with the Fundamentals is audited regularly to confirm a high level of implementation across the Group. Our company-wide 'Fundamentals Safety Alert' continues to be distributed every month and local regions also develop region specific communication programmes featuring employee and contractor awareness 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, however, continuing this strong performance is very challenging. In 2017, we deeply regret the loss of three employees' and seven contractors' lives in subsidiary companies, three of which were road traffic accidents. With the assistance of independent specialists, the circumstances surrounding these fatalities are being examined in detail. Our focus is on ensuring appropriate actions are taken immediately and lessons are learned and communicated across the Group. There was one reportable employee fatality in joint ventures and associates in 2017.

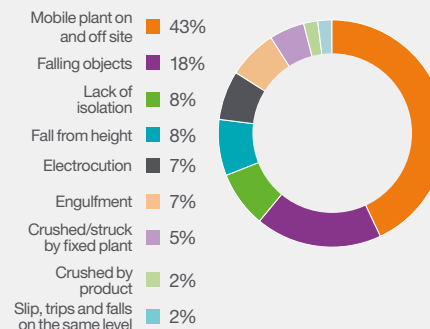
Reducing accidents

Over the past decade, we have seen accident frequency and severity rates reduce by an average of 12% and 10% respectively per annum. This shows the significant improvement we have achieved across the Group. This trend has continued in 2017 and 94% of locations recorded zero accidents, compared with 90% in 2016. Accident trends in 2017 are similar to the previous years with an accident frequency rate of 1.7 lost time accidents per million man hours. The frequency rate for joint ventures and associates was 1.1 lost time accidents per million man hours (2016: 1.1).

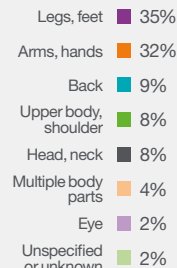
Consistent with previous years, the main accident causes in 2017 were 'slips, trips and falls on the same level', 'falling objects or moving objects' and 'lifting, overload and overexertion'. The most frequent injuries were to the arms, hands, legs and feet.

As we move beyond the traditional methods of measuring safety, we measure a range of leading indicators including metrics around employee engagement in safety, near miss reporting, risk reduction initiatives and contractor safety checks.

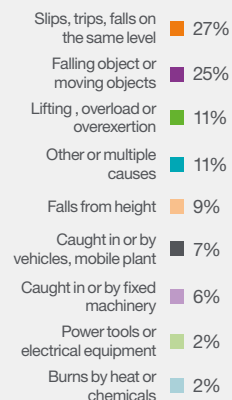
Fatalities by cause 2008 - 2017



Accidents by injury type 2017



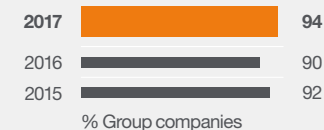
Accidents by cause 2017



Group frequency rate



Zero accident location (%)



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. However, this presents a challenge as we do not have direct control over our contractor processes, an issue that is seen across our industry. 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.

Our businesses have robust safety management systems in place, requiring all contract employees to be competent and have the relevant training and qualifications to carry out the job safely. When engaging contractors, our management procedures require setting expectations, ensuring competence, checking performance, and ensuring appropriate monitoring and supervision. In 2017, we carried out over 173,000 contractor transport safety checks. Our 'no-compromise' approach to contractor safety includes disciplinary measures where performance falls below expected standards. In 2017, 1,848 disciplinary actions were recorded and addressed, demonstrating the robustness of our approach.

We have worked closely with the CSI and national and regional industry bodies to raise contractor safety standards and have implemented the Recommended Good Practice Guidelines for Contractor Safety, developed by the CSI.

Customer safety

We continuously focus on delivering high quality, safe products to our customers. 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 information and best practices with our customers to support them in developing their own safety standards.

Safety training

Safety training is central to employee development and empowers workers to make the correct decisions based on knowledge, awareness and confidence that they are doing the right thing. Our training programmes are developed to ensure people understand the potential safety risks associated with their work. Our integrated frontline leadership programmes and senior management development programmes also include strategic safety modules. In 2017, employees completed a total of 1.7m hours of safety training, an average of 19 hours of safety training per employee across all categories.

Companies have developed a holistic approach to safety training using many different customised training techniques including on-the-job training, use of technology platforms and classroom training, delivered in all relevant languages.

Case Study

Assessing and progressing our safety culture

As we reported in our last Sustainability Report, we have completed safety culture assessments at every one of our materials businesses in North America, covering all employees at close to 1,300 locations across 44 states and 6 Canadian provinces. We are using the feedback from these assessments to drive us further on our journey of achieving zero incidents. The primary action point is to learn from our employees on how to prevent the incident before it happens. We know that nobody comes to work to do a bad job or to get hurt. We believe those closest to the risk should have the most to say about it, so we are moving towards a more analytical and proactive approach to incident prevention. This looks at the wider system and aims to understand human error, system induced error and how leadership influences our actions. We have been piloting this approach with good results and will roll out management training to all staff in 2018. In Europe, a similar focus on implementing actions from high learning potential events is underway. These initiatives support our overall aim of creating a working environment of commitment, personal empowerment and accountability for safety excellence.



Safe working practices and personal fall protection reduce safety risks of working at heights for workers at Gulf Coast, part of our Americas Materials Division as seen at this Port of Beaumont project in Texas, US

Contractor site induction

2017	<div></div>	100%
2016	<div></div>	100%
2015	<div></div>	100%
% Group companies		

Safety training

2017	<div></div>	19.0
2016	<div></div>	20.9
2015	<div></div>	16.6
Number of hours per employee		

Promoting health and wellbeing

Taking care of our workers and the communities in which we operate is important to us. We depend on the health and wellbeing of our people and as a leading company, 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.

Occupational health

As well as looking at general health and fitness, we manage specific health risks associated with the building materials industry. These include occupational noise levels, airborne dust and the potential for respirable crystalline silica (RCS), which have the potential, if not controlled, to cause long-term health issues.

We continue to work with the CSI and other industry bodies to develop global best practice and standards across the building materials industry.

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 2017, demonstrating our success in occupational health.

Wellbeing

We continue to promote healthy work practices and implement employee health and wellbeing programmes across our companies.

Currently, 87% of Group companies have health and wellbeing programmes in place. In addition, 85% of Group companies offer assistance with employee health insurance. The focus of these wellbeing programmes includes smoking cessation, diet, nutrition, fitness, weight

management and vaccinations, as well as drug and alcohol awareness programmes.

We also address local health topics through our community programmes. For example, in the Philippines, our Republic Cement business has partnered with a local community development foundation, Gawad Kalinga, in a campaign against child hunger and malnutrition. Over a thousand students from four different schools in Batangas will benefit from free nutritious lunches each school day. As well as addressing the urgent nutritional needs of children who need it most, the programme educates our partner beneficiaries, encourages community involvement and support livelihoods. The long-term goal is to impart a sustainable solution for malnutrition and in the first six months of the programme, the incidence of malnutrition, as measured by the Department of Education Health Division, fell from 11% to zero.



Our US-based Digital Engineering Team provides technology research and development to all of CRH. A very powerful use of virtual reality (VR) technology in safety training is currently being developed. Scenarios simulating complex experiences, such as interactions with machinery and/or equipment, have been prototyped, and learning theory is being integrated to ensure that the knowledge gained from the experience can be applied to complete tasks more safely in the workplace.



Republic Cement, part of our Asia Division, launched its campaign against hunger and malnutrition among public schoolchildren in its local community in the Philippines through the Kusina ng Kalinga (Kitchen of Care) program. The school-year-long program is run in partnership with local stakeholders, including parents of the children who volunteer daily to help prepare nutritious lunch meals.



CRH Americas office in Atlanta, Georgia, hosted a Health Awareness Week. This included a health fair providing a range of information to employees, including presentations on breast cancer, prostate cancer, heart disease and healthy living, as well as CPR certification training and employee engagement challenges.

We use new, innovative ways to make an impact on safety, health and wellbeing, both in the workplace and in the wider community.

How we create solutions for our customers

At CRH, sustainability is a driver for customer collaboration and innovation. With our customers increasingly focused on creating sustainable structures, their choice of materials matters. The way in which buildings and infrastructure interact with people and the environment is increasingly important. By innovating around themes including climate, circular economy and resilience, we can drive better outcomes for our customers, our business and also for wider society.

Concrete samples being tested for water resistance in the Concrete Lab at Podilsky Cement in Ukraine. Podilsky has been part of our Europe Heavyside Division since 1999 and is one of the largest and most modern dry process cement producers in Europe.

Why is this important?

We aim to create long-term value and have a positive impact on people and the planet through growth, customer experience and providing sustainable building solutions. Our focus on delivery through local businesses creates new revenue opportunities, builds stronger customer relationships and supports our resilient business model.



We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards creating solutions for our customers supports the above three UN SDGs.

What are the challenges?

A challenge that we all face is how to develop and maintain our living spaces, working zones and transportation networks without negatively imposing on the environment. CRH is committed to continuing to lead the way towards a more sustainable built environment. An increasing portion of our products are recognised as suitable for use in green building rating systems such as BREEAM® and LEED®.

Our specific challenges lie in meeting the needs of our customers' evolving expectations and overcoming the technological, operational and cultural barriers to meet these needs. Our businesses are working to devise effective strategies to meet these expectations through the products and services that support strong sustainability performance and differentiate us in the marketplace.

What's in this section?

- Looking to the future of sustainable construction
- Closing the loop
- Serving our customers
- Delivering sustainable products
- Promoting sustainability across the value chain



Looking to the future of sustainable construction

With the global population on track to exceed 9.8 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, 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 construction and building materials and technical support that will help our customers deliver a more sustainable built environment. From healthy, energy-efficient buildings to greener infrastructure, our products can make a real difference in addressing the sustainability challenges that increased urbanisation brings. We profile examples of these products throughout this report, including the significant opportunity around increasing the recognition of concrete as a climate-resilient building material.

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. However, construction industry productivity has trailed that of other sectors for decades, increasing only 1% in the last 20 years, as highlighted by McKinsey in their 2017 report 'Reinventing construction through a productivity revolution'. The industry urgently needs to evolve to become more productive if it is to meet the growing need for sustainable cities and infrastructure.

We work with our customers to innovate around design, delivery and application of our products. Examples include the off-site manufacture of precast elements for more efficient construction, through to provision of building information modelling (BIM) that helps increase productivity at the building site while optimising the eco-efficiency aspects of the materials.

Opportunities for progress

While demand for sustainable products is undoubtedly increasing, the opportunities vary both within and between markets. Our businesses 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 and infrastructure 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.

Serving our customers

We are building an organisation and culture that is focused on serving the individual needs of our customers 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.

Reducing the impact of buildings is an imperative to meet the needs of 9.8 billion

predicted global population by 2050

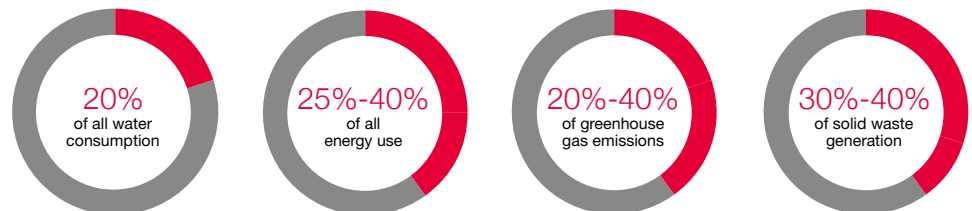


6 out of 10

people living in urban areas by 2030



Buildings have a significant impact in use



Closing the loop

We want CRH to have a positive impact on people and the environment. That includes playing our part in the move from a linear value chain model towards a closed-loop (circular) economy, in which products and resources are reused where appropriate as part of new product life-cycles. The concept of a 'closed-loop economy' decouples growth and prosperity from our use of natural resources. It challenges us to create a more regenerative system through the reuse of our resources, while also fostering economic growth. By rethinking and redesigning our products and components, we are improving the life-cycle performance of our buildings and providing end-of-life solutions for our products.

Alternative raw materials

A key aspect of the closed-loop economy is rethinking how waste can build capital rather than reduce it. In 2017, we re-used a total 30m tonnes of alternative raw materials, substituting 7% of the virgin materials we would have otherwise used.

10.8m tonnes of RAP and shingles

RAP, or recycled asphalt pavement, is removed and reprocessed road surface material, while shingles are an asphalt cladding material. Together, they accounted for over 20% of total asphalt requirements amongst our companies in the US in 2017.

8.3m tonnes of construction and demolition (C&D) waste

These wastes arise from construction and demolition activities and can replace virgin aggregates or be reused for fill applications.

8.8m tonnes of other materials

Materials with cementitious properties, such as fly-ash and ground granulated blast-furnace slag (GGBS), are by-product materials sourced mainly from external power generation and steel

production to replace virgin materials in cement, concrete and concrete products.

2.2m tonnes of internal by-products

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

Co-processing and the circular economy

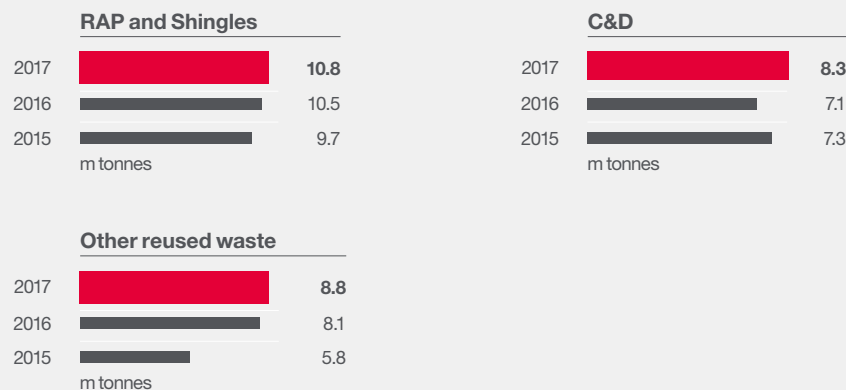
In co-processing, waste streams from other parts of the economy are used in cement clinker manufacture. With kilns operating at over 1,400°C, the energy content is harnessed in an efficient manner. Co-processing also allows for partial material substitution replacing certain virgin materials needed for cement clinker manufacture. Please go to page 51 to read more about this.

Strategic partnerships for the circular economy

We actively participate within the WBCSD CSI, CEMBUREAU, Portland Cement Association (PCA), European Ready Mixed Concrete Organization (ERMCO) and other trade associations in promoting the long-term benefits of concrete in the circular economy and in influencing specifiers in product choice. We also place a focus on providing input and monitoring in the standardisation processes of low-carbon cements through our participation in industry association working groups. During 2017, we joined Factor10, a WBCSD project on circular economy. We will participate in work around defining metrics, sector projects and policy recommendations, looking at full value chains with the overall aim of taking high-level principles into actionable business practice.



As a result of advanced manufacturing techniques Roadstone, part of our Europe Heavyside Division, has increased the usage of crushed rock fines in concrete mixes. This has led to a number of sustainability benefits including the preservation of already limited sand resources in Ireland and a reduction in associated haulage requirements.



Serving our customers

Our individual businesses serve diverse customers ranging from government agencies, contractors, distributors and private individuals; no individual customer accounts for more than 1% of our Group sales.

Listening to customers is important so that we can anticipate their needs and offer products and solutions with enhanced sustainability performance, centred around a continued focus on innovation.

Customer satisfaction

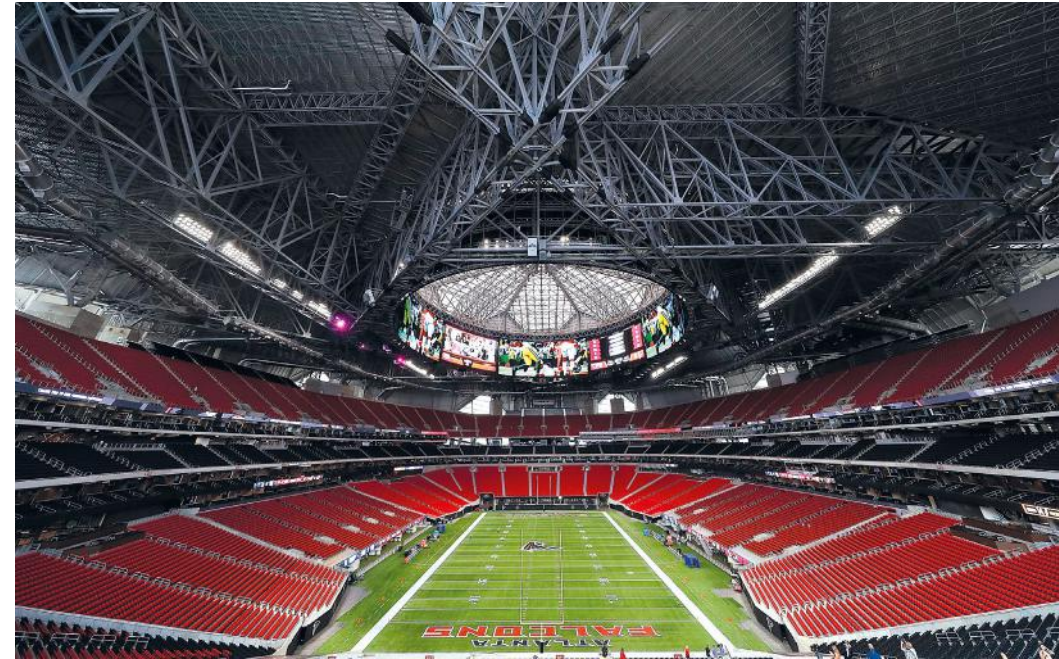
We regularly run perception surveys across our markets to monitor customer satisfaction and evaluate our reputation. These surveys allow us to gain a unique insight into how our products and solutions are being used by our customers and where we can make improvements. In 2017, out of the 59% of Group companies who carried out formal surveys, customer satisfaction was rated at a high level, with 93% of completed surveys indicating above average levels of satisfaction with our products and/or services.

Product responsibility

Product responsibility concerns the impact of products and services not only on the environment, but also on stakeholders, and customers in particular.

All our products are manufactured to the highest national and regional technical standards and specifications and are independently certified. In addition, many of our businesses operate to ISO 9001 Quality Management Systems, further guaranteeing product quality.

Health and safety aspects are considered from the product concept stage through to the research and development processes. Our products are accompanied by Safety Data Sheets, where necessary, containing information on use, storage and application. In addition, all of our companies operating within the EU comply with the European Regulation on Chemicals (REACH) requirements, providing health, safety and environmental information.



Our Americas Products businesses Oldcastle Architectural, Oldcastle BuildingEnvelope® and Oldcastle Precast all provided products to the Mercedes-Benz Stadium in Atlanta, Georgia. The stadium is the first professional stadium in North America to achieve Leadership in Energy and Environmental Design (LEED®) platinum certification.

Customer relations & satisfaction

Our stakeholders tell us

"Our aim is to be the leading green contractor and developer. Tarmac, a CRH company, has shown us how its products can help us build for a better society in a way that uses fewer resources and supports communities. As we push our industry to do more, we challenge Tarmac to be further guided by the needs of end-users, demonstrating how its products can support lower carbon, more efficient infrastructure and development schemes over the whole life, taking its sustainable solutions to the next level."

Chris Hayes, Sustainability Operations Director, Skanska

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 2017, customer satisfaction was rated above average or better, indicating our success in meeting customer demands and leading to Group sales for the year of €27.6 billion*.

*Revenue from continuing and discontinued operations was €27.6 billion.

What are the challenges?

Meeting the challenges of evolving customer expectations lies in understanding the needs of our customers and the technological, operational and cultural barriers to meeting these needs – and to devise effective strategies to overcome these barriers.

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

Products with sustainable attributes

We take a lead in re-thinking the nature of future developments and communities, offering multiple products and building solutions that enhance the environmental performance of the built environment. These include:

- Products that deliver sustainability benefits for the built environment, such as concrete used in a sustainable building, building envelope solutions, sustainable fencing systems, and “green roofs”
- Products with environmental applications, such as concrete used in flood defence systems or lime used in desulphurisation of air emissions
- Products with a lower environmental footprint, such as low-carbon cement, warm-mix asphalt, or products with high recycled content

See page 8 for an infographic showing just some examples of the use of our products in a more sustainable built environment.

Green Building Solutions

An increasing number of our products are helping customers to achieve higher scores in green building rating schemes such as BREEAM®, DGNB, and LEED®.

We are an active advocate of increased transparency to customers, meeting the demand for information on the environmental performance of our products, which is supported by Environmental Product Declarations (EPD). We participate in the development of new standards, such as the European Commission's draft framework for environmental assessment of buildings, Level(s), which was published in 2017.

In addition to EPD, several of our products are certified to BES 6001 standard for responsible sourcing for construction products, and in the UK, our Tarmac business was the first company to gain an ‘Excellent’ rating against this independently assessed standard.

Quantifying product sustainability benefits

Quantifying our broader contribution to a sustainable built environment is an ongoing challenge. We are focused on developing common definitions that enable us to clearly communicate our impacts.

Currently, we track indicators on a product-by-product basis. Approximately 75% of our US asphalt volume in 2017 was lower carbon warm-mix asphalt, as defined by the National Asphalt Pavement Association, and recycled asphalt pavement and shingles provided a fifth of raw materials requirements in this business. We have also calculated that, amongst our legacy cement businesses, CO₂ reduction efforts have resulted in the avoidance of 1.8m tonnes of CO₂ emissions in 2017. This is due to various preventative measures such as the use of alternative materials and fuels and a reduction in clinker factor.



Struyk Verwo Infra, Netherlands, part of our Europe Lightside Division, has developed the Greenbrick concept, which combines paving with grass and makes large surfaces suitable for water infiltration and evaporation.

Sustainable products

Our stakeholders tell us

"Sustainable innovation is a global trend but it plays out in different ways in different markets. You can have a very sustainable and successful product in one market that, due to differences in legislation, is of little interest to customers in another. To drive sustainability performance globally, we provide a robust scientific basis to sustainable product innovations that covers the entire value chain - from sourcing, design and manufacturing to end-use and waste management."

John Kemp, President, Oldcastle Building Solutions

What's in place to manage it?

Innovative actions to enhance sustainability along the life-cycle of our products, including technical advice for our customers to help use our products in a more sustainable built environment.

How are we performing?

We offer multiple products that enhance the environmental performance of the built environment, examples of which are profiled throughout this report.

What are the challenges?

Delivering sustainable products that enhance the customer's vision for sustainability without being compromised by the practicality of construction.

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

Our approach to sustainability covers the entire value chain. Our strategy involves a whole-life-cycle approach, from sourcing raw materials through to design, building use and to end-of-life waste management.

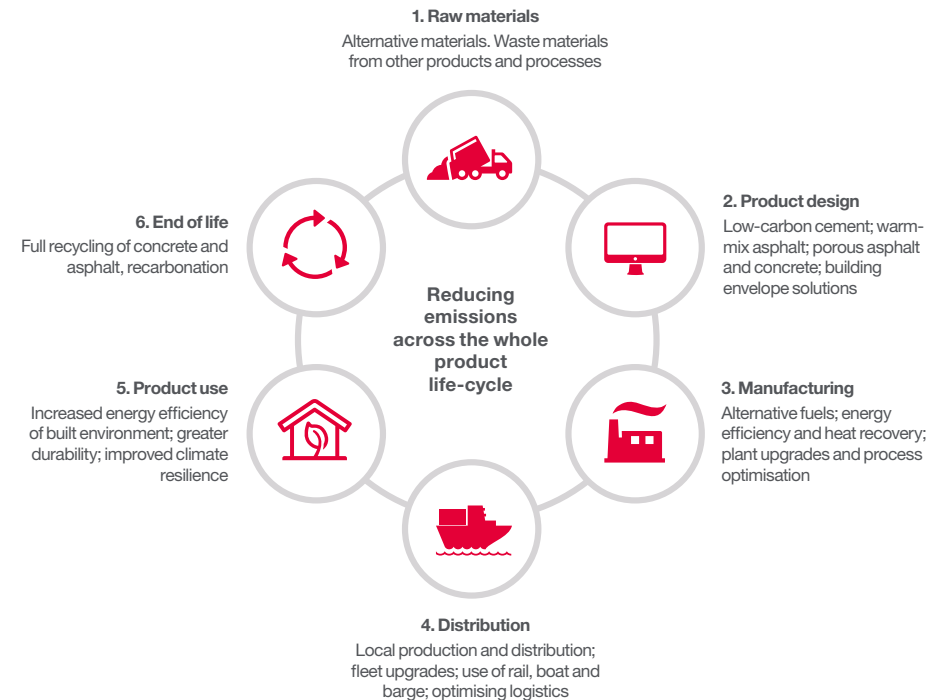
Taking a whole-life view

Embodied emissions – those that arise from production processes – are just the first step on the journey towards understanding the whole life emissions of a product.

For example, 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. Concrete is locally sourced and because it has a high thermal mass, it stores heat and reduces the need to heat and cool buildings. Due to its strength and low permeability, concrete offers good flood resilience. While cement, a key ingredient of concrete, is carbon-intensive to produce, concrete itself is a relatively low-embodied-carbon product. During the lifetime of

a building, cement contained within the concrete reacts with CO₂ in the air, gradually re-absorbing part of the CO₂ emitted during production. With proper recycling practices, up to 25% of the originally emitted CO₂ from cement production can be re-absorbed.

We work collaboratively to enhance sustainability throughout the life-cycle of products. For example, we are a Founding Member of the Concrete Sustainability Council (CSC), which launched its Responsible Sourcing Scheme industry standard for concrete in 2017. We are pleased to report that Cementbouw, one of our Dutch Heavyside businesses, was one of the first companies in the world to receive CSC certification (see page 9).



Material Optimisation

Our stakeholders tell us

"Asphalt covers over 93% of paved roads in the US. A primary environmental benefit is its ability to be reused, which preserves limited natural resources, avoids unnecessary waste, and reduces costs. In fact, at 99%, asphalt pavements are reused and recycled - the highest rate of any material in the United States. However, there is always a need to continue to innovate to make the most of the properties of this versatile material through material improvements, production and construction."

Audrey Copeland, PhD, PE, Vice President – Engineering, Research & Technology, National Asphalt Pavement Association

What's in place to manage it?

We work collaboratively with our customers to enhance sustainability throughout the life-cycle of products. We track indicators on a product-by-product basis through our performance systems.

How are we performing?

We can point to progress in many areas - for example, in the past ten years, we have reduced the clinker content of our cements by 6% and increased the quantity of materials recycled in our products by 56%.

What are the challenges?

The challenges of raw material and product optimisation lie in maintaining a constant supply of the highest quality materials needed in production, which requires strong organisation and planning at all stages of production and collaboration with suppliers.

What's next?

Ensuring that we maintain the strong relationships we have established with our suppliers and customers throughout the value chain to ensure that we can use the optimum raw materials to meet our high quality standards, especially when using recycled materials.

How we develop and empower our people

With operations in 32 countries, CRH is both multinational and multicultural. Our aim is to attract and develop a workforce that is as diverse as our customers and our communities, recognising that people are critical to sustaining competitive advantage and long-term success.

An employee at Tarmac, UK, part of our Europe Heavyside Division, which has an active programme to increase the proportion of women in its organisation.

Why is this important?

Our employees are critical to sustaining competitive advantage and the long-term success of our organisation. Investing in their development is fundamental to the long-term growth of our company. It is a strategic imperative that we build a better workplace by developing and empowering our people to succeed.

What are the challenges?

As a growing and dynamic company, making sure that we have the right people to deliver on our strategy is important. Attracting, developing and empowering the next generation of performance-orientated, innovative and entrepreneurial leaders is an ongoing priority.

Diversity is a challenge that is not unique to our company or our industry. If we do not attract and retain a workforce from a broad range of ethnicities, backgrounds, experiences and perspectives, creating an inclusive workforce and an engaged global marketplace, we could lose our competitive advantage.

What's in this section?

- Applying a robust policy
- Engaging with employees
- Developing our people
- Fostering diversity
- Continuing to be an employer of choice



Applying a robust policy

We apply our Social Policy rigorously across all our Group companies, highlighting our commitment and approach to doing business with integrity, including meeting high standards of employee engagement, business conduct and corporate governance. This influences our ability to attract and retain employees, customers, suppliers and investors who share a commitment to our core values.

Our dealings with our employees are directed by Group policies and guidelines. These outline key management responsibilities in areas including employment, human rights, procurement, competition law and customer relationships together with obligations regarding charitable and community activities.

The thorough implementation of the CRH Social Policy is verified through the Code of Business Conduct certification, the annual social review and ongoing engagement at every level of the Group.

Company Managing Directors are responsible for implementing our employment policies, guidelines and objectives in their areas of responsibility. They are supported by Human Resources teams and Group management.



The Kaltes Tal lime production plant, Germany, part of the Fels acquisition in 2017, is being integrated into the CRH Group.

CRH's Social Policy 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.

Support

freedom of association and recognise the right to collective bargaining.

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.

Manage

our businesses in a fair and equitable manner, meeting all our social responsibilities as both a direct and indirect employer.

Prohibit

forced, compulsory and child labour.

Ensure

that we deal responsibly with our suppliers and customers in accordance with our Code of Business Conduct and proper business practice.

Engaging with employees

With more than 85,000 employees worldwide, we want to ensure that CRH is a great place to work and one where our people are engaged, passionate about our strategy and values and feel motivated to perform at their best as advocates of our business.

It is our people who deliver our products and materials and who are the reason for the success of the organisation. Our challenges lie in ensuring that the needs of all our employees across the organisation are met.

While things are changing fast in society, we are in an industry that is often perceived as traditional. Attracting and retaining a wide range of perspectives and skills will drive innovation and enable us to access a vast range of talent. We seek to attract the best employees, build an inclusive workplace, and create opportunities for our people to contribute and develop to their full potential.

Fostering a dynamic, entrepreneurial environment through global collaboration and innovation is important to CRH. We want our employees around the world to reach their full potential and play their part in the success of our business. This is achieved through fostering a culture of open communication, ensuring that we hear our employees' needs and ensuring that our people have the necessary information and skills needed to help deliver our strategy.

In 2017, 85% of employees were included in regular employee briefings, informal meetings that take place in smaller locations where open dialogue is encouraged, and there are suggestion schemes in place at many of our companies.

Reaching our employees in a decentralised, dynamic and diverse organisation



Global Level

Online newsletters, Video messages, CEO blog



Regional Level

"Town Hall" meetings, Seminars, Forums, Webcasts with Divisional Presidents



Company Level

Employee briefings, Open dialogue, Suggestions schemes

Employee engagement

Our stakeholders tell us

"Talented employees today want more than just a job, they want a career and to work for a company that positively contributes to society. CRH offers this opportunity. We help build the world in a sustainable manner. The world is changing fast so to attract and retain the best people, we will step up our efforts and engage our workforce so they feel inspired, listened to and are enabled to use their talents to influence the future direction of the CRH Group."

Edwin Bouwman, Group Human Resources and Talent Development Director

What's in place to manage it?

Our Social Policy (page 34) 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. The average length of service is 9.5 years, while absenteeism levels in 2017 were just 2.7%.

What are the challenges?

The success of a company requires more than just focusing on making a profit, it relies on the engagement of employees. When employees are not actively engaged, it can have detrimental effects on an organisation.

What's next?

We are increasing our focus on talent management, leadership development and creating a globally mobile workforce. We continue to champion diversity and inclusion at CRH.

Developing our people

Developing and nurturing our employees is important for the success of our business. 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 offer a wide array of professional opportunities in different lines of business, geographical locations, and speciality areas for internal talent progression so that our employees may expand their skills, develop their careers and achieve goals in the workplace. 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.

We provide access to world-class learning and development resources, educational and performance support systems and educational reimbursement for job-related degree programmes. In 2017, 82% of our companies offered career development opportunities or advice to employees. In particular, career guidance was received by 43% of management, 25% of operational employees and 32% of clerical/admin staff.

Employee training

In 2017, we invested 2.7m hours of training across Group companies, equivalent to 29.2 hours per employee, as a means of teaching our employees new skills and deepening expertise in areas including safety, front-line leadership, environmental and skills training, and compliance related training on topics such as our Code of Business Conduct. Our target is that 95% of employees will receive training annually by 2020.

Leadership development

We aim to cultivate a diverse leadership base in terms of both nationality and culture, with breadth and depth of experiences across our global operations. It is through strong leadership that we foster commitment and discipline amongst our companies, reducing risks and ensuring the successful continuity of our operations.

It is for that reason that we commit significant resources to developing our current and future leadership talent. 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. This is achieved through global mobility assignments, coaching, global action-learning project teams and development programmes. We systematically review our approach to identify high-performing and motivated leaders, matching their skills to our business needs and helping them to achieve their development goals.

Supporting graduates and apprentices

We offer successful graduates the opportunity to gain hands-on experience across various aspects of our operating businesses, as well as through apprentice schemes at many of our Group companies. We are progressing with our two and a half year pilot CRH Technical Cement Graduate programme in Eastern Europe. This allows over 50 recent graduates the opportunity to further develop their technical capabilities, as well as the prospect of a one-year international assignment which gives them experience of varied cultures and operations.

Case Study



Innovative recruiting approach at Cadillac Asphalt

In the US, skilled labour is in short supply with predictions of a 5 million worker gap by 2023. Cadillac Asphalt, our Joint Venture Partner in Detroit, Michigan, had the additional challenge that 15% of employees were eligible to retire in two years. To address this, Cadillac came up with its ground-breaking Future Paving Professionals Program (FP3). Pre-apprentices, recruited through outreach programmes, work in this union-approved programme alongside more experienced employees. Having completed the 700-hour on-the-job training programme, some have already moved up to full-time apprentice and are on their way to building rewarding careers. The goal is to continue to refine the approach and bring on 15-18 apprentices each year, while improving retention rates.



Training by type 2017

Safety	19.0
Management & other education	5.3
Quality	4.2
Environmental	0.7

Hours per employee

Fostering diversity

Our businesses, across our 32 countries of operation, are made up of individuals from many regions and cultures. We recognise that international experience brings new perspectives and we respect the unique contribution each person makes to our organisation. Our aim is to attract and develop a workforce that is as diverse as our customers and our communities. Employing people from a broad range of ethnicities, backgrounds, experiences and perspectives creates an inclusive workforce and an engaged global marketplace, while helping us understand and meet the needs of our customers.

An inclusive workplace has a significant and positive impact on employee retention and appeals to a wider customer and supplier base. We continue to champion diversity and inclusion within our businesses, and we strive to create an environment that provides all individuals the freedom to succeed, irrespective of age, gender, nationality, ethnicity, disability, religion or sexual orientation. Going beyond this, we endeavour to provide equal access to career progression, training opportunities, career guidance and performance reviews without discrimination.

Group companies have policies to ensure equal pay for women and men. We also aim to offer equal opportunities to people of all working ages and to those with disabilities where possible. At present, 9% of our workforce are currently under 25 and a total of 978 people with disabilities were employed across 44% of Group companies during 2017.

Traditionally, the building materials industry has attracted a male-dominated workforce making gender diversity a particular challenge. Overall, males comprise 83% of our employees. In operations, just 11% of employees are female,

while 41% of clerical/administration employees are female.

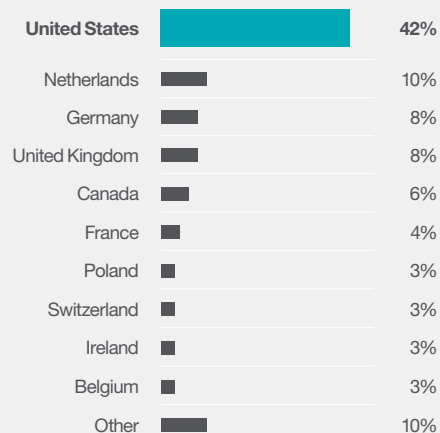
At management level, 17% of all managers and 9% of senior managers are female.

Our focus is on creating equality beyond the numbers, where both women and men feel included and appreciated for their contribution at all levels within the businesses. Our overall gender balance is good in terms of our industry, however, we are continuously working to overcome the hurdles that prevent under-represented employee groups, such as female employees, individuals with disabilities and ethnic minorities, from being incorporated into the highest levels of our organisation.

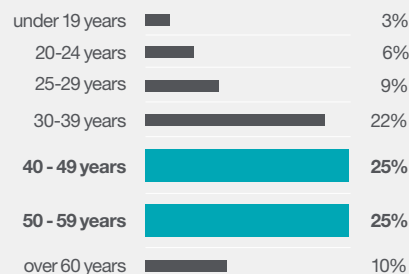
Developing a diverse talent pipeline

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. At regional and operating company level, we participate in initiatives including the National Association of Women in Construction, a US based organisation, and Madchen Zukunftstag (Girls' Day), a German initiative to encourage students to consider occupations in industries where females represent less than 40% of employees.

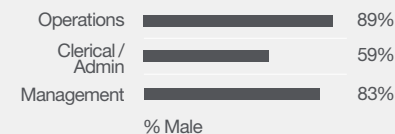
Employees by country 2017



Employees by age 2017



Gender balance by category 2017



Continuing to be an employer of choice

Rewarding our employees fairly

Our Social Policy (page 34) aims to ensure fair remuneration that meets the evolving needs of the Group and supports the delivery of the CRH strategy. We offer competitive and fair rates of pay and benefits to attract and retain the best people, in line with industry and local or national standards. Reward systems that are transparent and reward the entire workforce fairly send a positive message about an organisation's values and ways of working. Our global incentive plans reward employees based on their performance, potential and contribution to the success of the organisation. 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.

We comply with local wage and working time laws, with our operating companies offering entry-level wages at or above the minimum wage. We also promote flexible work practices where appropriate to accommodate a work-life balance for our employees, approximately 8% of which are part-time employees. To ensure that our employees have a satisfying working life, we offer similar benefits to full and part-time employees working within the same business, including parental leave, retirement provisions and access to disability or invalidity schemes.

Seasonal employment

The seasonal and cyclical nature of our industry places particular demands on our 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.

Monitoring employee satisfaction

Ensuring that we are not only perceived to be fair, we are consistent in our employee reward processes across all areas of our organisation. To keep our efforts on track, we monitor employee satisfaction both formally and informally, to measure how far our employees believe we are living our values. With an average of 24 employees at each location, there are close linkages between management and staff, allowing informal monitoring.

In 2017, 25% of employees participated in formal employee satisfaction surveys, covering both management and staff. Overall, surveys indicated employee engagement of average or better, with three quarters of these indicating employee satisfaction of above average or better. The results of these surveys inform our ways of working, engagement strategies and leadership development. Employees' perception of fairness is a core driver of retention, with more than 41% of our employees working within the organisation for over 10 years, a strong indication of our company performance. Employee absenteeism levels are low, at only 2.7% in 2017, a good indicator of employee satisfaction.



A production analyst at work at the CRH Canada Mississauga Cement Plant. In operation since 1956 and located approximately 30km west of Toronto, the plant has seen ongoing investment in improvement initiatives, including employee safety. The plant was acquired by CRH in 2015.

How we collaborate and engage for sustainability

We know that, in today's increasingly complex world, we can achieve much more when we collaborate with others. Our motivation goes beyond economic, social and environmental responsibility and looks to create shared value for all our stakeholders.

Over 250 colleagues, family members, friends, neighbours and volunteers attended the CRH Americas' Community Day event on the Oldcastle Nature Trail at the Marcus Autism Centre in Atlanta, Georgia, where a beekeeper demonstrating the importance of bees to our environment was just one of many attractions.

Why is this important?

We need input and guidance from our stakeholders to get the best results for them, for our business and for society. Despite challenges, working in partnership will ultimately help us to build a more sustainable business.



We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards collaborating and engaging with our stakeholders for sustainability supports the above four UN SDGs.

What are the challenges?

As a global business, consistent collaboration with stakeholders is a key part of how we operate, particularly in the context of human and labour rights. We maintained our open-door policy and our companies hosted approximately 1,100 stakeholder engagement events in 2017. Challenges lie in ensuring that all necessary stakeholders are identified and involved in these engagement events and are made aware of our business activities and growth.

We are committed to responsible sourcing and 100% of our procurement teams have been trained in responsible sourcing issues. Our aim is to ensure that our businesses are well-equipped to deal with the challenges of implementing and managing a sustainable supply chain, including cost, and external regulations.

What's in this section?

- Engaging with stakeholders
- Managing our supply chain
- Respecting human and labour rights
- Building thriving communities



Engaging with stakeholders

At CRH we know that success is built on developing transparent and trusting relationships with our stakeholders.

We listen and learn from our stakeholders and provide them with information to better understand our actions and intentions. We take an inclusive, collaborative and responsive approach to developing stakeholder relationships, taking care to maintain transparency throughout.

At Group level, we take a wide view on our stakeholder landscape to include not only investors, customers and employees, but also NGOs, local communities, assessment organisations, advocacy groups 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.

Impact of stakeholder dialogue

Outcomes from our stakeholder interactions are used in analysing gaps and opportunities for our businesses and generating action plans, at a global and local level. 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 71).

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



In 2017, Cementos Lemona, Spain, part of our Europe Heavyside Division, celebrated its centennial with the local community, government, suppliers, customers and colleagues. Since 1917, the history of Cementos Lemona has been closely linked with that of its community, and through providing quality products and being a pioneer in the use of new technology, including the use of alternative fuels, the plant has become recognised for its commitment to sustainable development.

Stakeholder engagement

Our stakeholders tell us

"For a global company like CRH that is constantly growing and entering new markets, engaging with stakeholders openly and transparently is a crucial but complex challenge. With human rights, community relations and other issues needing to be addressed openly across the entire value chain, we're working to further develop our two-way engagement processes with stakeholders so that we know how we are doing, and where we can do better."

Hillary Johnson, Community Relations Director,
CRH Americas

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?

During 2017, our companies hosted approximately 1,100 stakeholder engagement events and participated in many more.

What are the challenges?

Challenges lie in ensuring that all necessary stakeholders are identified and involved in business activities and growth, and to ensure that there is regular engagement with stakeholders.

What's next?

The outcome from stakeholder engagements informs continuous improvement processes and plays an important part in our Materiality Assessment (see page 71).

Stakeholder groups									
	Employees	Local Communities	Investors	Customers	Suppliers	Government & Regulators	Academic & Scientific Community	Media	NGOs and Pressure Groups
Key areas of interest	<ul style="list-style-type: none"> Business performance Health and safety Employee relationships Corporate governance Human and labour rights Potential local impact 	<ul style="list-style-type: none"> Community issues Planning matters Potential local impact Sustainability 	<ul style="list-style-type: none"> Business performance Employee relationships Sustainability Environment and climate Acquisition integration Board and executive remuneration 	<ul style="list-style-type: none"> Customer relations and contracts Quality and delivery Health and safety Sustainable products Product innovations Partnership 	<ul style="list-style-type: none"> Quality and delivery Health and safety Contract performance Local impacts Corporate governance 	<ul style="list-style-type: none"> Potential local impact Health and safety Environment and climate Corporate governance Planning matters Natural capital 	<ul style="list-style-type: none"> Eco-efficiency Environment and climate Product innovation Human and labour rights Natural capital Graduates and apprentices 	<ul style="list-style-type: none"> Business performance Health and safety Employee relationships Environment and climate Product innovation Corporate governance 	<ul style="list-style-type: none"> Eco-efficiency Environment and climate Human and labour rights Corporate governance
Key methods of engagement	<ul style="list-style-type: none"> Team meetings Employee surveys Employee newsletters Town Hall meetings CEO blog Performance reviews Forums Annual Euroform One-to-one meetings 	<ul style="list-style-type: none"> One-to-one meetings Open days Site tours Participation in local events 	<ul style="list-style-type: none"> Annual General Meeting One-to-one meetings and calls Surveys Investor conferences and roadshows Ratings 	<ul style="list-style-type: none"> Negotiations Customer surveys Formal market research Social media Company and corporate websites Product information on packaging Customer relationship development 	<ul style="list-style-type: none"> Supplier surveys Contractual meetings Tender quotations Information requests 	<ul style="list-style-type: none"> Briefings and direct meetings Multi-stakeholder forums Industry associations Audits Open days 	<ul style="list-style-type: none"> One-to-one meetings Seminars and lectures Graduate and apprenticeship programmes Presentations Round table discussions 	<ul style="list-style-type: none"> Media surveys Interviews Media briefings Press releases Social media 	<ul style="list-style-type: none"> One-to-one meetings Presentations Participation in events Open days
Typical frequency of engagement	Ongoing	Ongoing	Quarterly	Ongoing	Ongoing	As required	As required	Ongoing	As required
Outcomes	Improved engagement and communication with our employees to foster a sense of dual citizenship in both their operating company and the CRH Group	Creating strong partnerships with local communities, offering opportunities to engage with employees and supporting our supply chain	More proactive engagement with investors on sustainability topics, including participation in environmental, social and governance (ESG) investment roadshows	Continuing our strong relationships with our customers, ensuring we listen to their needs and deliver sustainable products and solutions	Maximising opportunities for us and our suppliers throughout our value chain, ensuring sustainability is integrated into our procurement decisions	Continued improvement in our sustainability performance and compliance standards in line with regulations relevant to our activities	Building relationships to encourage individuals to consider using their talents in our industry as well as developing strong partnerships with research institutions to further progress innovation	Improving the understanding of the building materials industry's positive impact on sustainability and climate change and the drivers for further development	Provide additional stakeholder insight into emerging and established sustainability topics

Managing our supply chain

Supply chain footprint

The CRH Procurement Board oversees purchasing policy and is accountable for delivering our responsible sourcing objective. Our core business lines each have a specific supply chain footprint with different characteristics, challenges and opportunities:

- Our Heavyside Materials businesses are more vertically-integrated in that they source materials produced by other CRH Group companies as raw materials
- The manufacture of building products within our Lightside Products businesses has a typical factory supply chain
- Our Building Materials Distribution businesses have a typical retail supply chain

Responsible sourcing

Please refer to page 10-12 for details of our responsible sourcing actions. In 2017, we met our target of training 100% of procurement teams in responsible sourcing issues, tools and techniques.

We are now targeting 100% compliance by relevant suppliers with our ethical procurement code by 2020.

Collaboration in sustainable supply chain management

Our aim is to influence the transition towards sustainable resource management across the industry. Together with suppliers, governments, businesses and other partners, we can find new ways to innovate and create positive change. With the local nature of our businesses, a focus is on supporting communities through using local suppliers, aiming for a sustainable supply chain.



Case Study

Supplier performance management

Following a routine third party on-site assessment at a prospective conveyor belt supplier in China, a critical contravention of our Supplier Code of Conduct was identified. Workers were being charged for an accommodation deposit. Following worker interviews, our third party auditor identified that no malice was involved, however, this activity can be a clear indicator that bonded labour and modern slavery could be prevalent and we needed to ensure we could be confident that that supplier could comply with our requirements. Our Global Direct Sourcing team intervened immediately and suspended all current CRH group orders. No shipment was allowed until the correction was made and confirmed. After obtaining confirmation from the supplier that they had returned the deposits obtained from workers, our Global Direct Sourcing CSR Manager conducted an unannounced on-site assessment and series of worker interviews to confirm that the remedial actions were in place.



Supply Chain

Our stakeholders tell us

"I have been impressed with the way CRH has embraced the sustainable procurement agenda. Governments, customers and civil society around the world are demanding to know more about how supply chains are managed in a sustainable way. The publication in 2017 of the international standard ISO 20400 is clear evidence of this and I would encourage CRH to align with this standard. The benefits for a complex business such as CRH will be significant."

Shaun McCarthy, OBE, Director Action Sustainability and Member of Tarmac External Independent Sustainability Panel

What's in place to manage it?

Our Supplier Code of Conduct and Ethical Procurement Code, adopted and certified annually by suppliers, sets out our standards. We have a team dedicated to supporting the delivery of our responsible sourcing strategy based on the principles of the ISO 20400 sustainable procurement guidelines.

How are we performing?

We take care to benchmark our expectations and approach against international best practice, aiming to stay ahead of the best standards in our industry. External assessments indicate that we are among the top performers in our sector. In 2017, we met our target of training 100% of procurement teams in responsible sourcing issues, tools and techniques.

What are the challenges?

Our aim is for responsible sourcing to have a positive impact on people and the environment, which means having the initiative to go beyond our supply chain, to positively influence the transition towards sustainable resource management across the industry.

What's next?

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

Respecting human and labour rights

Upholding human rights has always been a high priority at CRH. Our commitment to human and labour rights is formalised through our Code of Business Conduct (CoBC), which is publicly available on www.crh.com. Our CoBC is implemented across all CRH businesses and subsidiaries, and is actively promoted in our joint ventures and associates; see page 63 for further details on CoBC implementation.

We monitor compliance with our human and labour rights policies, including issues such as modern slavery, across all CRH companies annually. Our key human rights risks occur in our supply chain and where we operate in emerging economies, and our monitoring and management of human rights focus on these areas. See our article on page 10 for how we uphold human rights in the supply chain.

Labour practices

We review labour practices annually across all Group companies. Our 2017 review confirmed that there were no cases of forced or compulsory labour and no employees or contractors

under the relevant legal age working at any location among our businesses. Apprenticeship and internship programmes are delivered in accordance with local legislation and are typically regulated by governmental educational agencies.

Freedom of association

We respect the right of employees to freedom of association. Approximately 19% of our employees are currently represented by trade unions. 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 depending on local industry practice. In 2017, 74% of the wage reviews were carried out on an individual basis or through unions/groups. Overall, the level of lost days due to industrial disputes was very low again in 2017, with just 327 days lost, equivalent to 0.001% of all man days. This included national strikes in Belgium and France.



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

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.

Human rights

Our stakeholders tell us

"How to manage human rights risks is a hot topic for global business right now and, when your supply chain is complex and spans the globe, there's no one easy solution. We continue to develop our understanding of our human rights risks and now we're working to engage with the right number of suppliers across the right commodities to maximise our positive impact - including strengthening supplier management and relationship processes, auditing where appropriate and building supplier capabilities."

Richard Frost, European Responsible Sourcing Manager, CRH

What's in place to manage it?

Our CoBC establishes a foundation for managing our operations around the world in accordance with our commitment to respect human rights.

How are we performing?

The 2017 review confirmed that our policies in the areas of human and labour rights are embedded in all of our operations.

What are the challenges?

We have determined that within our sphere of influence, the greatest risk areas for human rights abuses is within our supply chain. Read about our work towards embedding responsible sourcing into our procurement processes on pages 10-12.

What's next?

We will continue to improve our processes in line with evolving best practice and ensure our coverage incorporates all stakeholder groups, paying special attention to vulnerable groups such as children, women, ethnic and migrant groups.

Building thriving communities

Stakeholders are more conscious than ever of the reputation of companies and the contribution they make towards communities. Further developing mutually beneficial relationships with our local communities helps differentiate us as a desirable organisation to work for and do business with. Having these practices in place drives forward our vision of delivering innovative products and services for our customers that create lasting value for society.

Engaging with local communities

We are very much embedded in the local communities where we extract our raw materials, manufacture and distribute our products and services. We constantly strive to promote neighbourly relations with our surrounding communities to understand their needs, concerns and priorities. To achieve a consistent approach, our companies are developing community engagement plans in all relevant locations.

We take responsibility for our impacts and contribute to growth in the locations where we operate. We want to use our reach and influence to have a positive impact for the communities we engage with and serve as a key partner in the development of these communities. Our partnerships with communities also offer opportunities to engage employees, promote a healthy environment and support our sustainable supply chain.

Creating common value

It is our aim to build more capable, inclusive and resilient communities through a shared global approach, taking into account the specific needs of each individual community. Focusing on a high-impact social strategy, aligned with our core business strategy, empowers our communities and provides opportunities for us to create common value, as seen in the case studies below:

How we create value for our communities

Community relations and development	Environment and conservation	Education and employment	Health and wellness	Art and culture	Provision of shelter
Our businesses are rooted in local communities, therefore, 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.	We take responsibility for managing our potential environment impacts, and we invest in initiatives to improve the environment and local biodiversity in partnership with various stakeholders, emphasising land stewardship, restoration and conservation.	We support local economic development through our purchasing of goods and services, provision of employment and payment of taxes. We collaborate with local communities and contribute to their development through our apprentice schemes, graduate programmes, business, scholarships and educational partnerships.	We focus on supporting research and investment in healthcare and seek to raise awareness of health and wellbeing. We work closely with local contractors and in emerging economies to raise safety and welfare standards and we invest in healthcare initiatives in many local communities.	We support local projects that help to foster innovative thinking in areas that are most relevant to our business and will help to inspire the problem solving ideas that society needs to meet future challenges.	We support the social and economic development of communities around the world by 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 services.
					
Rohoznik cement plant in Slovakia, part of our Europe Heavyside Division, welcomed members of the community advisory panel and village council last November as part of its ongoing engagement programme.	Republic Cement, part of our Asia Division, in partnership with government and community organisations, launched a three-year mangrove rehabilitation and management project in the Philippines.	Our Americas Materials company Tilcon Connecticut partners with the University of Connecticut on several projects, including a project on the effects of polymer moulds on the strength of concrete pillars.	Our Americas Materials colleagues came together in a community service project to assemble wagons with Chad's Bracket, which are used in hospital paediatric units.	Tarmac, UK, part of our Europe Heavyside Division, supported the Norfolk & Norwich Festival for the third year in a row, sponsoring an outdoor public artwork, "Museum of the Moon".	CRH supports Focus Ireland's Support to Live Independently (SLI) programme, which helps people moving on from homelessness to live independently within the local community.

Building thriving communities - continued

Building a better future

As a global building materials company, there is a natural connection between our business strategy and the provision of shelter in our communities. It is our aim to build more capable and resilient communities and respond to the challenge of providing the world's population with decent and sustainable shelter, a corporate citizenship theme shared across our businesses.

We support UN SDG 11 on sustainable cities and communities, which targets providing access to adequate, safe and affordable housing for all by 2030. Many of our local companies are developing partnerships to tackle the housing gap in their communities by sharing their expertise, products and financial resources. For example, every year, our North American business, sponsors a company-wide Habitat for Humanity project, which unites employees of all the product groups to build a home for a family. In addition to employees' hands-on participation, we donate many of our products, including concrete block, pavers and mulch. Local companies also provide year-round support to Habitat for Humanity affiliates nationwide.

Investing in our society

Everywhere we operate, we set out to have a positive impact on the world around us. Doing so is good for our business, for our communities and for our customers. In 2017 we donated €5.2 million to a range of organisations and initiatives, focusing on the most prevalent needs in our communities. A breakdown of our donations by priority area can be seen on page 75.

Like many global companies, understanding the social impacts of our community investments is an ongoing challenge. 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 evaluating the principles and tools that will enable us to develop our future strategy. In 2018 we plan to roll out a Group-wide Communities Reporting Tool, so that we can be more systematic in how we measure inputs and outputs, focusing on the social benefits of projects.



Every year, CRH Americas sponsors a company-wide Habitat for Humanity project, which unites employees of all the product groups to build a home for a family. This is in addition to the year-round support to Habitat for Humanity affiliates nationwide by CRH Americas operating companies.

Community engagement

Our stakeholders tell us

"There are still too many families who do not have a safe, secure and affordable place to live. Our partnership with CRH Americas helps Atlanta Habitat for Humanity put more affordable housing options within reach of working families. From house sponsorships to a valued presence on our board of directors, we are honoured to have CRH's support of our expanded mission to empower families and revitalise neighbourhoods."

Lisa Y. Gordon, President/CEO of Atlanta Habitat for Humanity

What's in place to manage it?

Our companies have developed strong partnerships with their local communities which offer opportunities to engage employees, promote a healthy environment and support the supply chain in these communities. These are conducted in line with Group guidelines and local operating company procedures.

How are we performing?

We create value for our communities through supporting community development, providing education, employment and shelter, as well as through supporting various conservation and culture programmes. In 2017, we donated €5.2 million and examples of positive outcomes from these projects are profiled in this report.

What are the challenges?

Challenges lie in understanding the ever-changing needs of our local communities, which will vary from region to region and within different economic climates. We want to ensure that we make a real and lasting impact through our efforts, however, tracking outcomes and measuring benefits is not straightforward.

What's next?

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 formal plan by 2020. In addition, we plan to roll out a Communities Reporting Tool, to better track the outcomes of our initiatives.

How we protect the environment

A strong environmental performance is fundamental to our strategic focus on continuous business improvement and delivers significant financial and extra-financial benefits. As we continue to grow and expand our Group, we have challenges around controlling our carbon emissions and resource use in an already high-intensive industry. It is more important than ever that we continue to build a business that is low carbon, energy efficient, circular and restorative.

Our Europe Heavyside company Northstone works with external stakeholders to protect wildlife, including this peacock butterfly (*Aglais io*), photographed at Croaghan Quarry, Northern Ireland.

Why is this important?

While potential environmental impacts and risks vary across our businesses, excellence in environmental management, together with a proactive approach to addressing the challenges and opportunities of climate change, is fundamental to our continuous improvement approach.



We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards protecting the environment supports the above two UN SDGs.

What are the challenges?

We have continued to deliver positive trends in our environmental KPIs while effectively integrating acquisitions into environmental management systems and receiving external recognition for our environmental performance. Reducing CO₂ emissions through the use of alternative fuels is one of our key priorities, however, we will have to overcome issues of public perception and availability of fuels in order to do so.

We 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.

What's in this section?

- Applying a robust policy
- Mitigating our potential environmental impacts
- Focusing on climate change
- Delivering our CO₂ reduction target
- Manufacturing lower carbon cement and concrete
- Increasing our energy efficiency
- Managing our emissions to air
- Reducing waste
- Protecting water resources
- Enhancing biodiversity
- Preserving natural and cultural heritage



Applying a robust policy

Excellence in environmental management is vital to our strategic imperative of continuous improvement and to our licence to operate. Potential environmental impacts and opportunities vary across our diverse activities. The greater challenges are in our heavyside activities, which include our higher-energy-using cement and lime plants, as well as the quarries and pits from which we extract our raw materials. However, all our activities have potential environmental impacts and opportunities, particularly when considering the whole value chain, and so, to ensure a consistent approach, we apply our Environmental Policy across all our operating companies.

This Policy is also applied across all new acquisitions and environmental management processes have been developed to quickly integrate new locations into our systems.

Location managers are accountable for the effective day-to-day implementation of the Policy

across all our 3,600 operating locations. They are supported by a network of experienced Environmental Liaison Officers (ELOs), who engage with each other and divisional HSE Directors to share best practice and experience. There is a focus on harnessing sustained value from our environmental strategies in all areas of our business.

We monitor the implementation of all aspects of our Environmental Policy and requirements through our annual Environmental Review data collection process, aiming to link these KPIs to the value we create for our business and wider society. This Review process, which covers all subsidiaries and most joint ventures and associates, also confirms that any potential environmental risks are being managed appropriately.



Dufferin Aggregates, a division of CRH Canada, received Gold Certification from the Wildlife Habitat Council for its amphibian breeding pool at its Acton Quarry, which supports eight different amphibians including Spotted Salamanders, American Toads, and Northern Leopard Frogs. The company also received two awards from the Wildlife Habitat Council for this leading-class project.

CRH's Environment Policy 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.

Promote

environmentally-driven product and process innovation and new business opportunities.

Optimise

our use of energy and all resources.

Address

proactively the challenges and opportunities of climate change.

Ensure

that our employees and contractors respect their environmental responsibilities.

Develop

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

Mitigating our potential environmental impacts

Environmental performance goals

We are constantly working to achieve our environmental performance goals across our operations. Our businesses are monitored for environmental performance, compliance and potential risks. Our environmental roadmaps for CO₂ and air emission reduction post-2020 will include acquisitions, including the significant acquisitions made in 2015. The progress of our performance goals, for all Group companies, are reported annually to the Board.

Strengthening our environmental management

Due to the environmentally intensive nature of the building materials industry, we are subject to stringent laws, regulations and standards that require the implementation of environmental best practices across our activities. To comply with these standards, we require all of our companies to have appropriate environmental management systems (EMS) in place, in line with local environmental permit requirements. In 2017, a total of 1,009 Group locations were certified to the ISO 14001 Environmental Management System (EMS), and 81% of our subsidiary clinker plants were ISO 14001 certified. It is our target that 90% of relevant businesses have a permitted or certified EMS by 2020.

Environmental compliance

We are pleased to report continued excellent environmental compliance in 2017. Our policy is to address and resolve compliance issues as soon as possible and most incidences of non-compliance that occurred in 2017 have already been resolved. We paid fines to regulatory authorities totalling €256k. These related to a number of minor issues, none of which caused significant environmental damage.

Environmental investments

We continuously invest in equipment and projects to enhance our environmental performance and meet our environmental targets. This includes specific environmental management projects and the environmental expenditure element of major investment projects. In 2017, our total company environmental expenditure was €151 million in areas such as carbon reduction projects, resource efficiency and water management equipment.

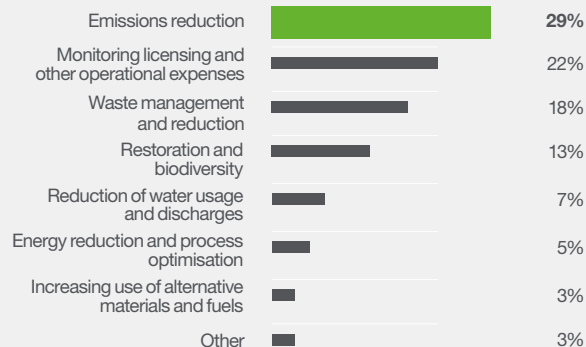


My Home Industries Private Limited, our Indian Joint Venture Partner, received a Golden Peacock Award in 2017 for sustainability. Initiatives praised included a 50% reduction in road transportation, commissioning of a 12.5 MW waste heat system and use of alternative fuels, as well as a focus on customer satisfaction and the full life cycle of products.



Prefaco, Belgium, part of our Europe Heavyside Division, was again awarded the Certificate of Sustainable Entrepreneurship of East Flanders, in recognition of its integration of safety and environmental protection into its corporate objectives. This is one of over 300 awards for environment received by CRH Group companies during 2017.

Significant Areas of Environmental Expenditure 2017



Focusing on climate change

Climate change is a key societal challenge and we are focused on the full life-cycle of our products with the overall aim of contributing towards wider climate efforts including UN SDG 13 on climate action and the Paris climate agreement.

Our integrated climate approach

We have governance structures that ensure oversight, assessment and management of climate-related risks and opportunities. These are integrated into our enterprise risk management (ERM) processes, described on page 67, and climate change aspects are overseen in our sustainability governance processes, described on page 66.

Our climate strategy is integrated with our business strategy and focuses on providing building solutions that reduce emissions and promote climate resilience. There is a parallel focus on reducing our own emissions and hence the carbon footprint of our products.

Collaborating with partners is a feature of our approach as we recognise that the challenge of

climate change goes beyond the boundary of our business. We have endorsed the World Business Council for Sustainable Development (WBCSD) Low Carbon Technology Partnerships initiative (LCTPI), a statement of ambition, by which CO₂ emissions should be reduced in the range of 20 to 25% by 2030 compared to business as usual.

Looking to the future

The topic of climate change is continuing to grow in importance. With our sustainable construction solutions, we are well positioned to harness the opportunities as the world transitions towards a low-carbon future in terms of both climate mitigation and adaptation. To ensure that we stay on track with our climate ambitions, we are preparing an emissions reduction roadmap for the post-2020 period. We are reviewing the potential future emissions profile of all plants and aligning this to our capital investment programme. Finally, with the publication of recommendations, including those of the Task Force on Climate-related Financial Disclosures (TCFD) released in 2017, we will also review our transparency in the area.



Oldcastle Precast, part of our Americas Products Division, provides a range of solutions for climate adaptation. The Oldcastle Precast StormCapture system, installed at a community development in California, US, captures and treats stormwater, reducing flooding and water quality risks.

Climate change

Our stakeholders tell us

"Changing the way we extract, produce and use building materials is essential to overcome a rapidly warming climate and the perilous loss of natural resources. As a leading global player, CRH needs to play a leadership role in sustainability, which both drives change through the supply chain and reduces its own environmental carbon footprint."

Tony Burton CBE, Member of the Tarmac External Independent Sustainability Panel, charity founder and sustainability advocate

What's in place to manage it?

The challenges and opportunities of climate change are fully integrated into our ERM processes and business strategy. We promote climate resilience as well as reducing our direct CO₂ emissions, having confirmed in a materiality assessment that CO₂ is the only relevant greenhouse gas for CRH.

How are we performing?

Our products continued to contribute towards a more climate-resilient built environment. While our 2017 direct CO₂ emissions increased on an absolute basis, specific reductions were achieved and we are on-track with our 2020 reduction target.

What are the challenges?

Because the end-use of our products can vary, there are challenges around quantifying the scale of our contribution to a more sustainable built environment. There are also challenges around reducing our direct emissions due to availability of alternative raw materials and fuels in certain markets.

What's next?

As well as our emission reduction and sustainable built environment focus, we will further expand our transparency in line with TCFD recommendations, and aim to more clearly link our efforts with a 2°C or 1.5°C warming scenario set out in the Paris Agreement.

Delivering our CO₂ reduction target

In striving to reduce our direct CO₂ emissions, we deliver carbon, energy and financial efficiencies for our business. We focus on reducing our carbon footprint during product manufacture and increasing our use of alternative raw materials and fuels.

Sources of CO₂ emissions

While our activities are across the full spectrum of building products, the main source of our CO₂ emissions is our cement and lime processes.

Our cement activity alone accounted for 86% of our 2017 direct CO₂ emissions of 25.6m tonnes. Therefore, it is appropriate that we focus on this activity for our Group-level reduction target.

Our CO₂ reduction commitment

Having achieved our first CO₂ reduction commitment three years ahead of target in 2012, we have pledged a 25% reduction in specific net CO₂ 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 2017 specific emissions of 0.595t CO₂/t cementitious product are equivalent to a 22% reduction compared with 1990 emissions of 0.760t CO₂/t cementitious product. We are confident that we will deliver our 0.571t CO₂/t target by 2020. We are currently working on our post 2020 targets, and fully integrating the more recently acquired cement businesses into our carbon reduction roadmaps.

Lower-carbon cement

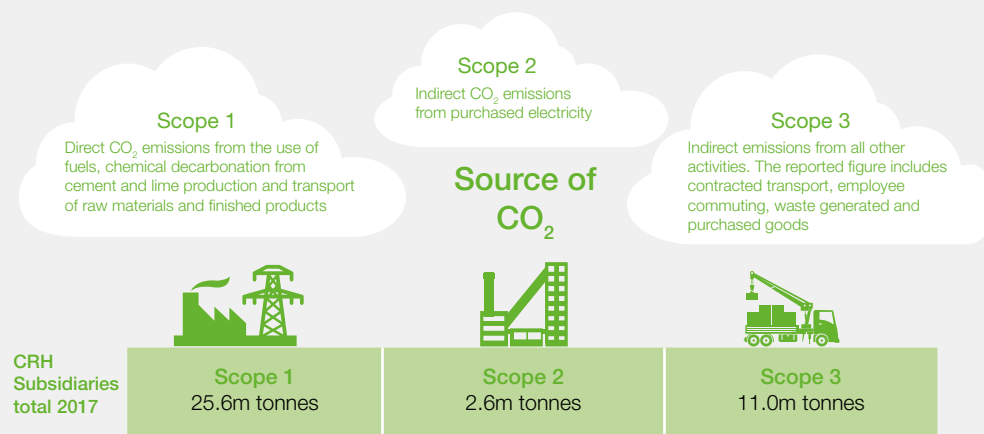
Decarbonation, the chemical reaction that occurs in a cement or lime kiln, remains our single largest source of CO₂. Approximately 60% of CO₂ in cement production is due to decarbonation. The remaining 40% arises from the fuels used to reach the high temperatures required in the kilns. Our focus on alternative fuels and materials, explored in the case studies on the following page, is key to the production of lower-carbon cement.

Carbon pricing

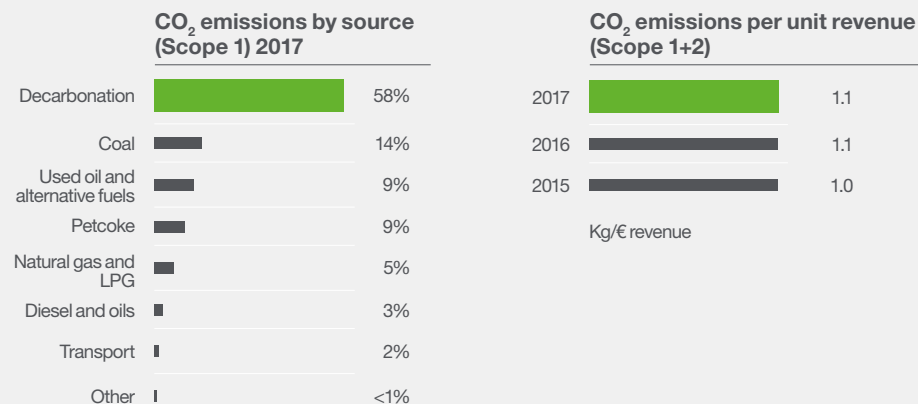
According to data from the World Bank, over 40 countries have now put a price on carbon, either through taxes or emissions trading schemes. Of our direct CO₂ emissions, approximately 55% are covered by an emissions trading scheme. In assessing capital investment projects, we use an internal carbon price, which takes into account the context of the project, including geography and expected lifetime.



We report on our CO₂ emissions in line with the Greenhouse Gas Protocol, developed by the World Resources Institute and the WBCSD:



When joint ventures and associates are included (proportionate to our shareholding), combined Scope 1 emissions amount to 29.9m tonnes, Scope 2 emissions are 3.0m tonnes and Scope 3 emissions are 12.1m tonnes. Note that in previous years reporting of Scope 3 emissions was limited to contracted transport alone.



Manufacturing lower carbon cement and concrete

Sustainability in practice

Alternative raw materials and reducing clinker content

Many waste materials and by-products from other industries serve as valuable raw materials for CRH.

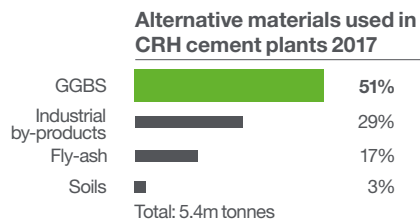
We use these resources as alternatives to finite natural raw materials in the production of clinker and cement. Examples of alternative raw materials include fly-ash, ground granulated blast-furnace slag (GGBS) and quarry overburden. Our Turna cement plant in Slovakia uses GGBS to make both clinker and cement.

The use of these by-products is a driving aspect of the circular economy, which is a continued focus in CRH product development and manufacture (see also page 29). In 2017, we used a total of 5.4m tonnes of alternative materials in our subsidiary cement plants.

Our ambition is to further reduce our clinker factor (the proportion of clinker in each tonne of cement) through the use of alternative materials. In some cases, we are limited by market and functional requirements for specific products and, in others, by the availability of alternative materials. We are continuously working to overcome supply-side barriers. Additionally, we focus strongly on optimising clinker mineralogy to improve product quality and importantly, the further development of blended cements.



The Turna cement plant in Slovakia, part of our Europe Heavyside Division.



Sustainability in practice

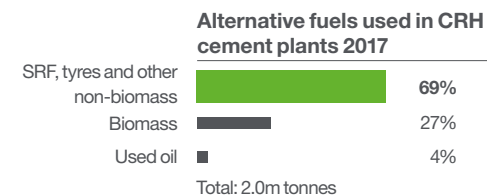
Alternative fuels

At our Jura Cement plant in Wildeg, Switzerland, over 85% of the fuel needed for cement manufacture is supplied by alternative fuels. The use of alternatives to finite fossil fuels, such as coal and petcoke, is key to reducing the carbon intensity of cement production. Such alternative fuels include biomass and also non-recyclable waste materials. Cement production is ideal for co-processing of non-recyclable materials, which often otherwise would end up in landfills. The energy from such processed material is recovered, and there is no ash created as the minerals within the material become a component of the cement clinker. By substituting traditional fossil fuels with alternative fuels we conserve natural resources, reduce CO₂ emissions, deliver financial efficiencies and support the circular economy.

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 2017, our subsidiary cement plants used 2.0m tonnes of alternative fuels. This provided 47% of our total energy consumption for our plants in the European Union. However, there is the potential to increase this significantly, as we work towards achieving leading-class alternative fuel use of over 80% at more and more plants. Barriers include the availability of alternative fuels, which is limited in certain markets, and we are working with wider stakeholders to address this.



The Jura Wildeg cement plant in Switzerland, part of our Europe Heavyside Division.



Increasing our energy efficiency

Energy efficiency

By the nature of our activities, we are an energy-intensive business. Currently our cement activities account for 71% of our total energy usage. 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 1,000 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.

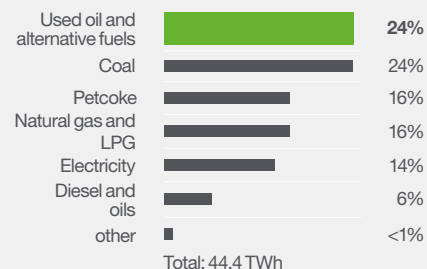
Over half of all Group companies (representing over 90% of energy use) have now set energy reduction targets and we saved approximately 265 GWh of energy through these activities in 2017. Our Group energy use in 2017 totalled 44.4 TWh of energy (2016: 44.1 TWh). Energy conversion

costs for 2017 were €1,004 million, representing 6% 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.

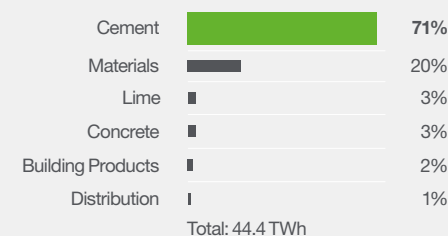
Energy efficient products

We promote the development and utilisation of solutions for energy efficient buildings. As well as the thermal mass properties of concrete that deliver energy efficiency benefits along the lifetime of buildings, there are also a number of important innovations in our Lightside products. For example, OldcastleBuildingEnvelope® offers products, such as insulated glass, 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. Several of our businesses also use sophisticated building information modelling (BIM) tools to help architects and designers select and specify solutions with optimal energy performance for their design. See page 31 for more details on sustainable products.

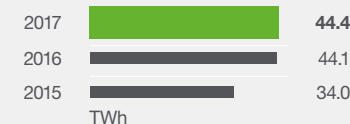
Energy use by source 2017



Energy use by activity 2017



Energy use



Energy

Our stakeholders tell us

"Improving energy efficiency is one of the key ways we can reduce our environmental impacts. To maximise the benefits, we need to look across the entire value chain – from reducing direct energy consumption in our manufacturing operations to increasing the positive impact of our products on the energy consumption of the built environment. It is a long-term journey and we are focused on delivering continuous improvement metrics within our operations while fostering innovation and collaboration to drive sector-wide progress."

Diego A. Santamaría Razo, Director of Innovation Centre for Sustainable Construction, CRH

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 265 GWh of energy in 2017 and purchased 828 GWh of 'green' electricity.

What are the challenges?

Reducing energy consumption and diversifying energy efficiency resources without compromising our delivery of high quality products that meet consumer supply demands.

What's next?

Detailed performance improvement roadmaps are in place at business unit level and target further energy improvements while we continue to develop innovative energy efficient products.

Increasing our energy efficiency – continued

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.

Renewable energy

Introducing more renewable energy sources in our production and operating activities can generate significant reductions in our CO₂ emissions. 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 2017, we purchased 828 GWh of 'green' electricity from external suppliers; this has more than doubled since 5 years ago. We also provide materials for construction of renewable energy installations.

On-site electricity generation

A number of our companies, for example, Marlux 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 Oldcastle Precast location, the solar-panel system generated 122 MWh of power during 2017.

Transport efficiencies

Efficient transportation is an important aspect for the successful growth of our businesses. We strive to optimise transport logistics across our companies to improve our customer service and reduce our energy consumption. Moreover, our CO₂ emissions are reduced by a high level of transport efficiency.

To reduce our transportation emissions, our Group companies focus on developing initiatives in the areas of:

- Transport efficiency, to reduce total distance driven
- Fuel efficiency, to reduce fuel consumption
- Modal efficiency, to select the most efficient mode of transport where practical

While road transport is the most common mode of transporting our products and materials, we endeavour to make use of fuel-efficient rail, boat and barge transportation where possible. Of our transport of products by road 27% is by our own trucks with the remainder by contractors or customers. We use approximately 170 million litres of fuel in our own company trucks each year and there are fleet fuel reduction targets at our operating companies. Overall, 62% 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.



Every year Tarmac, part of our Europe Heavyside Division, moves approximately 9m tonnes of material by rail freight. In 2017, Tarmac opened a new rail depot at Garston, Liverpool, as part of its strategy to increase the movement of material by rail. The new depot will take around 10,000 trucks off British roads every year.

Managing our emissions to air

In addition to addressing the issue of CO₂ emission reduction, there is also a challenge in reducing non-GHG air emissions. The main air emissions arising are namely particulates, nitrogen oxide (NO_x) and sulphur oxides (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.

Mitigation measures

To reduce the impacts from our operations, we are committed to reducing our specific particulate, NO_x and SO_x emissions beyond regulatory compliance and through multiple mitigation actions. This is achieved through monitoring our major and minor stack emissions, investing in

modern abatement technologies, such as filter control, and regular maintenance of equipment at our manufacturing operations emissions.

For example, following investment in dust filters at our plants in the Philippines, and with a focus on optimising the operation of these filters, our CSI KPI for specific particulates reduced from 97 g/tonne of clinker in 2016 to 46 g/tonne of clinker in 2017, a 53% reduction (see page 76).

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. 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.

Air emission reduction targets

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

We have made good progress towards our targets and looking ahead, we are confident that we will deliver our 2020 commitments.



Air

Our stakeholders tell us

"Air emissions can have significant impacts on human health and the environment if not properly controlled, so as well as ensuring we stay within safe limits for our emissions, we are targeting further emission reductions. We're on track with our 2020 reduction target, and are working on a roadmap, linked to our planned capital expenditure and technical projects, to ensure we are contributing to cleaner air."

Seamus Lynch, Managing Director, CRH Group Technical Services

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 are the challenges?

To identify and implement mitigation actions to reduce NO_x and particulate emissions.

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.

Reducing waste

It is the aim of CRH to become a leading advocate in the cement industry for the use of alternative materials in production processes. To achieve this we need to start looking at our waste, not as a disposable remnant of production, but as a valuable resource.

Reusing our by-products

To reduce our own waste, we recycle by-products of our production processes wherever possible, thereby reducing raw material usage and enhancing process efficiency. The main residual by-products from our production processes are baghouse fines (dust particles captured from the exhaust gases of cement kilns), overburden (excess quarry rock) and other internally sourced secondary materials such as product off-cuts.

These types of internal wastes can be recycled back into our production processes, for example, the use of baghouse fines in asphalt mixes, resulting in significant cost savings and a reduction in the quantity of raw materials used in production. In 2017, we diverted 2.2m tonnes of by-products from waste streams through these measures.

Recycling our waste

When it is not possible to recycle internally, our waste is sent for final disposal to licensed facilities. Approximately three quarters of the 2.3m tonnes of waste generated by our companies was externally recycled in 2017.

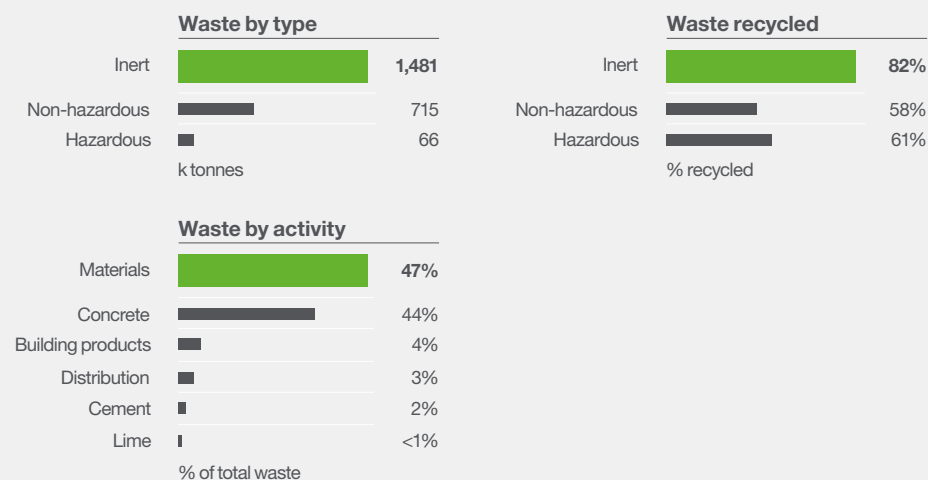
Developing the technologies and processes required for the efficient reuse of certain by-products in the most resourceful and cost effective way is an on-going challenge for our industry. We have a Group-wide target in place to ensure that at least 95% of our relevant businesses have waste reduction or recycling targets in place by 2020.

Waste Disposal

Waste from our production processes that is not recycled is incinerated or sent to landfill. 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.



Since 2004, Raboni, France, part of our Europe Distribution Division, has helped customers to recycle their construction waste in partnership with Paprec, a recycling company. Raboni operates recycling centres across the Île-de-France and Normandy regions, from where the waste is transported to Paprec treatment centres, using inland waterway transport where possible. Of the 100,000m³ of material collected each year, up to 80% is recycled by Paprec into raw materials for a variety of industries.



Protecting water resources

Water is a shared resource, the use of which can have impacts on communities and the wider environment. While we do not generally operate in water-stressed areas, we are committed to mitigating the impacts of our activities on water resources to the greatest possible extent. We also play a role in improving water resource management through application of our products, which include stormwater, wastewater treatment and other water-related products. We have a Group target in place that 75% of our relevant businesses will have water efficiency and quality programmes by 2020.

Water efficiency

In 2017, our companies used an estimated total of 95.3m m³ of water, up from 88.8m m³ in 2016. 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 2017 was estimated to be 23.4m m³, with 79% discharged to surface

water and the remainder to public sewers. Water discharge can be difficult to quantify because of the contribution of storm water and the limitations in metering.

Water was recycled at 801 of our locations during 2017, resulting in a decrease of water intake by 55%. This reduction in water intake is achieved in several ways, including the use of water from settlement ponds and the use of closed-loop systems installed in manufacturing processes.

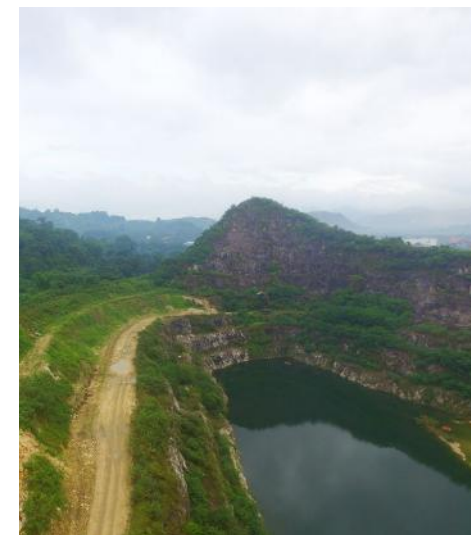
Water stress

We have carried out an assessment of our operations using the Global Water Tool developed by the World Business Council for Sustainable Development (WBCSD). A very low number of locations, less than 2% of all active locations, were identified within or close to areas of water stress and those businesses have measures in place to ensure water conservation and efficiency in processing in so far as is possible.

Water quality

We comply with stringent environmental regulations to ensure that our activities, in particular raw material quarrying, will not endanger local bodies of surface water and groundwater.

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.



Rapid development in the Philippines is putting heavy pressure on the country's water sources, like the Morong Watershed. In partnership with WWF, Republic Cement, a company in our Asia Division, is working hand in hand with local government units and local communities to develop a sustainable watershed management plan for the Morong Watershed area, where Republic Cement's Teresa Plant and quarry are located, to ensure its continued protection and conservation.

Water

Our stakeholders tell us

"Through the partnership with Republic Cement, WWF-Philippines is able to conduct studies and roll out programmes focused on watershed management to attain water security beyond its operations but with host communities as well. This involves community engagement and institutional building to sustain the initiative. This significantly contributes to WWF-Philippines' journey towards fulfilling its mission to stop, and eventually reverse the accelerating degradation of the Philippine environment."

Joel Palma, WWF-Philippines President

What's in place to manage it?

Properly managing our water use and discharge is an ongoing priority. We closely monitor our water use and discharge, invest in water recycling systems and ensure the quality of water discharge through appropriate treatment systems.

How are we performing?

We recycle water at 801 locations and have reduced our water intake by 55% compared with the volumes required had we not undertaken water recycling activities.

What are the challenges?

Although we do not generally operate in areas of water stress, water is an increasing global area of interest. Key focus areas include availability, access, hygiene and consumption efficiency.

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, our approach to the preservation of land and biodiversity is an integrated part of the way we operate. We strive to enhance natural habitats and promote a culture of appreciation and respect for biodiversity across our company locations.

Biodiversity Management Plans

Protecting biodiversity is an important factor when we consider any new operation process or expansion to extractive activities. Environmental impact assessments (EIAs) associated with permit applications require biodiversity management plans (BMPs) 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 BMP in line with best international practice by 2020.

Currently there are a total of 476 Group locations that are noted for their biodiversity, due to the variety of species and habitats or the presence of

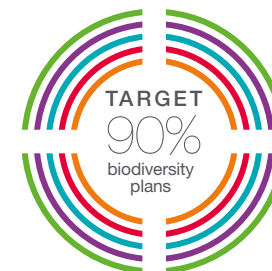
rare species of flora and fauna. In 2017, 80% of relevant locations in sensitive areas for biodiversity have BMPs in place. Many Group companies already implement award-winning BMPs and we want to roll out this approach further.

Mitigating against extractive activities

We aim first to avoid or minimise any impacts, and look to mitigate potential negative impacts, such as fragmentation of biodiversity corridors, impacts on water quality and disturbance of birds, animals and plants. We restore or rehabilitate disturbed ecosystems and respect offsetting principles around increasing biodiversity in other areas.

Extractive activities can create important habitats for rare species, such as sand martins and peregrine falcons. During the operating life of a quarry, we enhance 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).



In 2004 our Americas Materials Division established a partnership with the Wildlife Habitat Council, which helps corporations and other groups establish wildlife habitats. Certified projects have been developed at 15 facilities in 9 US and Canada, returning parts of the land to a natural state that fosters biodiversity and supports many plant and animal species.

Biodiversity

Our stakeholders tell us

"Biodiversity loss is one of the main environmental challenges that is facing our society today. Industries, and specially quarry companies that have direct impacts on nature, must actively contribute to reverse this trend. EQIOM, a CRH company, implements a specific programme on biodiversity issues, designed and implemented with IUCN France, to improve nature conservation on its sites and we encourage CRH to take further leading roles at national and international level on this major topic."

Sébastien Moncorps, France Director of IUCN, IUCN France

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?

80% of relevant locations in sensitive areas for biodiversity have BMPs in place. We can point to many examples of positive impacts through our work.

What are the challenges?

We face the challenge of progressing our production capacities to meet growing consumer demand without creating irreversible damage to the habitats in which we operate.

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

CRH is committed to protecting biodiversity and mitigating the environmental impacts of our operational activities. We believe that the most significant way to achieve this is through collaboration and partnerships with various international and national organisations to pool our resources to drive best practice in areas of high biodiversity. Examples of how we successfully collaborate for conservation solutions across our company locations are shown below:



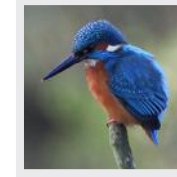
Tree swallow (*Tachycineta bicolor*)

Working with external organisations including Bird Studies Canada and Waterloo Stewardship Council, our Canadian aggregates business, Dufferin Aggregates, 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.



Peacock butterfly (*Aglais io*)

Northstone Materials Division in Northern Ireland, works closely with a range of conservation and local organisations to enhance biodiversity. This peacock butterfly was photographed close to Northstone's Croaghan Quarry.



Common kingfisher (*Alcedo atthis*)

Tarmac, our UK heavyside business, is a steward of Panshanger Park, Hertfordshire, a historic park and garden that surrounds an active quarry. By carefully planning the award-winning restoration of the quarry there for agriculture, wetland and nature conservation use, Tarmac has ensured that biodiversity, such as the common kingfisher, is thriving at the park.



Black swallowtail (*Papilio polyxenes*)

Through our Americas 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 black swallowtail caterpillar, are developing and thriving.



Nottingham catchfly (*Silene nutans*)

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 the nottingham catchfly flora.



Cattle egret (*Bubulcus ibis*)

Republic Cement works with various stakeholders and external organisations, including collaborations with the University of the Philippines and the World Wide Fund for Nature (WWF), with a view to enhance and promote biodiversity across all its operating sites. Many species thrive at Republic Cement quarry locations, such as the cattle egret, a migratory bird species which flocks at the water reservoir at the Bulacan Plant.



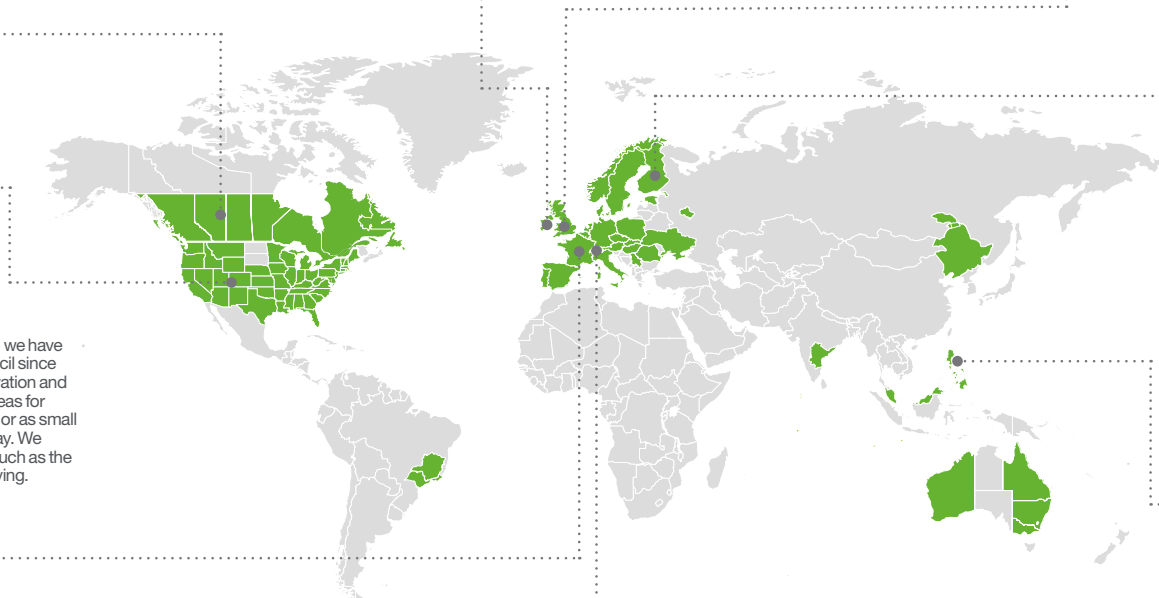
European green toad (*Bufo viridis*)

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 European green toad, and in turn EQIOM assists in several IUCN projects and initiatives.



European badger (*Meles meles*)

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 European badger searching for food before nightfall was taken at the Jura offices in Aarau, highlighting the biodiversity that inhabits and thrives at our company locations.



Preserving natural and cultural heritage

Restoration

Restoration and after-use form an integral part of the management of our extractive locations and activities. With over 1,400 quarries and pits, restoration planning is fundamental to our ambition to preserve natural and cultural heritage at our company locations.

We only extract worthwhile raw materials if they can be exploited in an environmentally compatible and economical manner. Once materials are fully extracted, we ensure areas are restored or another appropriate after-use identified. Restoration planning processes are carefully coordinated with appropriate permitting authorities, taking full account of the needs and legitimate concerns of local communities and stakeholders.

To ensure the protection and enhancement of biodiversity, we have set a target that 100% of relevant extraction site have a restoration management plan in place by 2020. 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, equivalent to the amount of land disturbed. In 2017, this amounted to 840 hectares.

Preserving local heritage

We make it a priority to conserve local heritage, recognising its importance to communities, nations and society as a whole.

When opening new extractive areas, our companies engage archaeologists to survey the area to ensure that no identified or potential archaeological or geological features are at risk from our activities. We are currently preserving cultural heritage at 103 company locations as part of relevant management plans, ranging from iron age structures, medieval buildings and remnants from World Wars.



Restoration and after-use form an integral part of the management of our extractive locations and activities.

Case Study



Restoration and biodiversity

The greatest threat to biodiversity is habitat destruction, however, the restoration of aggregates extractive locations is an excellent opportunity to develop and preserve a variety of habitats as well as provide open spaces for the community. To realise this opportunity, Rudus, part of our Europe Heavyside Division, implements its LUMO programme in collaboration with local stakeholders across Finland. A project within this involves a 32-hectare worked-out gravel pit in Ryttylä, South Finland, which has been assigned to Vuokon Luonnonsuojelusäätiö, a nature conservation trust. It will be a conservation area for the many endangered species and plants that thrive in the area. The aftercare plan includes for access by the local community for outdoor activities and a Frisbee golf course has already been created. The project is unique in Finland and is part of the Finnish Ministry of Environment's campaign 'Nature Gift to a 100 Year Old' in celebration of 100 years of Finnish independence in December 2017.

How we build a resilient and sustainable business

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.

Surfacing work undertaken by Idaho Materials & Construction (IMC), part of our CRH Americas Materials Division on a section of Interstate-84 (I-84) between Nampa and Caldwell, Idaho. Recent harsh winters caused the original surface to deteriorate and IMC completed a fast-track project that included milling out the existing surface, inlaying a base course and overlaying approximately 15km of highway.

Why is this important?

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.



9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



11 SUSTAINABLE CITIES AND COMMUNITIES



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



13 CLIMATE ACTION

We have integrated sustainability principles into our business model, focusing our efforts towards the delivery of the UN SDGs most relevant to our businesses. Our work towards building a resilient and sustainable business supports the above four UN SDGs.

What are the challenges?

We continued to deliver strong profit growth during 2017 through improved performance in our businesses. All of our companies are expected to exhibit increasingly responsible behaviour, with the challenge being to demonstrate this behaviour in more areas and to a wider array of stakeholders. As a global organisation, we need to ensure that our corporate governance standards are rigorously applied across all of our company sites, in line with local jurisdiction requirements.

What's in this section?

- Building a resilient business model
- Addressing sustainability topics across a diversified Group
- Upholding good business conduct
- Ensuring high standards of corporate governance
- Creating value through risk governance
- Creating economic value



Building a resilient business model

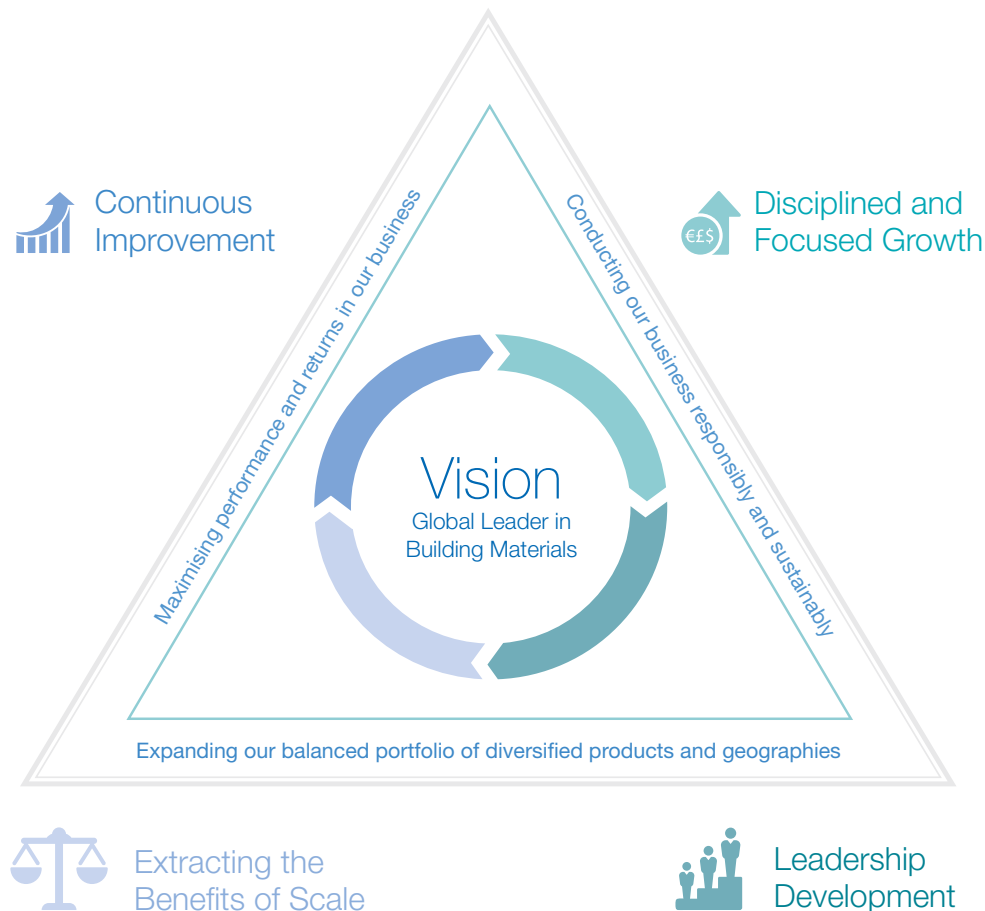
CRH has built a strong platform for growth through investment in our businesses and by acquisitions that broaden our geographical footprint and product portfolio. We must continue to create sustainable value as part of this growth and deliver superior returns for all our stakeholders. Being commercially sustainable, finding new sources of competitive advantage and attracting the best talent ensures our business can thrive in the long-term.

Our aim is to create sustainable value by providing industry-leading products and solutions to satisfy the construction needs of our customers around the world. 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.

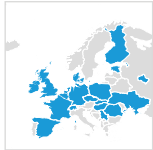
Our vision is, however, not simply about achieving size and scale. It is about ensuring we build resilient businesses that are the best at what they do, that create sustainable value for all stakeholders and that deliver growth for our shareholders. Our strategy to deliver this vision has been developed and refined over almost half a century.

By ensuring sustainability is one of the cornerstones of our business strategy, we aim to balance risk and return to deliver strong growth in the long-term while having a positive impact on people and the environment.

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.



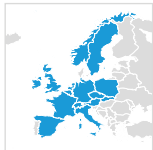
Addressing sustainability topics across a diversified Group



Europe Heavyside

Ken McKnight, President

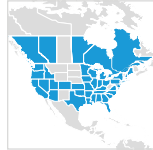
Our Europe Heavyside Division has market leading positions across a wide geographic footprint. Therefore, the overall performance of our Division is dependent on a vast array of local and regional metrics, including fluctuating market conditions, pressures from national governments, regulatory environments, overcapacity, import pressures and so on. Many of our customers and clients now have key buying criteria which involve firstly understanding our sustainability performance and how we are addressing key material issues in the various regions, but also making sure that we are performing well and constantly improving to meet their needs and those of their clients as well. There is also a new generation of employee coming through who want their business to be more than just a profit-making machine. So by having a strong safety and sustainability culture, it allows us to attract and retain the best talent.



Europe Lightside & Distribution

David Dillon, President

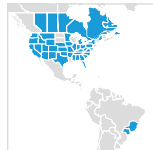
With Lightside & Distribution businesses in approximately 830 locations across Europe and Australia, we manufacture and supply high-value innovative products and solutions for customers in global construction markets. Considering the nature of our businesses and the wide geographic spread, material issues that impact Group performance range from weather conditions, the growth in construction markets in the various regions and the environment of export markets outside of Europe. Having sustainability as a core value ensures that there are sound environmental practices that will assist us in the futureproofing our businesses. Innovation is also a key driver of positive performance within the Lightside Division. In terms of operational effectiveness, using more recycled materials and removing virgin materials from our products takes costs out of our business.



Americas Products

Keith Haas, President

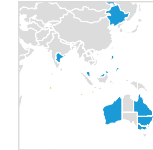
With nearly 350 locations across the US and Canada, our Americas Products Division is one of North America's leading suppliers of construction products. Some of the material issues that have had an influence on our Divisional performance have related to stronger labour markets and consumer confidence, as well as improved operational efficiencies, procurement initiatives, favourable weather conditions and brand strength. We want to be seen as an industry leader in every aspect of our operations and sustainability is a key aspect. We frequently engage with our customers in terms of our products and our solutions and how they perform. We actively participate in trade associations and interact with government agencies to move on the discussion of the sustainability agenda. Our sustainability approach strongly positions us to work as a bridge between industry and the communities we work in.



Americas Materials

Randy Lake, President

CRH Americas Materials is North America's leading vertically integrated supplier of aggregates, asphalt, cement, readymixed concrete and paving and construction services, with a foothold in approximately 44 states and 6 Canadian Provinces. Considering the nature of our activities, our approach to safety is our number one priority, with other key material issues often relating to energy costs, sustainable product innovation, and increasing the use of alternative materials through material optimisation. By implementing best practices and sustainable initiatives to address our material issues, it not only benefits our employees and their families, but it improves good community relationships, strengthens our competitive advantage and drives profitable, growth, making it a win-win situation for all.



Asia Pacific

Noel O'Mahony, Senior Vice President Asia

Our operations in Asia Pacific include strong market positions in cement markets in the Philippines, Northeast China and Southern India. These positions provide us with exposure to industrialisation, urbanisation and population related construction demand in Asia's developing countries. Performance in our Asia Pacific Division is largely dependent on fluctuations in levels of construction activities and overcapacity in the market, coupled with instabilities in the price for imported and exported clinker and cement. Considering that our operations in these countries are within a burgeoning market, and many of our plant locations are set within local communities in rural areas, it is of vital importance that our companies actively engage with local government units, NGOs and the local communities. Informing these key stakeholders of our continuous improvement processes in these regions allows us the opportunity to positively influence local legislation and collaborate with local communities in an inclusive and transparent way and contribute to their development.

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 set out in our Code of Business Conduct (CoBC). It ensures all our people understand what is expected of them when acting on behalf of the Company. The CoBC is underpinned by policies including Anti-Fraud & Anti-Theft, Anti-Bribery; Competition Code; Ethical Procurement; and the Supplier Code of Conduct.

Our vision of ethical leadership

We support and encourage ethical leadership and, as outlined by our Group Chief Executive 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 emphasises that management should foster an open culture of ethical behaviour driven from the top of the business, clearly

communicating to employees what is expected of them and equipping them with the tools they need to ensure compliance.

Raising concerns

CRH embraces a 'speak-up' culture where employees, contractors and others are encouraged to inform us immediately whenever they believe they see actual or suspected unethical behaviour or a possible breach of conduct.

Procedures for reporting a concern are outlined in our CoBC and internal mechanisms include contacting local line management and/or escalating up to Managing Director or other senior divisional management. Requests for advice and reported concern 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 multiple languages and people can track the progress of the investigation by logging into the Hotline system using their allocated code. Upon a concern being raised, it is assigned to the regional compliance manager who ensures it is passed to appropriate management for investigation. Overall responsibility for actions required following receipt of a Hotline concern lies with the Group Regulatory, Compliance and Ethics (RCE) function, managed by the Group RCE Director and Group Compliance Manager, together with the Senior Competition Counsel.

In 2017, a total of 365 concerns were raised globally. Of these:

- 77 allegations can be classified as suspected non-conformance with the CoBC
- 40 can be categorised as allegations of non-compliance with various company policies, procedures or internal controls
- The remainder of the concerns raised (248) were HR-related

All allegations are taken seriously and are fully investigated. In 2017, 31 proven incidents resulted in disciplinary action. Our response to proven allegations varies depending on the severity of the matter and all 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.



Colleagues from across CRH came together at our 2017 Regulatory, Compliance and Ethics Conference with a focus on 'OneCRH Stronger Together'.

Business conduct

Our stakeholders tell us

"The global regulatory landscape in which we operate is changing all the time. Aiming for world-class compliance means constantly scanning and preparing for changes, and implementing clear and robust measures that ensure, as a minimum standard, regulatory compliance across all our businesses, wherever they operate. All of our practices are geared towards achieving the highest levels of both legal and ethical compliance on a global scale."

Aisling Butler, Group Compliance Manager, CRH

What's in place to manage it?

Our CoBC and related policies and our Regulatory, Compliance & Ethics (RCE) Programme.

How are we performing?

Our processes indicate a high level of compliance with our policies and that potential deficiencies are being addressed. Our RCE programme continues to develop to cover our diverse global footprint in an increasingly demanding regulatory environment.

What are the challenges?

Businesses are expected to exhibit increasingly responsible behaviour in more areas and be accountable to an ever wider array of stakeholders.

What's next?

Compliance priorities for 2018 include a review and update of existing policies and codes, in particular the CoBC. This project will take external benchmarking and stakeholder feedback into consideration, to ensure we continue to meet the needs of our business and international best practice.

Upholding good business conduct-continued

Employee training

We require all new employees to complete our CoBC training upon joining CRH. In addition, employees working in higher risk areas undertake annual online training as well as face-to-face Advanced Compliance Training (ACT) on policies covering Competition, Anti-Bribery and Anti-Fraud/Anti-Theft principles on a 3-year cycle. Of the employees receiving ACT, 39% were Managerial, 41% were Clerical/Administrative and 20% Operational.

We regularly review our training and communications material – and methods for delivery – to ensure that they remain relevant to the risks our employees face in their roles. The Group RCE function retains oversight to ensure training targets are met globally.

The CoBC and its policies are currently available in 23 languages and are reviewed and updated on an ongoing basis to ensure a user-friendly experience. We are working towards our 2020 target to ensure 95% of the relevant employees received both CoBC and ACT training, either online or in classroom sessions. In addition we are focusing on ensuring all employees understand their responsibilities with regard to General Data Protection Regulations (GDPR).

Managing compliance risk

We have a robust programme in place to build on our compliance capacity across the business and to ensure we comply with laws and regulations in the markets where we operate. Mitigation against corruption risk is achieved through annual training, guidance and codes. This is supported through our network of country compliance managers.

Risk workshops attended by a selection of cross-functional senior management are conducted

throughout the year by Group Risk, facilitating meaningful discussions around management's view of risks including corruption and allowing for a coordinated approach with Group Risk and Group RCE.

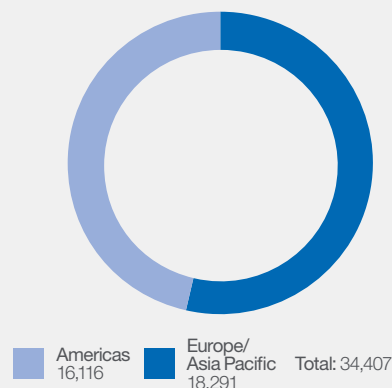
Investigations and proceedings

There were no investigations from external parties into allegations of corruption against CRH or any of its group businesses in 2017. 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. 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.

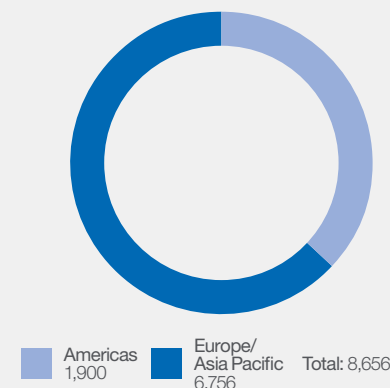
Some Group companies are party to legal proceedings, including some in which claims for damages have been asserted against the companies. Having taken appropriate advice, we believe that the aggregate outcome of such proceedings will not have a material effect on the Group's financial condition, performance 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 €29 million (2016: €32 million) is recorded in the Group's Consolidated Balance Sheet.

Employees trained in CoBC 2017



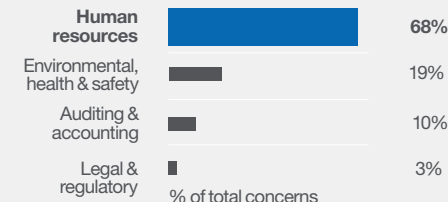
Employees trained in ACT 2017



Concerns reported to RCE



Concerns reported to RCE by type 2017



Ensuring high standards of corporate governance

Good corporate governance defines ownership and accountability for addressing key compliance risks and underpins the ability of our Board to address the challenges and opportunities that arise in our changing environment. We are widely recognised as a leader in corporate governance and 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 2017 Corporate Governance Report on pages 62-71 of the 2017 Annual Report and Form 20-F and in the Governance Appendix (both documents are available on www.crh.com)

The Board

As stewards of CRH, our Board is responsible for the leadership, oversight, control, development and long-term success of the Group. The Board works with management to consider specific issues relevant to the overall conduct of our businesses, such as strategy, safety, geopolitical issues, sustainability updates, annual budget and major acquisitions and disposals.

As of 1 March 2018, there are two executive and nine non-executive Directors on the CRH Board, 27% of which are women. The independence of non-executive Directors is considered annually and the Board has determined that each non-executive Director is independent. The spread of nationalities of the Directors reflects the geographical reach of the Group and we consider that the Board as a whole has the appropriate blend of skills, knowledge and experience, from a wide range of industries, regions and backgrounds, necessary to lead the Group.

In 2017, there were 6 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 are the Acquisitions Committee, the Audit Committee, the Finance Committee, the Nomination & Corporate Governance Committee and the Remuneration Committee. In addition, a Safety, Environmental & Social Responsibility Committee will be set up during 2018. The Chairman of each Committee reports to the Board on its deliberations and minutes of all Committee meetings are circulated to all Directors. The Chairmen of the Committees also attend the Annual General Meeting where they are available to answer questions from shareholders. The current membership and terms of reference of each Committee are available on our website.

Board renewal, development and evaluation

Our Directors are committed to ensuring that the Board is diverse and appropriately balanced in terms of international business experience, knowledge, skills, gender and nationality.

All newly appointed Directors receive extensive briefing materials and the Chairman agrees an individually-tailored and comprehensive induction programme. Individual Director performance is reviewed annually by the Chairman.

A review of Board effectiveness is carried out by the Senior Independent Director on an annual basis. This review takes into account the operation and performance of the Board and its Committees, and the effectiveness of Board communications. This annual process is supplemented with an external evaluation by an external provider every three years.



Further detailed information on corporate governance may be found in the 2017 Annual Report and Form 20-F, as well as the Governance Appendix, both of which are available on www.crh.com.

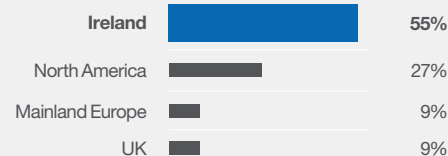
Board membership - Independence



Board membership - Gender Diversity



Board membership - Geographical Spread



Board Membership - Tenure of non-executive Directors (excluding Chairman)



Ensuring high standards of corporate governance - continued

Sustainability governance

Our sustainability strategy is fully integrated with key Board priorities. 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 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 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.

The Group Chief Executive has overall responsibility for CRH's sustainability performance and ensuring that our Sustainability and CSR policies are implemented in all business lines. Sustainability performance is reported as a formal Board Agenda item.

Compliance

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

In 2017, we implemented the 2016 UK Corporate Governance Code and complied with its provisions.

Typical Board agenda items

Recurring items on each agenda:

- Minutes
- Board matters (including Board Committee updates)
- Trading results
- Acquisitions/Divestments/Capital Expenditure Projects

Periodic agenda items during the year:

- Strategic planning, Group strategy and Divisional strategy updates
- Group budget
- Full-year/interim financial results and reports
- Investor interaction and feedback
- Performance review of acquisitions against the original Board proposal following three years of Group ownership
- Funding proposals
- Human resources and succession planning
- Risk management and internal controls
- Regulatory, Compliance & Ethics
- Health and safety review, with a particular focus on the Group's fatality elimination programme
- Environmental review

Creating value through risk governance

Enterprise Risk Management (ERM) plays a critical role in how we respond to a world full of increasing uncertainty and competition. 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 and is fully integrated into our risk management culture and utilised in strategic decision making processes.

We understand the importance of creating a robust top-down and bottom-up 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 incorporated into our ERM processes and assessed on an ongoing basis. Through this assessment, we establish priorities and opportunities, focusing on the risks most relevant to our operations worldwide.

ERM in practice

We recognise that strong risk management practices can be a competitive advantage - as is highlighted by the integration of our ERM framework into our strategy and performance agendas, thereby allowing ERM to be a value creation activity.

Risks are identified and assessed continuously as the relevant economic, social or political landscape changes, along with changes to the business or the markets in which the business operates. This ensures that management are constantly monitoring their exposures and

prioritising the management of those risks which could result in significant value erosion.

To ensure consistent application of our ERM framework, we run formal ERM workshops throughout our businesses. 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. At Group level, regular formal materiality assessment processes inform risk prioritisation.

Sustainability risks and opportunities

Our ERM process also allows our businesses to focus on the upside of risk and assess viable value creation activities. An example of where this has been achieved is addressing the risk of changing consumer preferences, moving towards the green agenda, by becoming a leader in sustainable building products.

We will continue to identify and manage emerging risks and look for ways to turn them into

opportunities where we can, as in doing so, we believe we will continue to strengthen both our business and our reputation.

Transparency

The Group-level Risk Register is compiled by the Group Risk function and identifies those risks which may impede the realisation of core strategic objectives. The risks listed on pages 102 to 107 of the Annual Report and Form 20-F constitute this register, which forms the basis of Board and Audit Committee communications and discussions.

CRH Risk Management Framework Our Three Lines of Defence



Creating economic value

Our business model is centered on making our core businesses better through continuous improvement so that they realise their full potential and create further value. This is in addition to a continuous focus on identifying and acquiring strong businesses that complement our existing portfolio of building materials businesses and add value for our stakeholders.

By balancing our portfolio across geography, product, sector and end-use, we seek to ensure the Group is protected from the impact of low demand at the bottom of any one economic cycle. The recycling of capital into areas offering better returns and/or superior growth is deeply embedded into our business model. In this way, we constantly monitor how capital is deployed to create maximum long-term value.

Our focus on maintaining strong financial discipline and cash generation allows us to further invest in our businesses and to take advantage of opportunities for value-adding investments 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. 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 2017, we recorded total disposal proceeds of €222 million and spent €1.9 billion on bolt-on acquisition and investment transactions.

This included the acquisition of Suwannee American Cement in Florida and Fels, a leading European lime producer. In addition, we announced an agreement to purchase Ash Grove Cement, a leading cement producer in the United States (US), which is due to close during 2018 and we completed the sale of our Americas Distribution business on 2 January 2018 for

proceeds of US\$2.6 billion. These transactions position the Group to pursue further growth opportunities in key markets.

Economic Value CRH created for stakeholders in 2017 included:

- EBITDA €3.3 billion (as defined)*
- €1.9 billion profit after tax
- 226.8c EPS
- 10.6% RONA*
- 85,000 employees
- €474 million in taxes

*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. EBITDA from continuing and discontinued operations was €3.3 billion in 2017.

*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.



Rudus, a company within our Europe Heavyside Division, delivered 5,000 m³ concrete to the Laitaatsalmi bridge project, which at 500 metres in length is the longest prestressed concrete bridge in Finland. The concrete was produced using CEM II cement and the maximum amount of blast furnace slag was used as mineral additive.

Economic value creation

Our stakeholders tell us

"Investors and other stakeholders expect CRH's leaders to generate and protect economic value in a changing world by comprehensively integrating sustainability into its core business strategy. The company is well placed to do this, with exciting opportunities to deliver sustainable solutions for the built environment and drive innovation in materials, processes and business models."

Penny Shepard MBE, Chair of the Tarmac External Independent Sustainability Panel and former Chief Executive of the UK Sustainable Investment and Finance Association

What's in place to manage it?

We balance our business portfolio across geographies, products, sectors and end-use to protect the Group from potential impacts at the bottom of any one economic cycle.

How are we performing?

We delivered a strong performance again in 2017 with revenues increasing 2% to €27.6 billion and record EBITDA* of €3.3 billion (continuing and discontinued operations). We demonstrated our efficient allocation of capital with the divestment of our Americas Distribution business and the acquisition of several companies, positioning us for future growth.

What are the challenges?

Challenges include ensuring that capital is continuously recycled from low growth areas into higher growth parts of our business that offer the potential for stronger growth and returns.

What's next?

Successful integrating of our most recent acquisitions into the Group business model to ensure that we create economic value for our shareholders.

Our sustainability performance

Our culture is based on our core philosophies of transparency and fairness, and on our belief that “there is never a good business reason to do the wrong thing”. Ensuring we report on the breadth of our sustainability ambitions and performance in a clear and comprehensive way is essential to put these philosophies into action.

We report on our sustainability performance through:

- Our reporting history, scope and basis
- Our materiality assessment performance
- Our external recognition and benchmarking
- Our data in summary
- Our GRI index



Farrans, a Building and Civil Engineering division of Northstone, which is part of our Europe Heavyside Division, delivered Harburnhead Windfarm in Scotland ahead of schedule in 2017. The 52MW, 22 turbine ‘Balance of Plant’ contract included civil engineering and electrical infrastructure components, as well as major forestry works. Farrans has been involved in the construction of windfarms that produce more than 800MW of renewable energy across the United Kingdom.

Our reporting history, scope and basis

History

We published our first report on our sustainability performance in October 2004.

This Sustainability Report, published in 2018, covers our activities during 2017. It is CRH's 15th 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 85-86.

Global Reporting Initiative (GRI)

We have voluntarily adopted sustainability reporting guidelines developed by GRI and our 2017 report is prepared in accordance with the GRI Sustainability Reporting Standards (comprehensive level). The GRI content index is provided from page 78.

Reporting scope and basis for reporting

This report is based on data from 100% of our subsidiaries covering the calendar year 2017. Our principal subsidiaries are listed on pages 246-250 of the CRH Annual Report and Form 20-F 2017. In common with other large companies, we also hold shares in joint ventures and associates; a list of principal joint ventures and associates is provided on page 251 of the CRH Annual Report and Form 20-F 2017. 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 3,600 locations spread across 32 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 pages 71-72).

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.

In general, administration buildings are not included in environmental data, as these are not material contributors - they would contribute to less than 0.01% of emissions, waste and resource use. Our now-divested Americas Distribution business is included in 2017 data. Data from 2017 acquisitions is included from the date of acquisition where possible; data for Fels, acquired in October 2017 and Suwannee American Cement, acquired in November 2017, is not included; similarly Ash Grove Cement, the conclusion of which is subject to regulatory approval, is not included.

Calculation methodologies

For reporting CO₂ emissions from cement activities, we use the WBCSD Cement Sustainability Initiative 'Cement CO₂ and Energy Protocol, Version 3.1, CO₂ Emissions and Energy Inventory'. In this methodology, CO₂ from biomass fuels is considered climate neutral. We calculate CO₂ 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 (published in 2016) and eGRID emission factors (published in 2017). CO₂ 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 76 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 US EPA 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.

For reporting of water we used the WBCSD CSI 'Protocol for Water Reporting for the Cement Industry'. For reporting of accidents and fatalities,

we use the CSI Guidelines 'Safety in the Cement Industry: Guidelines for Measuring and Reporting'.

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.

Reporting challenges

Our reports are written for our stakeholders, but with global and local stakeholders in 32 countries, expectations for our communications vary significantly. In addition to this, our diversified business means that the internal and external context for sustainability is complex. To meet these challenges, we focus on stakeholder inclusiveness, which, together with our materiality and risk management processes, help us ensure we cover key areas in a complete and balanced way in our sustainability reporting.

Sustainability reporting is evolving with revisions to reporting standards and changing best practices, and we want to be at the forefront of these. During 2017, we provided comment to several sustainability reporting standard bodies. Looking to the future, we aim to continuously improve our reporting and communications on sustainability so that all stakeholders are aware of our value-adding approach.

Our materiality assessment processes

Defining 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 identify our stakeholders through stakeholder profiling and stakeholder mapping exercises.

Our processes

We use a range of internal and external processes to identify the ESG issues that are relevant to our

business, society and key stakeholders. These include annual sustainability reporting by our businesses to Group CSR & Sustainability, review of issues raised through ERM processes and regular formal materiality assessment reviews.

In 2016, we carried out a new formal 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 international best practice and the Global Reporting Initiative G4 Sustainability Reporting Guidelines.

As an international diversified business, certain sustainability topics are more relevant for different activities and geographies. For example, the topic of carbon is most relevant to our cement and lime businesses, while the market for sustainable products is more developed in certain European countries. The relevance of other sustainability

topics did not vary by either geography or activity, including the top three topics: safety, economic value creation and business conduct. Throughout the process, the diversification of CRH in terms of businesses and geographies was addressed so that a global view could be reflected.

Identifying topics	Hearing the stakeholder voice	Prioritising	Validation	Outcomes	Next steps
A listing of environmental, social, governance and economic issues was developed as a starting point. The definition of each issue was set out.	Stakeholders were engaged in a variety of means: <ul style="list-style-type: none"> Through interview and an online survey, stakeholder groups covered included: <ul style="list-style-type: none"> Customers Suppliers Government Investors and shareholders Media Responsible investment Industry associations Sustainability specialists CRH employees CRH management NGOs Through desktop research Through workshops with internal stakeholders 	Results and data were collated and an issues register developed. Against each issue, scores of high, medium and low were assigned based on the results of the internal and external stakeholder engagement. For the "impact on CRH", this included relevance for: <ul style="list-style-type: none"> Long-term organisational strategy Competitive position Financial value drivers 	Multi-step validation process included: <ul style="list-style-type: none"> Comparison with CRH Risk Register Validation of process and outcomes by senior management Final review of outcomes by Group executive management 	Informed: <ul style="list-style-type: none"> Sustainability reports content and structure Continuous improvement in our sustainability approach Stakeholder engagement processes Identification of impacts to value chain and geographical regions 	Updating our formal materiality assessment as we look to <ul style="list-style-type: none"> Our post 2020 targets Further integration with SDGs and other global initiatives Further evaluating externalities Continuously improving our stakeholder engagement processes Long-term value creation

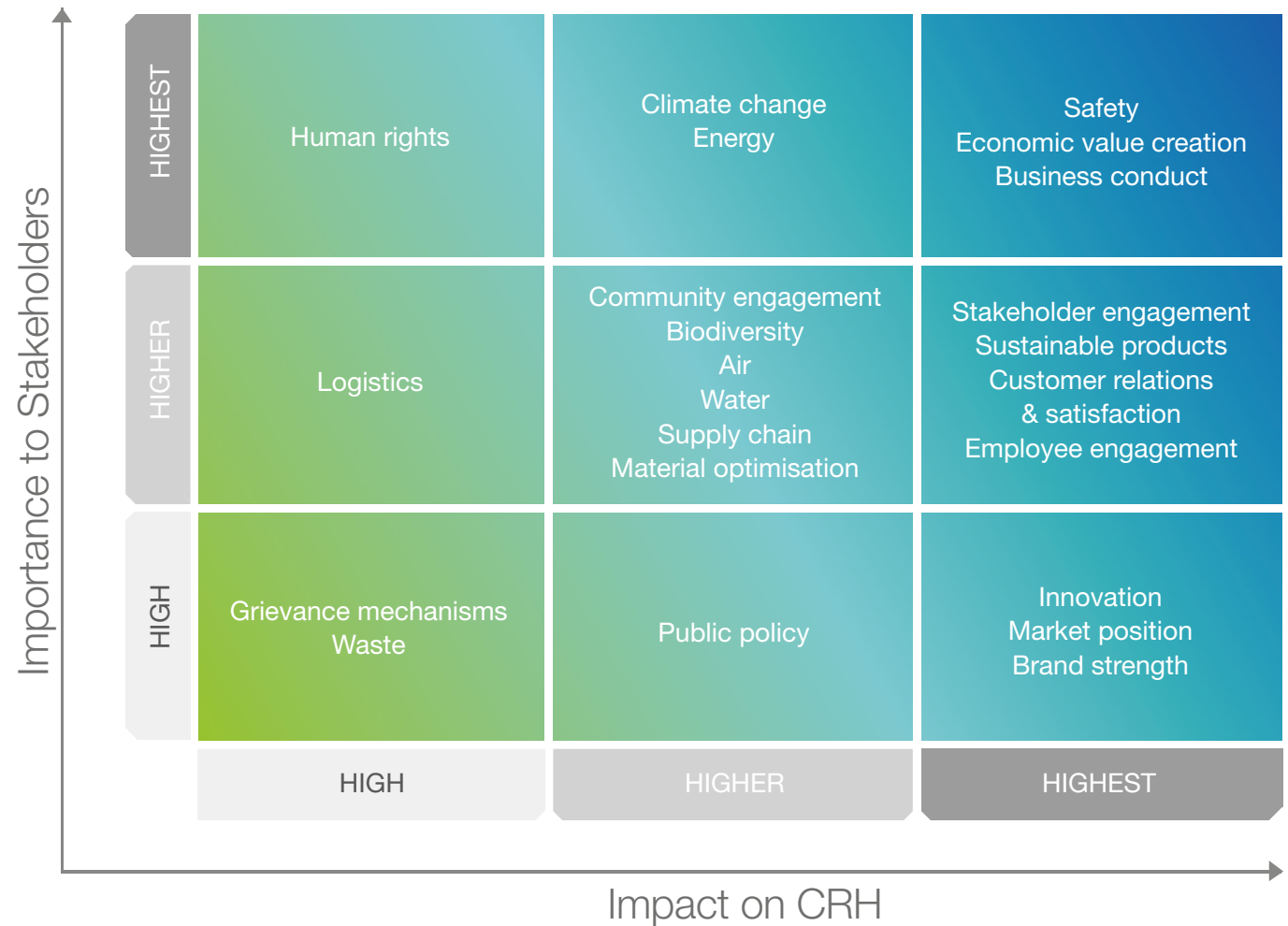
Our materiality assessment processes - continued

Outcomes

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.

Our assessment informs our sustainability reporting and other activities. This helps us to focus our short-term objectives and long-term ambitions with the overall aim of meeting our goal of creating long-term value for our stakeholders.

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, as described throughout this report.



Our external recognition and benchmarks



CRH continues to be included in the FTSE4Good Index.



In March 2018, CRH was reconfirmed as a constituent of the Ethibel Sustainability Index (ESI) Excellence Europe and the Ethibel Sustainability Index (ESI) Excellence Global.



In its December 2017 review, Vigeo Eiris maintained CRH in its Eurozone 120 and Europe 120 indexes. These indexes distinguish companies achieving the most advanced Environmental, Social and Governance performance.



In January 2018, CRH maintained its place in the ECPI® Indices which are based on environmental, social and governance data.



2017 Constituent
MSCI ESG
Leaders Indexes

CRH was included in the MSCI ESG Leaders Indexes (formerly MSCI Global Sustainability Indexes) and MSCI ACWI SRI Index in 2017.

(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.



In its September 2017 Review, CRH was included in the Dow Jones Sustainability Indexes. These are best-in-class benchmarks tracking the performance of the world's leading companies in terms of economic, environmental and social criteria.

In January 2018, CRH received the Bronze Class and Industry Mover distinctions from RobecoSAM for its excellent sustainability performance.

Other bodies

At operating company level, our businesses won nearly 900 external awards for environmental and safety performance.

Our data in summary

Description	2017	2016	2015	Comment
Social				
Safety				
Number of fatalities (directly employed)	0	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Fatality rate per 10000 (directly employed)	0	0	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of fatalities (indirectly employed)	1	1	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of fatalities (involving 3rd parties)	0	2	0	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of lost time injuries (directly employed)	18	18	15	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of lost days (directly employed)	594	444	409	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
LTI rate per 1m man hours (directly employed)	1.19	1.34	1.93	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Severity rate per 1m man hours (directly employed)	39	33	53	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Severity rate per 1m man hours (directly and indirectly employed for all Group subsidiary companies)	45	51	47	
Number of lost time injuries (indirectly employed)	27	24	11	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Lost time injuries per 1m manhours (indirectly employed)	1.14	1.18	1.36	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Employment				
New employees by region				
America	57%	56%	58%	
Europe	42%	43%	39%	
Asia	1%	1%	3%	
New employees by gender				
Male	83%	82%	82%	
Female	17%	18%	18%	
Employee turnover by gender				
			p. 55	
Male	83%	82%	85%	
Female	17%	18%	15%	
Length of service				
<1 year	17%	16%	15%	
1-4 years	27%	26%	27%	
5-9 years	15%	17%	17%	
10-14 years	14%	14%	13%	
15-19 years	10%	10%	10%	
20-24 years	7%	7%	7%	
>25 years	10%	10%	11%	
Employees by category				
Operations	69%	69%	69%	
Clerical/Admin	19%	20%	20%	
Management	12%	11%	11%	
Training and Education				
Employee Training by Category (% of total training hours)				
Operations	73%	69%	73%	
Clerical/Admin	14%	19%	14%	

Description	2017	2016	2015	Comment
Social				
Training and Education continued				
Management	13%	12%	13%	
Percentage of employees receiving career development reviews				
Operations	25%	26%	19%	
Clerical/Admin	32%	21%	28%	
Management	43%	53%	48%	
Local Communities				
Donations				
Civic & Community	49%	41%	42%	
Other	14%	16%	20%	
Community Development & Environment	19%	22%	17%	
Education & Research	13%	17%	13%	
Arts & Culture	4%	3%	5%	
Job Creation	1%	1%	3%	
% of sites with community engagement plans in place	85%	73%	84%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details.
Environmental				
Energy				
Energy efficiency (kcal per kg of clinker)	876	886	855	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
% fuel substitution for virgin fuels	38.6%	33.4%	33.9%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
% biomass in kiln fuel	11.1%	10.6%	12.1%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
Emissions				
Total gross CO ₂ emissions (million tonnes)	23.3	22.8	22.6	CSI KPI for Climate Change for cement plants only. Refer to note 2 for details.
Total net CO ₂ emissions (million tonnes)	21.4	20.9	20.8	CSI KPI for Climate Change for cement plants only. Refer to note 2 for details.
Specific gross CO ₂ emissions (kg per tonne of cementitious product)	624	630	622	CSI KPI for Climate Change for cement plants only. Refer to note 2 for details.
Specific net CO ₂ emissions (kg per tonne of cementitious product)	572	578	573	CSI KPI for Climate Change for cement plants only. Refer to note 2 for details.
Renewable electricity purchased by CRH	828 GWh	771 GWh	396 GWh	
Total air emissions				
Total NO _x (tonnes)	38.5k	40.2k	28.5k	
Total SO _x (tonnes)	13.6k	20.9k	8.9k	
Total Particulates (tonnes)	5.8k	7.6k	2.8k	
NO_x by Activity (%)				
Cement	94%	89%	91%	
Materials	4%	9%	7%	
Lime	1%	1%	1%	
Concrete	1%	1%	1%	
Clay	na	na	<1%	
Building Products	<1%	<1%	<1%	
Particulates by Activity				
Cement	58%	74%	50%	
Materials	33%	21%	37%	
Lime	3%	3%	7%	
Concrete	5%	2%	4%	
Clay	na	na	2%	
Building Products	1%	<1%	<1%	

Description	2017	2016	2015	Comment
Environmental				
Emissions continued				
% clinker produced with monitoring of major and minor emissions	86.2%	88.0%	91.6%	CSI KPI for Emissions Monitoring. Refers to cement plants only. See note 2 for details.
% clinker produced using continuous monitoring of major emissions	94.8%	100.0%	78.0%	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)	46	97	65	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	1,334	2,635	1,739	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.8%	100.0%	78.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
NO_x				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Specific (g per tonne of clinker)	1,368	1,327	1,279	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	39,391	36,042	34,336	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.8%	100.0%	78.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
SO_x				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Specific (g per tonne of clinker)	477	497	384	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	13,732	13,487	10,294	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.8%	100.0%	78.0%	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
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)	49	55	28	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	1,095	1,120	513	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	77.9%	75.2%	68.3%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
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)	54	33	23	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (mg per year)	1,218	631	422	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	78.5%	69.7%	68.0%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
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	24	26	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	553	507	496	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	81.8%	78.2%	70.3%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
HM1 (sum of cadmium and thallium and their compounds expressed as cadmium and thallium)				CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Specific (mg per tonne of clinker)	65	10	10	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	1,431	209	190	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	76.7%	77.0%	68.0%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
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)	292	326	263	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	6,275	6,659	4,649	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	74.5%	75.2%	66.0%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Water				
Total water intake	95.3m m³	88.7m m³	54.5m m³	
Water withdrawal by source (%)				
Quarry water	27%	34%	33%	
Surface water	25%	27%	31%	
Groundwater (well)	30%	27%	19%	
Utility (mains)	9%	9%	13%	

Description	2017	2016	2015	Comment
Social				
Water continued				
Rainwater	9%	3%	4%	
Water Intake by Activity (%)				
Materials	78%	74%	73%	
Cement	17%	20%	18%	
Concrete	3%	4%	5%	
Lime	1%	1%	3%	
Building products	1%	1%	1%	
Clay	na	na	<1%	
Total water withdrawal by source	16.9m m³	18.3m m³	11.0m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Surface	6.9m m³	8.0m m³	4.4m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Groundwater	5.4m m³	4.9m m³	3.1m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Quarry	2.5m m³	3.6m m³	2.2m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Utility	1.0m m³	1.2m m³	0.8m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Rain	1.1m m³	0.6m m³	0.5m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Total water consumption (GWT for Cement Sector)	8.4m m³	9.7m m³	5m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
% of sites with a water recycling system(1)	41%	40%	22%	CSI KPI for Water. Refers to cement plants only. See note 3 for details.
Materials				
Materials used by weight or volume (total)(tonnes)	455m	430m	359m	
Virgin raw materials (tonnes)	375m	350m	275m	
Associated process materials (tonnes)	8m	8m	5m	
Semi-manufactured components (tonnes)	42m	45m	54m	
Packaging materials (tonnes)	188k	185k	140k	
Alternative raw materials (tonnes)	30m	27m	24m	
% alternative materials (clinker and cement)	14.9%	13.9%	14.7%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
clinker : cement ratio	77.5	76.5	74.5	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
Effluents and Waste				
Water discharge by quality and destination	23.4m m³	22m m³	19m m³	
% Discharged to surface water	79%	86%	81%	
% Discharge to public sewer	21%	14%	19%	
Total water discharge by destination	8.5m m³	8.6m m³	6m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Surface water	8.1m m³	8.5m m³	5.9m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Public Sewer	0.4m m³	0.1m m³	0.1m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Other	<0.1m m³	<0.1m m³	<0.1m m³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Waste by type and disposal method (total)(tonnes)	2.3m	1.9m	1.2m	
Inert waste (tonnes)	1.5m	1.3m	931k	
Non-hazardous waste (tonnes)	715k	473k	339k	
Hazardous waste (tonnes)	66k	48k	23k	
Local Impacts				
% of active sites with quarry rehabilitation plans	85%	83%	95%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details.
Number of active quarries within, containing or adjacent to areas designated for their high biodiversity value	25	23	19	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details.
% of sites with high biodiversity value where biodiversity management plans are actively implemented	68%	70%	74%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details.

NOTES: Data refers to Subsidiaries on a 100% basis unless otherwise stated. Refer to www.wbcsdcement.org for definitions of CSI KPIs.

(1) KPIs for Climate Change, Alternative Fuels & Materials, Emissions, Minor Emissions and Water (with an exception) 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.

Our GRI index

Where relevant, GRI Standards 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 2017 Annual Report and Form 20-F. GRI data covers all Group subsidiary companies, on a 100% basis. For details on external assurance conducted by DNV GL please see pages 85-86.

GRI Code	Description	Reference	Comment
General Disclosures			
Organizational Profile			
102-1	Name of the organization	p. 78. See comment	CRH plc.
102-2	Activities, brands, products and services	p. 2, 8, 9, 30, 31	
102-3	Location of headquarters	p. 78. See comment	Dublin, Ireland.
102-4	Location of operations	p. 2; AR p. 246-251	
102-5	Ownership and legal form	p. 2, 78. See comment.	CRH is a public limited company, incorporated in Ireland.
102-6	Markets served	p. 2; AR p. 246-251	
102-7	Scale of organization	p. 2, 37, 62, 68; AR p. 2, 3, 4, 24, 32-53	
102-8	Information on employees and other workers	p. 37, 38, 78. See comment	Note that 52% of employees are employed on permanent contracts, 6% on fixed term contracts, 1% on temporary contracts and 41% on another basis. As only 1% of staff are on temporary contracts, it is estimated that the standard gender breakdown - 17% female - applies to both permanent and temporary staff. It is estimated that 35% of part-time staff are female, while 17% of full-time staff are female. Note that the data in the chart on page 37 includes both permanent and temporary employees.
102-9	Supply chain	p. 10-12, 42	
102-10	Significant changes to the organisation and its supply chain	p. 78. See comment	No significant changes.
102-11	Precautionary approach or principle	p. 67, 71, 72, 78. See comment	CRH takes sustainability considerations at operational level when developing and introducing products.
102-12	External initiatives	p. 9, 22, 26, 29, 32, 37, 45, 49, 58	
102-13	Membership of associations	p. 22, 29, 32, 37, 58	
Strategy			
102-14	Statement from most senior decision-maker	p. 3	
102-15	Key impacts, risks and opportunities	p. 61, 71, 72	
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behaviour	p. 63, 64	
102-17	Mechanisms for advice and concerns about ethics	p. 63	
Governance			
102-18	Governance structure	p. 65; AR p. 59-61	
102-19	Delegating authority	p. 65, 66; AR p. 59-61	
102-20	Executive-level responsibility for economic, environmental and social topics	p. 66	
102-21	Consulting stakeholders on economic, environmental and social topics	p. 35, 40, 41; AR p. 70, 71	
102-22	Composition of the highest governance body and its committees	p. 65; AR p. 59-61, 67, 68	
102-23	Chair of the highest governance body	p. 65; AR p. 59, 62	
102-24	Nominating and selecting the highest governance body	p. 65; AR p. 62, 63	
102-25	Conflicts of interest	p. 65, 66; AR p. 62, 63, 67, 68	
102-26	Role of highest governance body in setting purpose, values and strategy	p. 65, 66; AR p. 20, 21, 68	
102-27	Collective knowledge of highest governance body	p. 65, 66; AR p. 59-61, 67-69	
102-27	Collective knowledge of highest governance body	p. 65, 66; AR p. 59-61, 67-69	
102-28	Evaluating the highest governance body's performance	p. 65; AR p. 59-61, 67	For further details of the Board Effectiveness Review, refer to the Governance Appendix, available on www.crh.com
102-29	Identifying and managing economic, environmental, and social impacts	p. 18; AR p. 20, 21	

GRI Code	Description	Reference	Comment
General Disclosures			
Governance continued			
102-30	Effectiveness of risk management processes	p. 66, 67; AR p. 20, 21	
102-31	Review of economic, environmental and social topics	p. 13; AR p. 17, 20, 21	
102-32	Highest governance body's role in sustainability reporting	p. 70	
102-33	Communicating critical concerns	p. 63, AR p. 59-61	
102-34	Nature and total number of critical concerns	p. 79. See comment	Confidentiality concerns: CRH does not disclose the minutes of Board meetings as this may include commercially-sensitive information.
102-35	Remuneration policies	AR p. 72-95	
102-36	Process for determining remuneration	AR p. 72-95	
102-37	Stakeholder's involvement in remuneration	AR p. 72-95	
102-38	Annual total compensation ratio	p. 79. 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.
102-39	Percentage increase in annual total compensation ratio	p. 79. 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.
Stakeholder Engagement			
102-40	List of stakeholder groups	p. 40, 41	
102-41	Collective bargaining agreements	p. 43	
102-42	Identifying and selecting stakeholders	p. 40, 41, 71, 72	
102-43	Approach to stakeholder engagement	p. 12, 39-42, 44, 45, 71, 72	
102-44	Key topics and concerns raised	p. 10-12, 39-42, 44, 45, 71, 72	
Reporting practice			
102-45	Entities included in the consolidated financial statements	AR p. 246-251	
102-46	Defining report content and topic Boundaries	p. 70-72	
102-47	List of material topics	p. 71, 72	
102-48	Restatements of information	p. 79. See comment	No reinstatements.
102-49	Scope or aspect boundary changes	p. 79. See comment	No significant scope or boundary change.
102-50	Reporting period	p. 70	
102-51	Date of most recent report	p. 70	
102-52	Reporting cycle	p. 70	
102-53	Contact point for questions regarding the report	Back cover	
102-54	Claims of reporting in accordance with the GRI Standards	p. 70, 85	
102-55	GRI Content index	p. 78-84	
102-56	External assurance	p. 85	
GRI 200 Economic Topics			
GRI 201 Economic Performance			
103-1	Explanation of the material topic and its Boundary	p. 2, 3, 4, 18, 60-62, 68; AR p. 1-3	
103-2	The management approach and its components	p. 2, 17, 18, 60-62, 65, 66, 68, 70; AR p. 59-61	
103-3	Evaluation of the management approach	p. 2, 17, 18, 60-62, 65, 66, 68, 70; AR p. 59-61	
201-1	Direct economic value generated and distributed	€27.6 billion sales (p. 30; AR p. 1-3). See comment	CRH discloses financial information in the Annual Report and the Annual Report Form 20-F in line with International Financial Reporting Standards (IFRS). Our discontinued operations Americas Distribution employed approximately 3,900 people, across over 200 locations in 31 US states in 2017. Revenue from continuing and discontinued operations was €27.6 billion.
201-2	Financial implications and other risks and opportunities due to climate change	p. 48-51; AR p. 19, 104	
201-3	Defined benefit plan obligations and other retirement plans	p. 79; AR p. 127, 175-180 . See comment	Information is not available on the level of participation in retirement plans as CRH does not collect this data centrally. CRH is currently developing its internal reporting in this area.
201-4	Financial assistance received from government	p. 79. See comment	No significant assistance.
GRI 202 Market Presence			
103-1	Explanation of the material topic and its Boundary	p. 2, 37, 79; AR p. 2,3, 59-61. See comment	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.
103-2	The management approach and its components	p. 2, 37, 79; AR p. 2,3, 59-61. See comment	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.
103-3	Evaluation of the management approach	p. 2, 37, 79; AR p. 2,3, 59-61. See comment	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.
202-1	Ratios of standard entry level wage by gender compared to local minimum wage	p. 79. 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.
202-2	Proportion of senior management hired from the local community	p. 37, 79; AR p. 59-61. 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.

GRI Code	Description	Reference	Comment
GRI 200	Economic Topics		
GRI 203	Indirect Economic Impacts		
103-1	Explanation of the material topic and its Boundary	p. 7-9, 10-12, 13-15, 18	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-2	The management approach and its components	p. 7-9, 10-12, 13-15, 18	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-3	Evaluation of the management approach	p. 7-9, 10-12, 13-15, 18	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
203-1	Infrastructure investments and services supported	p. 7-9, 13-15, 31	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
203-2	Significant indirect economic impacts	p. 7-9, 10-12, 13-15, 18, 29, 31, 42, 51	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
GRI 204	Procurement Practices		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 42	
103-2	The management approach and its components	p. 10-12, 42	
103-3	Evaluation of the management approach	p. 10-12, 42	
204-1	Proportion of spending on local suppliers	p. 11, 42, 80. 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.
GRI 205	Anti Corruption		
103-1	Explanation of the material topic and its Boundary	p. 63, 64; AR p. 70, 106, 224	
103-2	The management approach and its components	p. 63, 64; AR p. 70, 106, 224	
103-3	Evaluation of the management approach	p. 63, 64; AR p. 70, 106, 224	
205-1	Operations assessed for risks related to corruption	p. 63, 64, 80; AR p. 71, 106. See comment	100% of operations are assessed for risks related to corruption. Further details on risks are disclosed in the 2017 Annual Report on Form 20-F.
205-2	Communication and training on anti-corruption policies and procedures	p. 63, 64, 66, 80; AR p. 71, 106. See comment	Some breakdowns requested by GRI are currently unavailable, including business partners.
205-3	Confirmed incidents of corruption and actions taken	p. 63, 64, 80. See comment	Note that there were no investigations or legal cases from external parties into allegations of corruption against CRH or any of its group businesses in 2017. No contracts with business partners were terminated or not renewed due to violations related to corruption.
GRI 205	Anti-competitive Behaviour		
103-1	Explanation of the material topic and its Boundary	p. 63, 64	
103-2	The management approach and its components	p. 63, 64	
103-3	Evaluation of the management approach	p. 63, 64	
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	p. 63, 64, 80. See comment	Certain breakdowns required by GRI cannot be disclosed for confidentiality reasons.
GRI 301	Materials		
103-1	Explanation of the material topic and its Boundary	p. 8, 9, 29, 31, 32, 51	
103-2	The management approach and its components	p. 8, 9, 29, 31, 32, 51	
103-3	Evaluation of the management approach	p. 8, 9, 29, 31, 32, 51	
301-1	Materials used by weight or volume	p. 29, 51, 77	
301-2	Recycled input materials used	p. 29	
301-3	Reclaimed products and their packaging materials	p. 80. See comment	Not applicable for CRH as most product (by weight) is delivered in bulk, without packaging.
GRI 302	Energy		
103-1	Explanation of the material topic and its Boundary	p. 8, 9, 31, 32, 51-53, 72	
103-2	The management approach and its components	p. 8, 9, 31, 32, 51-54	
103-3	Evaluation of the management approach	p. 8, 9, 31, 32, 51-55	
302-1	Energy consumption within the organization	159.8 PJ (44.4 TWh, p. 52)	Note that CRH is not an energy producer and sale of energy is not a focus of the Group.
302-2	Energy consumption outside of the organization	p. 50, 80. 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.
302-3	Energy intensity	p. 80. See comment	Energy intensity for cement is 877 kcal/kg clinker. Refers to kiln fuels (internal energy).
302-4	Reduction of energy consumption	p. 51, 52, 53, 70, 80. See comment	Reduction of energy are across all energy sources (solid, liquid, gaseous and electrical). Energy savings are consolidated based on year on year reductions.
302-5	Reductions in energy requirements of products and services	p. 8, 9, 28, 31, 32, 51, 80. 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.
GRI 303	Water		
103-1	Explanation of the material topic and its Boundary	p. 56, 72	
103-2	The management approach and its components	p. 56, 71, 72	
103-3	Evaluation of the management approach	p. 56, 71, 72	
303-1	Water withdrawal by source	p. 56, 70	
303-2	Water sources significantly affected by withdrawal of water	p. 80. See comment	None identified as significantly affected.
303-3	Water recycled and reused	p. 56, 70	

GRI Code	Description	Reference	Comment
GRI 300	Environmental Topics		
GRI 304	Biodiversity		
103-1	Explanation of the material topic and its Boundary	p. 57-59, 72	
103-2	The management approach and its components	p. 57-59, 71, 72	
103-3	Evaluation of the management approach	p. 57-59, 71, 72	
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	p. 57, 58, 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.
304-2	Significant impacts of activities, products, and services on biodiversity	p. 57-59	
304-3	Habitats protected or restored	p. 57-59, 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.
304-4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	p. 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.
GRI 305	Emissions		
103-1	Explanation of the material topic and its Boundary	p. 9, 31, 32, 49-51, 54, 72	
103-2	The management approach and its components	p. 31, 32, 49-51, 54, 71, 72	
103-3	Evaluation of the management approach	p. 31, 32, 49-51, 54, 71, 72	
305-1	Direct (Scope 1) GHG emissions	p. 50, 70	
305-2	Energy indirect (Scope 2) GHG emissions	p. 50, 70, 81. See comment	Scope 2 emissions are calculated using the location-based method using country-specific International Energy Agency Factors; apart from for operations in the US where subregion-specific factors from eGRID are used. CRH does not centrally collect data on supplier specific factors, and hence a market-based calculation of Scope 2 emissions cannot be provided.
305-3	Other indirect (Scope 3) GHG emissions	p. 50, 81. See comment	An assessment of Scope 3 GHG emissions was carried out during 2016, in line with the World Resources/WBCSD Institute Greenhouse Gas Protocol Corporate Value Chain (Scope 3) and CRH Scope 3 emissions reported for 2017 have been expanded to include contract transport, employee commuting, purchased goods and waste generated. Biogenic emissions are not included in the scope of the factors used.
305-4	GHG emissions intensity	p. 50, 81. See comment	Sales intensity in 2017 was 1.1 kg/€ revenue.
305-5	Reduction of GHG emissions	p. 50, 70	
305-6	Emissions of ozone-depleting substances (ODS)	p. 81. See comment	No significant emissions.
305-7	Nitrogen oxides (Nox), sulfur oxides (Sox), and other significant air emissions	p. 54, 70, 75, 76	
GRI 306	Effluents and Waste		
103-1	Explanation of the material topic and its Boundary	p. 55, 56, 72	
103-2	The management approach and its components	p. 55, 56, 71, 72	
103-3	Evaluation of the management approach	p. 55, 56, 71, 72	
306-1	Water discharge by quality and destination	23.4m m3 (p. 56)	
306-2	Waste by type and disposal method	2.3m tonnes (p. 55)	
306-3	Significant spills	p. 56, 81. See comment	No significant spills.
306-4	Transport of hazardous waste	p. 55, 81. See comment	Total hazardous waste was 66k tonnes. However, data in the breakdown requested by GRI is 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.
306-5	Water bodies affected by water discharges and/or runoff	p. 81. See comment	None identified as significantly affected.
RI 307	Environmental Compliance		
103-1	Explanation of the material topic and its Boundary	p. 48	
103-2	The management approach and its components	p. 48	
103-3	Evaluation of the management approach	p. 48	
307-1	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations	p. 48	
GRI 308	Supplier Environmental Assessment		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 42	
103-2	The management approach and its components	p. 10-12, 42	
103-3	Evaluation of the management approach	p. 10-12, 42	
308-1	New suppliers that were screened using environmental criteria	p. 10-12, 42, 81. See comment	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. The percentage of new suppliers screened using environmental criteria is 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.
308-2	Negative environmental impacts in the supply chain and actions taken	p. 10-12, 42 , 81. See comment	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.
GRI 400	Social Topics		
GRI 401	Employment		
103-1	Explanation of the material topic and its Boundary	p. 33-38	
103-2	The management approach and its components	p. 33-38, 43	
103-3	Evaluation of the management approach	p. 33-38, 43	

GRI Code	Description	Reference	Comment
GRI 400	Social Topics		
401-1	New employee hires and employee turnover	p. 74, 82. See comment	Turnover in the region "Americas" is 56% and in the region "Europe and Asia" is 44%. Turnover in the category "under 29 years" is 39%, in the category "30-49 years" is 39% and in the category "over 50 years" is 22%.
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	p. 38	
401-3	Parental leave	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.
GRI 402	Labor/Management Relations		
103-1	Explanation of the material topic and its Boundary	p. 23, 38, 43, 82. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-2	The management approach and its components	p. 23, 38, 43	
103-3	Evaluation of the management approach	p. 23, 38, 43	
402-1	Minimum notice periods regarding operational changes	p. 38, 82. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
GRI 403	Occupational Health and Safety		
103-1	Explanation of the material topic and its Boundary	p. 21-26	
103-2	The management approach and its components	p. 21-26, 72	
103-3	Evaluation of the management approach	p. 21-26, 72	
403-1	Workers representation in formal joint management-worker health and safety committees	p. 23, 82. See comment	Joint management-worker health and safety committees typically operate at operating company level.
403-2	Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities	p. 24, 26, 70, 82. See comment	Absenteeism in the category "medically certified" was 84%, in the category "medically uncertified" was 6%, in the category "other" was 9% and in the category "accidental injury" was 1%. The occupational illness rate was 0.32 cases per million manhours. Accidents to females account for just 7% of all accidents and 2% of all work days lost in 2017. Accident data cannot be disclosed by region due to confidentiality concerns. Of contractor fatalities, three occurred on-site and four were off-site.
403-3	Workers with high incidence or high risk of diseases related to their occupation	p. 26	
403-4	Health and safety topics covered in formal agreements with trade unions	p. 23, 82. See comment	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 indicator.
GRI 404	Training and Education		
103-1	Explanation of the material topic and its Boundary	p. 36, 64	
103-2	The management approach and its components	p. 36, 64	
103-3	Evaluation of the management approach	p. 36, 64	
404-1	Average hours of training per year per employee	p. 36, 82. See comment	Note that relevant training is provided equally to both genders.
404-2	Programs for upgrading employee skills and transition assistance programs	p. 36, 38	
404-3	Percentage of employees receiving regular performance and career development reviews	p. 36, 82. See comment	Note that performance reviews are provided equally to both genders.
GRI 405	Diversity and Equal Opportunity		
103-1	Explanation of the material topic and its Boundary	p. 37, 65; AR p. 69	
103-2	The management approach and its components	p. 37, 65; AR p. 69	
103-3	Evaluation of the management approach	p. 37, 65; AR p. 69	
405-1	Diversity of governance bodies and employees	p. 37, 65; AR p. 59-61, 69	
405-2	Ratio of basic salary and remuneration of women to men	p. 82. 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.
GRI 406	Non-discrimination		
103-1	Explanation of the material topic and its Boundary	p. 37, 43	
103-2	The management approach and its components	p. 37, 43, 63	
103-3	Evaluation of the management approach	p. 37, 43, 63	
406-1	Incidents of discrimination and corrective actions taken	p. 82. See comment	There were a total of 18 alleged instances of discrimination in 2017. All were investigated fully with policies and training reinforced wherever necessary and disciplinary action taken as appropriate.
GRI 407	Freedom of Association and Collective Bargaining		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 43	
103-2	The management approach and its components	p. 10-12, 43	
103-3	Evaluation of the management approach	p. 10-12, 43	
407-1	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be at risk	p. 10-12, 43, 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.
GRI 408	Child Labor		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 43	
103-2	The management approach and its components	p. 10-12, 43	
103-3	Evaluation of the management approach	p. 10-12, 43	

GRI Code	Description	Reference	Comment
GRI 400	Social Topics		
408-1	Operations and suppliers at significant risk for incidents of child labor	p. 10-12, 43, 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.
GRI 409	Forced or Compulsory Labor		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 43	
103-2	The management approach and its components	p. 10-12, 43	
103-3	Evaluation of the management approach	p. 10-12, 43	
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	p. 10-12, 43, 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.
GRI 410	Security Practices		
103-1	Explanation of the material topic and its Boundary	p. 34, 43, 83. See comment	Group companies operate in accordance with the Social Policy and CoBC.
103-2	The management approach and its components	p. 34, 43, 83. See comment	Group companies operate in accordance with the Social Policy and CoBC.
103-3	Evaluation of the management approach	p. 34, 43, 83. See comment	Group companies operate in accordance with the Social Policy and CoBC.
410-1	Security personnel trained in human rights policies or procedures	p. 83. See comment	Note that in 2017 44% of Group companies have security personnel on-site and 88% of these personnel have received relevant training on social and human rights. Training is generally equally provided to security personnel that are the employees of third parties.
GRI 411	Rights of Indigenous Peoples		
103-1	Explanation of the material topic and its Boundary	p. 83. See comment	Not applicable. CRH does not have a presence in countries of concern.
103-2	The management approach and its components	p. 83. See comment	Not applicable. CRH does not have a presence in countries of concern.
103-3	Evaluation of the management approach	p. 83. See comment	Not applicable. CRH does not have a presence in countries of concern.
411-1	Incidents of violations involving rights of indigenous peoples	p. 83. See comment	Not applicable. CRH does not have a presence in countries of concern.
GRI 412	Human Rights Assessment		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 43, 72	
103-2	The management approach and its components	p. 10-12, 36, 43, 72	
103-3	Evaluation of the management approach	p. 10-12, 36, 43, 71, 72	
412-1	Operations that have been subject to human rights reviews or impact assessments	p. 10-12, 43, 83. See comment	Note that 67% of companies carried out human rights assessments in the past 3 years (Europe: 60%, Americas: 76%, Asia: 83%). The challenge of gender diversity was the only topic reported to have been identified.
412-2	Employee training on human rights policies or procedures	p. 36, 83. See comment	Note that in 2017 there were 56,000 hours of training in human rights and 95% of relevant employees received training in human rights policies or procedures concerning aspects of human rights that are relevant to operations.
412-3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	p. 11, 12, 83. See comment	100% of significant investment agreements and contracts were screened in line with the supplier code of conduct which includes specific human rights clauses.
GRI 413	Local Communities		
103-1	Explanation of the material topic and its Boundary	p. 44, 45, 72	
103-2	The management approach and its components	p. 44, 45, 72	
103-3	Evaluation of the management approach	p. 44, 45, 71, 72	
413-1	Operations with local community engagement, impact assessments, and development programs	p. 44, 45, 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.
413-2	Operations with significant actual and potential negative impacts on local communities	p. 40, 44, 45, 83; AR p. 216. See comment	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.
GRI 414	Supplier Assessment for Labor Practices		
103-1	Explanation of the material topic and its Boundary	p. 10-12, 42	
103-2	The management approach and its components	p. 10-12, 42, 72	
103-3	Evaluation of the management approach	p. 10-12, 42, 71, 72	
414-1	New suppliers that were screened using social criteria	p. 10-12, 42, 83. See comment	100% of new suppliers were screened in line with the CRH Supply Code of Conduct. Where social risks were identified, additional screening was completed.
414-2	Negative social impacts in the supply chain and actions taken	p. 10-12, 42, 83. See comment	Not available. CRH does not centrally collect information to report on this indicator in the breakdowns required by GRI.
GRI 415	Public Policy		CRH is currently developing its internal reporting in this area
103-1	Explanation of the material topic and its Boundary	p. 83. See comment	Not applicable. No significant contributions.
103-2	The management approach and its components	p. 83. See comment	Not applicable. No significant contributions.
103-3	Evaluation of the management approach	p. 83. See comment	Not applicable. No significant contributions.
415-1	Political contributions	p. 83. See comment	Not applicable. No significant contributions.
GRI 416	Customer Health and Safety		
103-1	Explanation of the material topic and its Boundary	p. 13-15, 30	
103-2	The management approach and its components	p. 13-15, 30	
103-3	Evaluation of the management approach	p. 13-15, 30	
416-1	Assessment of the health and safety impacts of product and service categories	p. 30	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	p. 83. See comment	None known.

GRI Code	Description	Reference	Comment
GRI 400	Social Topics		
GRI 417	Marketing and Labeling		
103-1	Explanation of the material topic and its Boundary	p. 30, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-2	The management approach and its components	p. 30, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-3	Evaluation of the management approach	p. 30, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
417-1	Requirements for product and service information and labelling	p. 30	
417-2	Incidents of non-compliance concerning product and service information and labelling	p. 84. See comment	None known.
417-3	Incidents of non-compliance concerning marketing communications	p. 30, 84. See comment	The organisation has not identified any non-compliance with regulations and/or voluntary codes.
GRI 418	Customer Privacy		
103-1	Explanation of the material topic and its Boundary	p. 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-2	The management approach and its components	p. 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-3	Evaluation of the management approach	p. 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	p. 84. See comment	In 2017, there were no substantiated complaints concerning breaches of customer privacy and losses of customer data.
GRI 419	Socioeconomic Compliance		
103-1	Explanation of the material topic and its Boundary	p. 63, 64, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-2	The management approach and its components	p. 63, 64, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
103-3	Evaluation of the management approach	p. 63, 64, 84. See comment	Not material. The page references cover the topic in general terms rather than meet the precise requirements of the GRI for this indicator.
419-1	Non-compliance with laws and regulations in the social and economic area	p. 63, 64, 84. See comment	No significant fines.

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 218 to 227 of the 2017 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.

DNV GL Assurance Statements



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 2017 (the "Report") for the reporting year ended 31st December 2017.

Subject Matter

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

1. ISAE3000 Selected Information

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

- Cement Sustainability Initiative (CSI) indicators
- Climate Change: Total CO₂ emissions (Gross) (metric tonnes); and Total CO₂ 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); coverage rate for NO_x, SO_x and Particulates;
- 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 withdrawal by source and total water consumption; 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 m³); 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 70 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 Standards

Preparation of the Report in accordance with the GRI Standards. To assess the preparation of the Report in accordance with the GRI Standards we have used the publicly available GRI Standards (the "GRI Standards Criteria").

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 the work we have 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 Standards

Based on the work we have undertaken, we believe that the report is in line with "Comprehensive" requirements of the GRI Standards.

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 also 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: Tarmac Tunstead Lime (UK), Tarmac Tunstead Cement (UK), EQIOM Cement Lumbres (France), Hoghiz Cement (Romania), Finnsementti Parainen (Finland), Oldcastle Building Envelope, Tampa (USA), Oldcastle Preferred Materials, Tampa (USA), and Joliet 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. The percentage contribution of cement plants visited to overall cement-related CO₂ emissions was 14%.
- 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 was prepared in line with the Data Criteria; and
- Reading the Report and narrative accompanying the Selected Information in the Report with regards to the Data Criteria.

DNV GL Assurance Statements



2. AA1000 Principles

We are required to plan and perform our work in order to form an opinion over the adherence of the AA1000 Principles of the Report. Our work included, but was not restricted to:

- Reviewing the current sustainability issues that could affect CRH and would be 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 Standards

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

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. Visits to recent acquisitions indicated alignment with CRH's policies and procedures, and we noted that safety of employees, contractors and third parties working on, or visiting, its sites continues to be a priority.
- We note the increase in number of fatalities in 2017 compared to the past two years, and understand that CRH will continue to focus on its fatality elimination plan in 2018.

- We noted senior management commitment to sustainability performance, and there continued to be a thorough review of performance at Board level, which demonstrates top management buy-in and commitment.
- As in previous years, a high level of internal scrutiny of data and monitoring of site-specific trends was observed. We noted the use of software to manage EHS data was well established in CRH, and a number of additional functionalities were implemented in the software in 2017 which further enhances CRH's ability to scrutinise data and trends. We reinstate our recommendation to increase the frequency of data reporting from sites using this software, which will allow greater visibility to CRH over sustainability performance beyond year-end.
- At one of the sites visited, the methodology used to report CSI CO₂ data was aligned with the EU Emissions Trading Scheme rather than CSI. The methodology was subsequently changed, and the correct data reported. We note that CRH has already conducted a review across cement plants in that particular region, to ensure that CSI reporting is conducted in accordance with the CSI methodology.

2. AA1000 Principles

- **Inclusiveness:** CRH engaged with a wide range of stakeholders, at site as well as Group level. The Report enables stakeholders to evaluate the organisation's economic, social and environmental performance, and we note a greater emphasis on communicating stakeholder feedback in the 2017 report. Information received from the three Stakeholder interviews we conducted demonstrated a high level of senior management buy-in and involvement in engagement activities. Given the importance of CRH's employees as a stakeholder group, and the growing importance of holistically addressing this issue, CRH should continue to develop and implement its strategic approach to gender (and wider) diversity.
- **Materiality:** CRH reviewed its material issues in 2017, and continued to conduct a number of knowledge sharing and best practice workshops with local environmental and health and safety officers as well as regional executives, which we found to be effective in identifying sustainability issues of importance to stakeholders and the business. CRH also identified which UN Sustainable Development Goals (SDGs) were of importance to the business and indicated that it intends to review the relevance on SDG targets in the next year.

We also noted the increased focus on supply chain risks and management in the report which is a positive improvement.

- **Responsiveness:** The three external stakeholders we interviewed indicated a high level of responsiveness from CRH, and the people and community sections of the Report described how CRH has responded to some of its key stakeholder needs. While evidence of community engagement was seen across most of the sites we visited, we recommend that CRH considers developing a more strategic consistent approach to local community engagement, with the best practice identified at some locations rolled out to all the relevant locations.

The Report highlights examples of how CRH engaged with several individual stakeholders, by including specific issues raised by stakeholder groups and how CRH responded. Again, we would recommend that CRH could further 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 April 2018

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

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

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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 ⁹ 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 and readymixed 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 on-site and off-site) 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



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Mark Lowry

Group CSR &
Sustainability Director

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

Cover image: Ancon, a company with CRH's Europe Lightside Division, provided over 100,000 Ancon Rebar Couplers for use in the concrete support towers, end piers and road deck of the cable-stayed bridge connecting Edinburgh to Fife in Scotland. The Queensferry Crossing was officially opened on 4th September 2017 and at 2.7km, is the longest three-tower, cable-stayed bridge in the world.

Photo Courtesy of Transport Scotland