



Innovating for a sustainable built environment

CRH Sustainability Report 2018

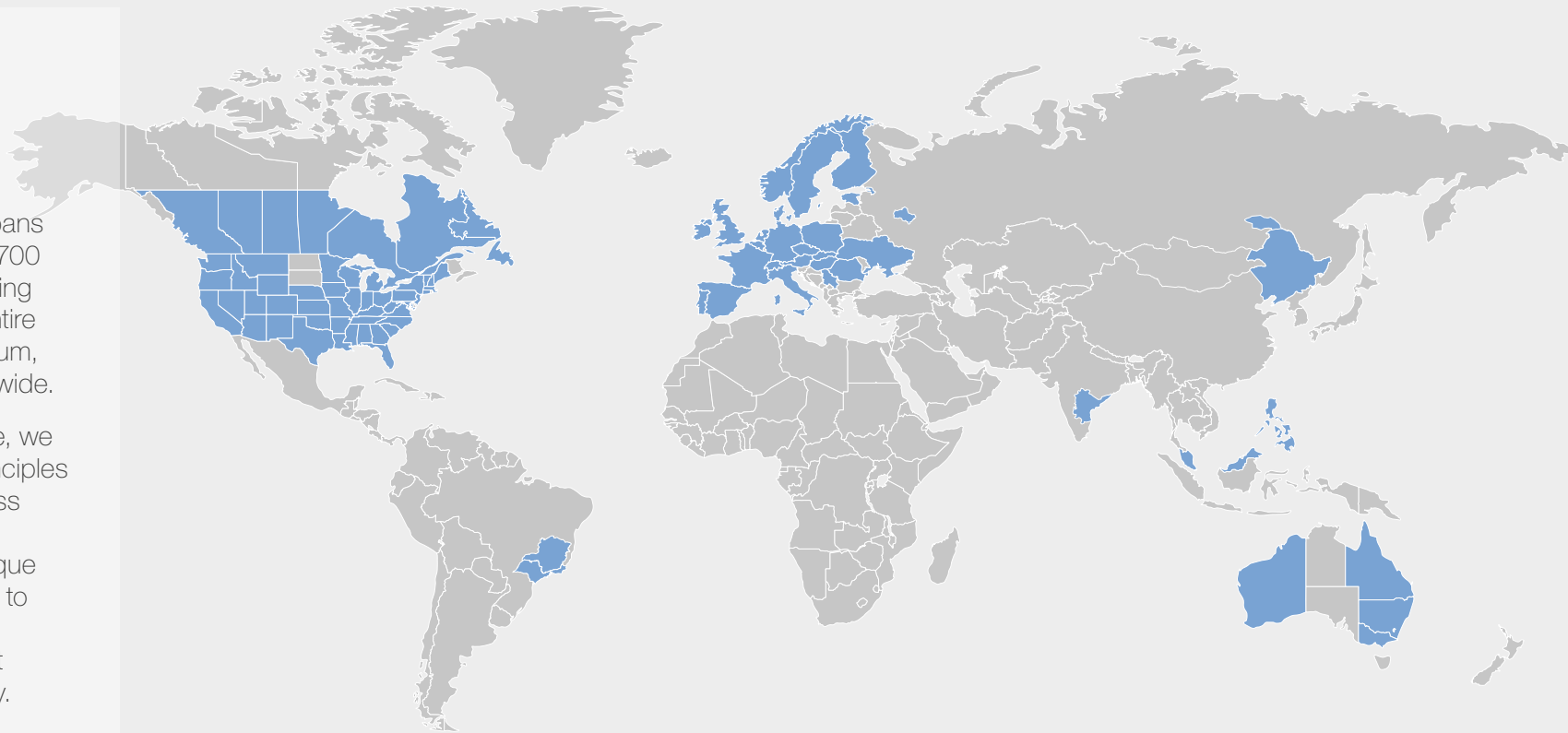


Our global business

Regional Scale

CRH's global footprint spans 32 countries and over 3,700 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 solving some of the key sustainable development challenges facing society.



Americas

#1 Building Materials Company

c. 45,100 employees

c. 1,820 operating locations

Operations in 46 US states, seven Canadian provinces and Southeast Brazil

Sales 
€13.4bn
 2017: €12.3 billion

 Growth +9%

Europe

#1 Heavyside Materials Company

c. 43,400 employees

c. 1,870 operating locations

Operations in 24 countries

Sales 
€13.0bn
 2017: €12.5 billion

 Growth +4%

Asia

#2 Cement Producer in the Philippines

c. 1,300 employees

12 operating locations

Regional leadership positions

Sales 
€0.4bn
 2017: €0.4 billion

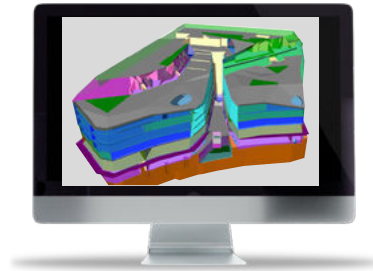
 Decline -1%

What's inside this year's report

This year's report opens with an overview of our approach to sustainability, featuring 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 the areas material to our business. We conclude with details of our reporting process, additional data and our assurance statement.

Overview

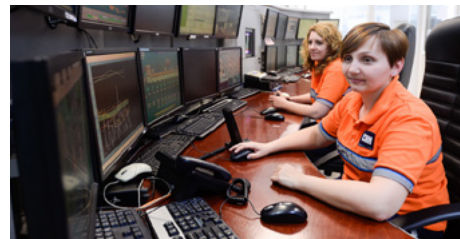
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Our sustainability priorities

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A message from our Chief Executive



At CRH we are acutely aware of our role in advancing the global sustainability agenda. As the leading building materials business in the world, we leverage our scale, breadth and unique capabilities to contribute to delivering innovative solutions to sustainable development. In 2018 CRH became one of the founding members of the Global Cement and Concrete Association (GCCA). Sustainable development is at the core of the GCCA's work programme, and I am proud to serve as its inaugural President.

Our commitment to building better businesses is a key component of our value-creation model and our shareholders benefit from our philosophy of continuous improvement. Sustainability is an important enabler of our financial performance and I am pleased to report that 2018 was a year of record profit delivery for CRH. Achieving this in a sustainable manner was of paramount importance to us.

Our operating companies received nearly 1,000 awards for excellence in environmental, safety and social aspects during the year. For example, Ticon New York, part of our Americas Materials Division, was recognised for over 40 community relations activities with active employee participation. Among other honours, we were included in the Dow Jones Sustainability Indices, the gold standard for corporate sustainability. We were also named a Supplier Engagement Leader by CDP, formerly the Carbon Disclosure Project, reflecting our commitment to working with our customers to tackle climate change.

As we progress towards achieving our 2020 targets, an area of focus for the Group in 2018 was working on a suite of post-2020 sustainability targets. Our specific cement CO₂ emissions are now 23% lower than in 1990, on-track for our 25% reduction target by 2020. Our post-2020 targets will be mindful of the Paris Climate Agreement and the UN Sustainable Development Goals (SDGs), another reflection of our commitment to help build a sustainable future.

We also continued our focus on inclusion and diversity in 2018. Following an internal review that made recommendations for actions, we established a Global Inclusion & Diversity Council and appointed a Chief Inclusion & Diversity Officer. As Chief Executive, I want CRH to be a place where everyone has the same opportunity to develop and progress, and where our working environment supports people performing at their best, irrespective of their gender, ethnicity, orientation, religion, disability or age. I sincerely believe that embracing Inclusion & Diversity across our Group will make CRH stronger, more innovative, more creative and more competitive, which in turn will help us deliver a superior performance for our investors, our customers and our communities.

As always within CRH, the safety of our people is the number one priority at our sites around the world. We work hard to ensure that our people return home safely to their families at the end of each working day.

While I am pleased to report that ninety-four percent of our locations were accident free, regrettably, there were six fatalities involving our operations during 2018. Our thoughts and deepest sympathies are with their families and we are determined to do all we can to achieve our target of zero injuries and zero fatalities at our operations.

Given the importance to our Board of having a business strategy that is sustainable, a new Safety, Environment & Social Responsibility (SESR) Board Committee was formed in 2018. Under its terms of reference, this Committee will work with management in areas such as fatality elimination, emission targets, inclusion and diversity, employee engagement and sustainability reporting.

I would like to thank everyone working in CRH's family of businesses around the world for their hard work, effort and dedication to our sustainability initiatives during 2018. I am deeply grateful for their ongoing commitment to our business.

Finally, as we look to the year ahead, the Group is well positioned to build upon the gains made in 2018 and we believe 2019 will be a year of progress and further growth for CRH.

Albert Manifold
Chief Executive

March 2019

Sustainability awards in 2018

1,000

Integrating our sustainability principles

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

**SUSTAINABLE
DEVELOPMENT
GOALS**



Embracing the future: innovation at CRH



Innovation is at the heart of the sustainability agenda – it underpins the system changes and the efficiencies that are crucial to a sustainable future. Today, there is a recognition that collaborating with others to explore new approaches and technologies is key to meeting the challenges of an increasingly uncertain and complex world.

At CRH, we actively create space for new ideas and see innovation as the way we turn these new ideas into success. New digital, robotic and artificial intelligence technologies are allowing process and product efficiencies previously not possible. As well as this, the way we work with our customers to design and construct infrastructure and buildings has transformed. A key outcome of this change is greater resource and energy efficiency, as well as lower emissions, all of which results in a smaller carbon footprint both for us and our customers.

An aerial survey at CRH Serbia. Connecting data from drone surveys is used in many ways. In our extractive businesses, it is commonly used for managing resource use. Meanwhile, in our highway construction projects, data from drone surveys contributes to more effective and efficient construction, capturing accurate data faster and less expensively than traditional surveying methods.

Embracing the future: innovation at CRH

The technology of tomorrow

Urban development is expected to increase in the coming decade - currently, 55% of the world's population lives in urban areas and this is expected to increase to 68% by 2050. The emphasis is on constructing the infrastructure and multi-purpose high-rise buildings and skyscrapers needed to support these people. The expectation will be for development firms, supported by the building materials value chain, to deliver these structures. Understanding how innovation and technology can support the construction sector in developing both its products and processes will be key in terms of cost effectiveness, speed of delivery and sustainability.

The possibilities stemming from emergent technologies are significant. Adopting and mainstreaming digital technologies, such as advances in Artificial Intelligence (AI), Building Information Modelling (BIM) and Virtual Reality (VR) will be a game-changer for the sector, which is among the least digitised sectors in the world. For example, productivity in manufacturing, retail and agriculture has increased by as much as 1500% in the last 70 years, whereas construction productivity has remained broadly stable in that same period.

Robots have the potential to perform many of the repetitive and potentially dangerous tasks involved in construction, such as bricklaying or moving materials. This opens up a whole new dimension of automation and safer working conditions for employees. Drones and autonomous vehicles will play an increasing role at construction sites, allowing more safe and efficient tracking of construction progress with increased accuracy.

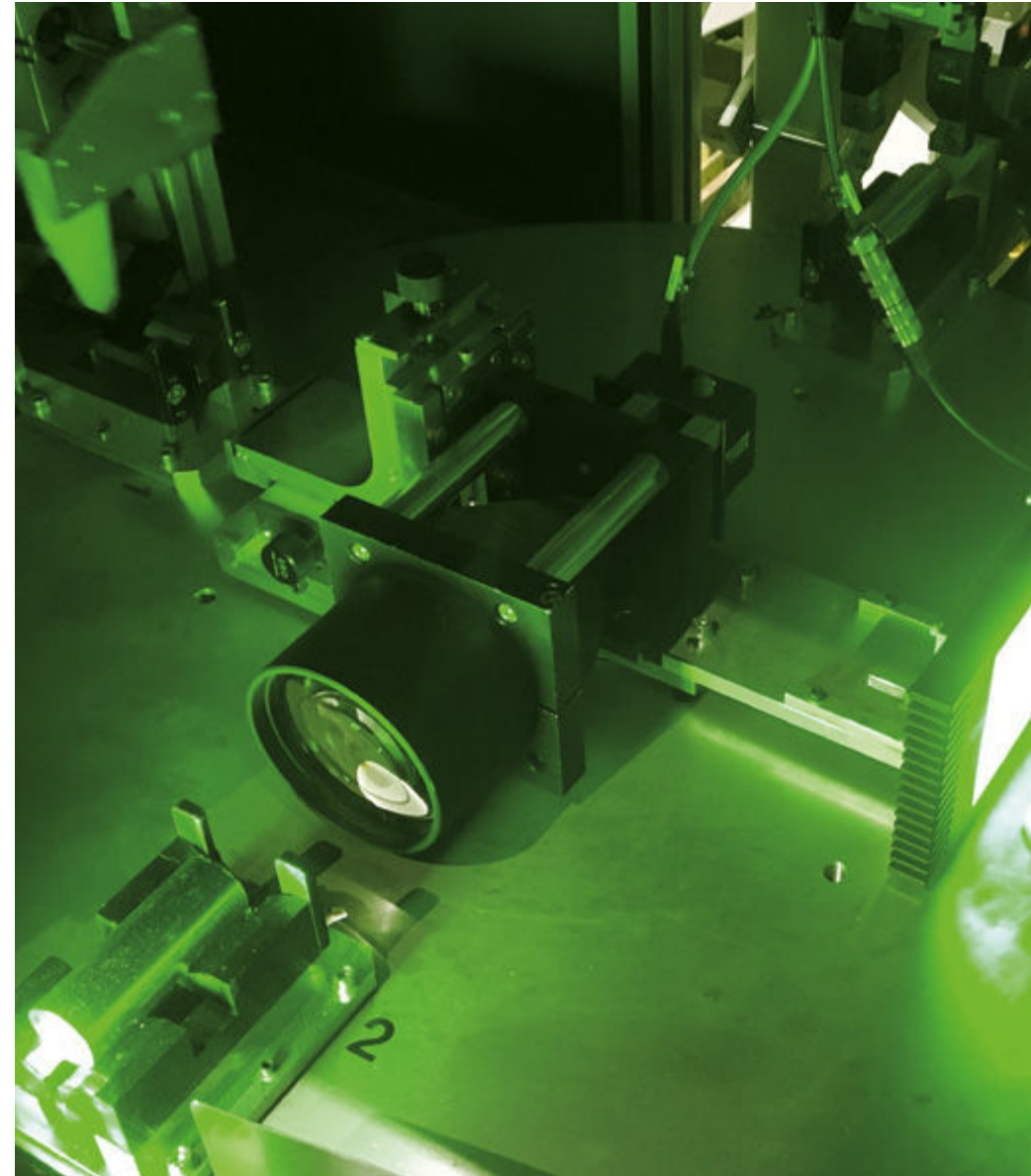
CRH's operating companies are investing in using technology in product and process innovations. Over time, this will lead to greater savings for our businesses, a safer workplace for our people and a reduced toll on the environment.

Our Building Products businesses across Europe are already reaping the benefits of innovation. For example, Cubis has introduced greater automation at its Irish facility, allowing hot product to be removed from the press with no human contact. The investment has increased output by 15% and reduced the safety risk to employees.

Innovation also comes into play in product delivery. Our Americas Materials Division has made ingenious use of the latest GPS tracking technology. It feeds information between the hot-mix asphalt plant and the paving train to streamline deliveries, saving tens of millions of dollars each year and reducing the environmental cost of transport.

Connecting information in this way is the key to maximising efficiency. Digital online ordering systems can be connected to automated stock-keeping systems and production scheduling. Automated quality systems, such as robotic samplers and analysers used in our cement plants, or laser devices used in our construction accessories plants, ensure top quality and more efficient processes. In these ways, we use technology to support our goal of continued business improvement.

[At Halfen's Artern factory in Germany, part of our Europe Lightside Division, automated quality checking units use laser technology to check the quality of metal threaded sleeves.](#)



Embracing the future: innovation at CRH

The digital revolution

Today's cutting-edge buildings and structures rely as much on having a solid foundation of digital information as they do concrete. We are using new software and digital tools to help our customers make more digitally informed decisions.

The recent convergence of cloud computing and Building Information Modelling (BIM) is revolutionising our approach to sustainability. Such systems are in use across our materials and building products businesses in both Europe and North America. The digitisation of certain processes can improve the build-time of projects and help developers meet critical deadlines and standards. Supported by our digital engineering team, our engineers can now use predictive software to investigate how a building – and its components – perform under certain conditions.

For example, by combining detailed digital models of buildings with the computing power of the cloud, we can simulate energy performance of a building, considering aspects such as the position of the sun at different times of day. This helps us and our customers make more informed choices about sustainable products, materials and processes.

We see further potential for leveraging new digital technologies across the Group. Through big data management, we can harvest information on process improvement and product performance all around the world. This technology allows us to gather and quantify data from our vast network of global facilities, creating a wealth of knowledge for use by our operating companies. These advanced analytics will provide invaluable insights into ways we can improve our businesses and meet customers' changing needs.

For example, we are rolling out digital knowledge management systems in our cement operations, linking control systems for better results.

Innovating for a greener world

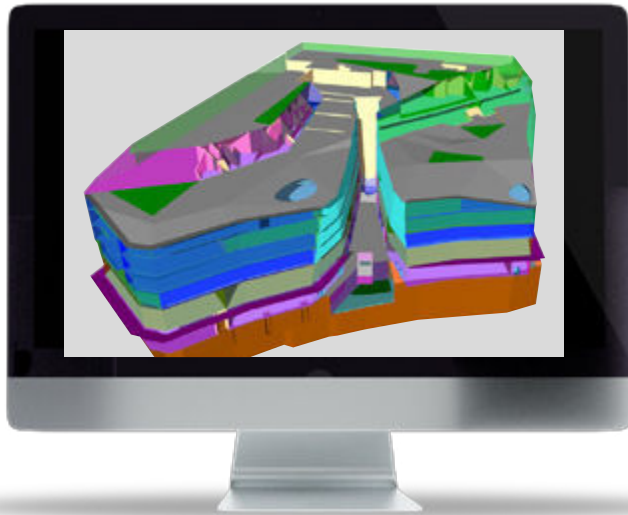
Innovation not only shapes new products and processes, it also drives the modernisation of traditional processes, incorporating new materials and technologies to enhance and improve long-established methods. In Europe, we are working on a project that will allow products, such as reinforced concrete panels, to be used as carbon sinks.

Innovations like this would not be possible without the vertical integration offered by CRH. No cement or concrete company working in isolation could leverage the global body of knowledge and infrastructure needed to make

these projects happen. It is one of the key ways we foster innovation through working together.

As we approach a new decade, our innovation efforts will focus on carbon reductions, sequestration of carbon and supporting the transition to a circular economy across the value chain. We will employ digital technology to further streamline our production processes and help us create more energy efficient buildings throughout their entire lifecycle.

In order to build on our innovation efforts, closely monitoring technological developments and exploring how we can apply them is a key part of our business strategy. It makes good business sense, ensuring we will remain one of the leading building materials businesses in the world, while delivering the kind of efficiency needed to build a more sustainable future.



A digital representation of a building gives architects, engineers, construction professionals and owners insight and tools for more effective building life cycle management. Also known as a digital twin, it can be particularly useful in lowering a building's carbon footprint and improving its energy efficiency, resulting in reduced operating costs.



Addressing climate change through concrete solutions for sustainable development



The need for sustainable construction has never been greater. The world's population continues to grow and is expected to reach 9.8 billion by 2050. Emerging economies are becoming increasingly urbanised and industrialised, leading to the rapid growth of cities. In the developed markets of Europe and North America, an ageing population also presents unique challenges for the construction sector. Against this backdrop there is growing concern about the state of our planet and what kind of world we are leaving for future generations.

These challenges represent significant opportunities for our business, requiring more infrastructure such as transport networks, commercial and residential properties, hospitals and schools, guaranteeing demand for our products and services well into the future. We believe we have a responsibility as the leading building materials business in the world to create high-performance, climate-friendly materials and products.

Oldcastle Infrastructure, part of our CRH Americas Products Division, provided the concrete Z-superstructure segments, precast sidewalk panels and face panels for the restoration of the Elliott Bay Seawall in downtown Seattle, Washington, US. The redevelopment of the waterfront has won several awards for engineering excellence and the promotion of marine habitat growth and sustainability.

Addressing climate change: sustainable development

Cleaner concrete

Today, concrete is one of the most consumed materials in the world, with 70% of the world's population living in concrete structures. Taken over the course of its considerable lifespan, concrete is among the most sustainable building materials on the market. This is despite the significant amount of carbon dioxide produced during the manufacture of cement, a key ingredient in concrete.

The majority of our concrete is created from locally sourced raw materials, minimising the carbon emitted in transit. Once set, concrete is highly durable, meaning concrete structures have to be replaced less often – and at a lower carbon cost.

Concrete also has a high thermal mass. This means it acts as a buffer, absorbing heat during the hottest part of the day and releasing it slowly as the temperature begins to dip. As a result, concrete buildings need to be heated and cooled less during the course of their lifetime, reducing energy consumption, which is particularly important as buildings account for approximately one-third of global energy use. In addition, throughout its life cycle, and with suitable recycling at end of life, concrete reabsorbs CO₂ from the atmosphere. Up to 25% of the CO₂ released during cement manufacturing can be reabsorbed by concrete along its life cycle.

Concrete is critical to meeting the housing needs of a fast growing global population. However, there is an incorrect perception that it is unsustainable because of the high levels of CO₂ generated in the production of cement, an ingredient of concrete. In fact, concrete itself has a low carbon footprint.

Taken over its full life-cycle, the many benefits of concrete as a sustainable building product are recognised within our industry – such as its resilience, thermal efficiency, durability and re-carbonation. This is something that the entire sector needs to communicate more effectively.

To this end, CRH recently became one of the founding members of the Global Cement & Concrete Association (GCCA), for which our Chief Executive, Albert Manifold, is the inaugural President. We believe that collaboration like this, both within and outside of our industry, is key to ensuring that the virtues of concrete as a sustainable construction material are fully recognised.

Tarmac, part of our Europe Heavyside Division, is collaborating with Carbon8 in the UK, working on several projects to reprocess spent lime using CO₂ in an accelerated carbonation technology (ACT). During the process, CO₂ is captured as stable carbonates, which chemically stabilise and encapsulate contaminants, reducing the pH of the system and locking up heavy metals. The resulting product is used as C8agg. Overall, this process permanently captures more CO₂ than is generated during manufacture, forming the world's first carbon-negative aggregate.



Addressing climate change: sustainable development

**Improving our processes**

One of our top priorities is to continually improve our production processes to reduce our carbon footprint. When it comes to cement production, this includes increasing the energy efficiency of the kiln, using more energy efficient alternative fuels and reducing clinker-to-cement ratios. Cement production also provides an increasing opportunity to reuse some waste streams as alternative fuels and alternative raw materials, thus reducing the amount of raw materials used and waste sent to landfill, supporting the circular economy.

Operational efficiencies will only take us so far. To reach the next level of environmental development, we will need to embrace breakthrough technologies to ensure we keep producing excellent products with minimal emissions. Together with governments, academia and partners in the cement and concrete industries, we are working to reduce the carbon cost of cement production. For example, we are members of the European Cement Research Academy (ECRA, based in Düsseldorf, Germany) on projects including carbon capture and use/storage (CCUS).

Looking ahead

As the world comes to terms with climate change in the years ahead, our products and services will play a pivotal role in addressing the issues we face together. It is not just about the thermal mass of concrete reducing overheating

in a warming world. Concrete lies at the core of flood defences, which will form the first barrier against rising sea levels. Concrete structures also perform in other extreme weather conditions, making concrete a vital resource in regions impacted by increasingly frequent and severe weather systems.

We are well on course to meet our 2020 climate commitments, which are in accordance with the Kyoto Protocol. Now, we are working on our targets post-2020, which will be mindful of the Paris Climate Agreement and see us strive to incorporate even more carbon emission reductions into our operations.

Coupled with renewing our environmental, social and governance targets, we are reviewing how we disclose climate and other sustainability related information. We continue to consider the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). We welcome these recommendations, which are intended to develop consistency in climate risk disclosures, and plan to use them to benchmark and continuously improve our own performance.

Looking to the future, as we strive to address the challenges and opportunities from climate change, we will continue to build on our strong track record of process improvement, innovation and collaboration to deliver a more climate-resilient world.

Oldcastle APG, part of our CRH Americas Products Division, supplied a permeable interlocking concrete pavement system for the largest permeable paver retrofit project in North America, which included almost six miles of streetscape in Atlanta, Georgia, US. The Aqualine™ system from Oldcastle APG's Belgard® brand was installed as part of a green infrastructure project which mimics nature to more effectively manage urban stormwater thereby reducing flooding, erosion and sewer overflows.

Stronger together: building towards a more inclusive tomorrow



Now more than ever, we live in a world where social inclusion and diversity are high on the agenda. Governments, businesses and others are increasingly looking to create a more inclusive society where differing views are respected and innovative ideas are nourished.

At CRH, the benefits of an inclusive and diverse workforce are clear to our business leaders and are directly connected to our sustained commitment to serve our employees and customers in communities around the world. This is complex for our industry, where gender diversity in particular is a widely recognised challenge for all.

CRH Romania implemented an organisational agility project with the purpose of retaining young engineers in cement plants. Inclusion and diversity were recognised as a key enabler of retention. Following an extensive insight gathering process, actions have been implemented with measurable results. For example, 44% of managerial positions are held by women, which is above the national average.

Stronger together: building inclusivity

Understanding the importance of inclusion

Championing inclusion and diversity is not just about building a better world. A growing body of evidence indicates that an inclusive and diverse workforce delivers better performance. For example, McKinsey & Company has found that 85% of CEOs from companies with inclusion and diversity initiatives say that these have boosted profitability.

In an inclusive workforce, when employees feel they can be themselves at work, differences are accepted, new perspectives are injected into discussions, new markets are developed and risk in decision making is reduced as a result of having more diversity in decision-making. An 'Insights' study by Forbes highlighted diversity, and in particular diverse experience, perspectives and backgrounds, as a key driver of innovation and a "critical component of being successful on a global scale". But despite the compelling evidence, only 14% of companies surveyed in the study are actively addressing gender diversity and only 11% are working on ethnic diversity. This, therefore, is an area where CRH has the opportunity to lead and attain a competitive advantage.

Building a more inclusive and diverse CRH

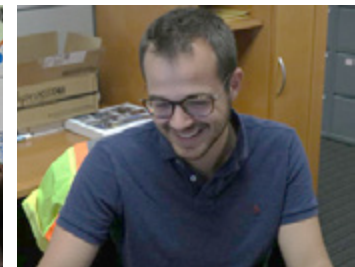
Our goal at CRH is to become a magnet for top talent - acquiring new ideas, perspectives and ways of engaging with people to transform our relationships across the value chain and

access new markets. A diverse workforce will help us do just that, strengthening links with stakeholders and enabling us to respond to our challenges and opportunities. Because of this, it is vital we understand the barriers to inclusion faced by the people we work with and the societies in which we operate.

We are not starting from a blank slate. For several years we have been targeting greater gender diversity on our Board, and 38% of our directors are female, up from 15% in 2013. Work is also going on across the Group at grassroots levels and, while the impact of these initiatives is at first at local level, we are collectively shaping our global culture and making positive changes for individuals, while learning from experience.

One example is the customer relationship management (CRM) team of our Building Products Division in North America. This team of ten includes four nationalities and the positive impact of increasing gender and ethnic diversity has led them to develop a saying: "Don't hire someone like yourself, hire someone to complement the team." Deneen Gibbard, CRM Manager, Building Products Division, explains: "Once we experienced the benefits of collaboration, different viewpoints and better solutions for our customers, we knew we were onto something good."

Tilcon New York Inc, part of our Americas Materials Division, sees its internship programme as one way to achieve a shift in the gender balance of our industry. Each year, through partnerships with colleges, universities and trade associations, Tilcon takes on several interns who gain valuable on-the-job experience in the aggregate and construction industry. Since its launch, the programme has targeted a 50-50 gender split across both professional and skilled roles. Some 59 interns have taken part over the past seven years, with over 40% of them female. Many have gone on to develop successful careers within the company or the wider industry. This is a significant achievement in what is considered to be a traditionally male-dominated industry. Tilcon is now looking to build on this and the best practices developed there are being shared across CRH.



Stronger together: building inclusivity

Further developing an inclusive culture

In the past year, we have established an Inclusion and Diversity Taskforce made up of people from varied backgrounds from across CRH. Together, they have been researching how we can incorporate diversity, and all its benefits, more deeply into our business. They reviewed published research and spoke to people across the globe, within CRH, across the wider building materials sector and beyond.

The taskforce has made recommendations for a pragmatic improvement campaign to drive behavioural change and accountability at individual, business unit and corporate level.

We have already implemented some of the Taskforce recommendations, including setting

up a Global Inclusion & Diversity Council and appointing a Chief Inclusion and Diversity Officer to spearhead the inclusion and diversity agenda.

We, like most companies, acknowledge that we still have work to do. Many roles within our industry have not traditionally attracted females and, while this is beginning to change, progress is slow. Only 16% of our employees were female in 2018. In North America, 86% of our employees class themselves as white and, while data on ethnicity is more difficult to gather in Europe, what we know paints a similar picture: our current workforce does not fully reflect the demographics of the markets we serve.

We have already had some successes. Across our Head Offices in Europe, the

Americas and Asia, the percentage of female employees has increased from 20% in 2008 to 38% in 2018. The percentage of women in senior management across our business has also increased from 5% in 2014 to 9% in 2018.

We are, however, much more diverse when it comes to the mix of ages in our workforce. Some 37% of our people are over 50 and 16% are under 30. With experience comes knowledge, from the shop floor to the boardroom, and we benefit from many different perspectives by creating an inclusive environment that allows our multi-generational workforce to share knowledge.

As well as valuing our current employees, we are redoubling our efforts to access the

widest possible pool of talent, combining the knowledge and experience of different age groups to build a sustainable future.

Looking ahead to a more inclusive CRH

Our vision is to be the leading building materials company in the world and a leading industrial player. Inclusion and diversity is key to achieving this by creating a pipeline of great talent to build a better CRH.

This is about far more than metrics; it's about our whole Group coming together to achieve a shared vision and create purposeful change that benefits us all.



The Cubis Systems team, photographed at the launch of the Cubis Systems Sustainability Report. Cubis Systems, a company within our Network Access Products platform, and part of our Europe Lightside Division, has been on a 10-year journey to increase the gender diversity among its Board members in Northern Ireland. It now boasts a 38% female representation on its Board, up from 15% in 2008, and is working to ensure it maintains a diverse Board.

“Put simply, diverse boards are good for business,” says Michael Wightman, MD Network Access Products. “Ultimately, it’s about hiring the best person for the job. Increasing diversity on the Board doesn’t happen quickly, and it does require a shift in thinking about recruitment and selection.”

Our sustainability priorities

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.

Operating with Integrity

→ P15



Embedding a culture of safety

→ P28



Creating solutions for our customers

→ P34



Developing and empowering our people

→ P38



Collaborating and engaging for sustainability

→ P44



Protecting the environment

→ P52



Ash Grove Cement Company, acquired in June 2018 for c. €2.9 billion, gave us a market leadership position in the North American cement market. Shown is the Foreman plant in Arkansas, US, which has won numerous safety awards, sponsors local community events and charities, and maintains ISO 14001 certification.



Operating with integrity

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“ Our vision is to be the world’s leading building materials business. That doesn’t just mean leading for our shareholders and our customers, it means creating innovative solutions and driving multi-stakeholder partnerships that support the circular economy, address climate change and strengthen CRH’s contribution to delivering the UN Sustainable Development Goals.”

Edwin Bouwman
Chief Administrative Officer, CRH





Operating with integrity

Embedding sustainability in our business strategy

Sustainability principles are fully embedded in our business model, culture and strategy – and fundamental to achieving our long-term vision.

For over 40 years CRH has built a strong platform for growth through investment in our businesses and acquisitions that broaden our geographical footprint and product portfolio.

Each day, millions of people around the world come into contact with our materials and products. In implementing our strategy we remain resolutely focused on serving the unique needs of our customers in local and regional markets worldwide. We provide a world class service with the personal touch of a local supplier.

Our vision is, however, not simply about achieving size and scale - it is about building resilient businesses that are the best at what they do, create sustainable value for all stakeholders and deliver growth for our shareholders.

We do it by providing industry-leading products and solutions that satisfy the construction needs of our customers around the world. Being commercially sustainable, finding new sources of competitive advantage and attracting the best talent ensures our business can thrive in the long-term.

By considering the full life cycle of our products and innovating to drive sustainable outcomes across the built environment, we increase our positive impact on society and the environment, while delivering profitable growth.

As well as being beneficial for our business, our ambitions also have an outward focus. In collaboration with our stakeholders, our actions contribute to the delivery of global initiatives including the UN Sustainable Development Goals (SDGs).

At its core, our approach to sustainability aims to harness the value creation opportunity from sustainability so that we can deliver long-term value for all of our stakeholders. By ensuring sustainability is embedded in our business strategy, we can balance risk and deliver strong growth, while having a positive impact on people and the environment.

CRH's strategy is to continue to grow and improve our business and in doing so to maximise long-term value and deliver superior returns for our shareholders and for society.

Our vision

The leading building materials business in the world...

...creating long-term value and delivering superior returns.

CRH continuously refines and hones its strategy as market environments evolve.

Delivery of the Group's strategy is centred on four strategic pillars:





Operating with integrity

Building a values-driven culture

Our values based culture is focused on delivering superior returns over a sustained period, while also being sensitive to stakeholders and the environment.

Our values are the foundation of our culture. They are the qualities and core expectations that define the way we work, our common standards and the way that we implement our four strategic pillars. We believe that visibly living our values will help us achieve our ambitions in all areas of business.

These values have been in place within CRH for many years. During 2018, we completed a mindful exercise to fully articulate our value and how they guide the way we work. The outcome of this exercise is shown on the infographic on this page.

The values were formally launched at our company conference in early 2019, where senior leaders made a personal commitment to live by, and lead their teams, in a way that reinforces these values. They will be formally communicated across all our businesses during 2019.

Our strategic pillars



Put safety first

We value safety. We protect and look out for each other. Safety is a shared, uncompromised value.



Continuously create value

We constantly seek new and sustainable ways to take on challenges and improve every day for the benefit of our shareholders, customers, employees and the communities in which we operate.



Do what we say and lead with integrity

We do the right things in the right way, comply with the law and work responsibly. We are ethical and honest.



Operate locally, but act as one company

Working locally, but together as OneCRH, our entrepreneurial spirit is built on a determination to succeed, seize opportunities, win customers and grow our businesses.



Build enduring relationships

We are straight talkers, down-to-earth, open and trustworthy. We develop partnerships, handshake by handshake, that stand the test of time.



Operating with integrity

Creating value and growth through our business model

CRH delivers on its strategy through the execution of a dynamic business model which is focused on value creation and growth. We set the highest standards of integrity and compliance with laws and regulation, underpinned by our commitment to sustainability.

Since 1970 CRH has delivered an industry-leading compound Total Shareholder Return (TSR) of 14.8%. €100 invested in CRH shares in 1970, with dividends reinvested, would now be worth €76,000.

Our resources

We aim to optimise our return on the resources we use, including:



€23.0bn
Capital and net debt



23.3bn tonnes
Mineral reserves



€7.7bn
Raw materials spend



c.90,000
Employees



Intellectual property



Business systems

What we do

Continuous improvement

We focus on making our existing businesses better

Proven acquisition model

We continuously work to identify and acquire high-potential businesses

Balanced portfolio

We are diversified across a range of products, geographies and end-uses

Dynamic capital management

We take a disciplined and focused approach to capital allocation and reallocation.

Disciplined financial management

Our financial strength allows us to benefit from a lower cost of capital

Risk mitigation

We use a dynamic Enterprise Risk Management Framework (see page 22)

Value created

Value created in 2018 included:

€3.4bn
EBITDA (as defined)*

€2.5bn
Profit after tax

302.4c
EPS

9.6%
RONA

€663m
Taxes paid

1.5m tonnes
CO₂ prevented

Why it matters

Benefits to CRH:

Financial strength
To support further acquisition activity

Investment
To drive continuous improvement and maximise returns

Lower capital costs
supports our ability to fund new value-creating acquisitions

Shareholder returns
Through dividends and value appreciation

Benefits to Society:

Customer solutions
Products that meet the needs of our customers

Partner to suppliers
Resilient and reliable business partner

Job creation
Responsible employer in local communities

Taxation contribution
Taxes paid to Governments


Operating with integrity

Setting out our sustainability targets and ambitions

Our Group-level targets focus our efforts on the areas that are most important for delivering long-term value by managing our sustainability risks and opportunities. They 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 targets beyond 2020, we plan to use our materiality assessment processes to more explicitly link our targets to our focus UN SDGs and the Paris Climate Agreement.



We are using this symbol throughout this Report to highlight further details about each of our sustainability targets

Area	2020 target	Long-term ambition	More on page
Safety	Zero fatalities	Develop and implement safety programmes that set the standard for an industry-leading culture of safety	31
Employee engagement	95% of employees to receive training	Develop training programmes that can adapt to the ever-changing needs of our employees	41
Business conduct	95% of relevant employees to have been trained in Code of Business Conduct (CoBC)	Ensure all of our employees are committed to the highest ethical, legal and moral standards	24
Community engagement	90% of relevant companies to have Community Engagement Plans	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	45
Supply chain	100% of relevant suppliers to be compliant with the Supplier Code of Conduct	To go beyond our own supply chain and positively influence the transition towards sustainable resource management	47
Environment	90% of relevant locations to have a permitted/certified environmental management system	To drive environmental protection measures across our business and the wider industry	54
Environment	Recent acquisitions to be integrated into environmental roadmaps	To have a designated procedure to integrate acquired businesses into our environmental roadmaps	54
Climate	Specific reduction in CO ₂ emissions (25% by 2020 on 1990 levels, designated plants)	To create value from our climate activities, achieving efficiencies through industry-leading specific emissions and our value chain, including products in use	56
Air	Specific reduction in particulates (dust) emissions (80% by 2020 on 2006 levels, designated plants)	To reduce air emissions at all plants, in so far as is possible, to industry-leading levels	60
Air	Specific reduction in NO _x emissions (22% by 2020 on 2006 levels, designated plants)	To reduce air emissions at all plants, in so far as is possible, to industry-leading levels	60
Air	100% clinker to be produced with monitoring of minor emissions	To have a designated monitoring procedure in place that can be employed at all locations	60
Waste	95% of relevant companies to have waste reduction/recycling programmes	To integrate circular-economy thinking into all aspects of waste and resource management	61
Water	75% of relevant companies to have water efficiency and quality programmes	To protect water resources in all areas of our influence	62
Biodiversity	90% of relevant locations in sensitive areas for biodiversity to have a biodiversity management plan	To protect and enhance biodiversity within our sphere of influence	63
Biodiversity	100% of relevant extractive sites to have a restoration plan	To ensure our operations enhance natural capital, landscapes and heritage	64



Operating with integrity

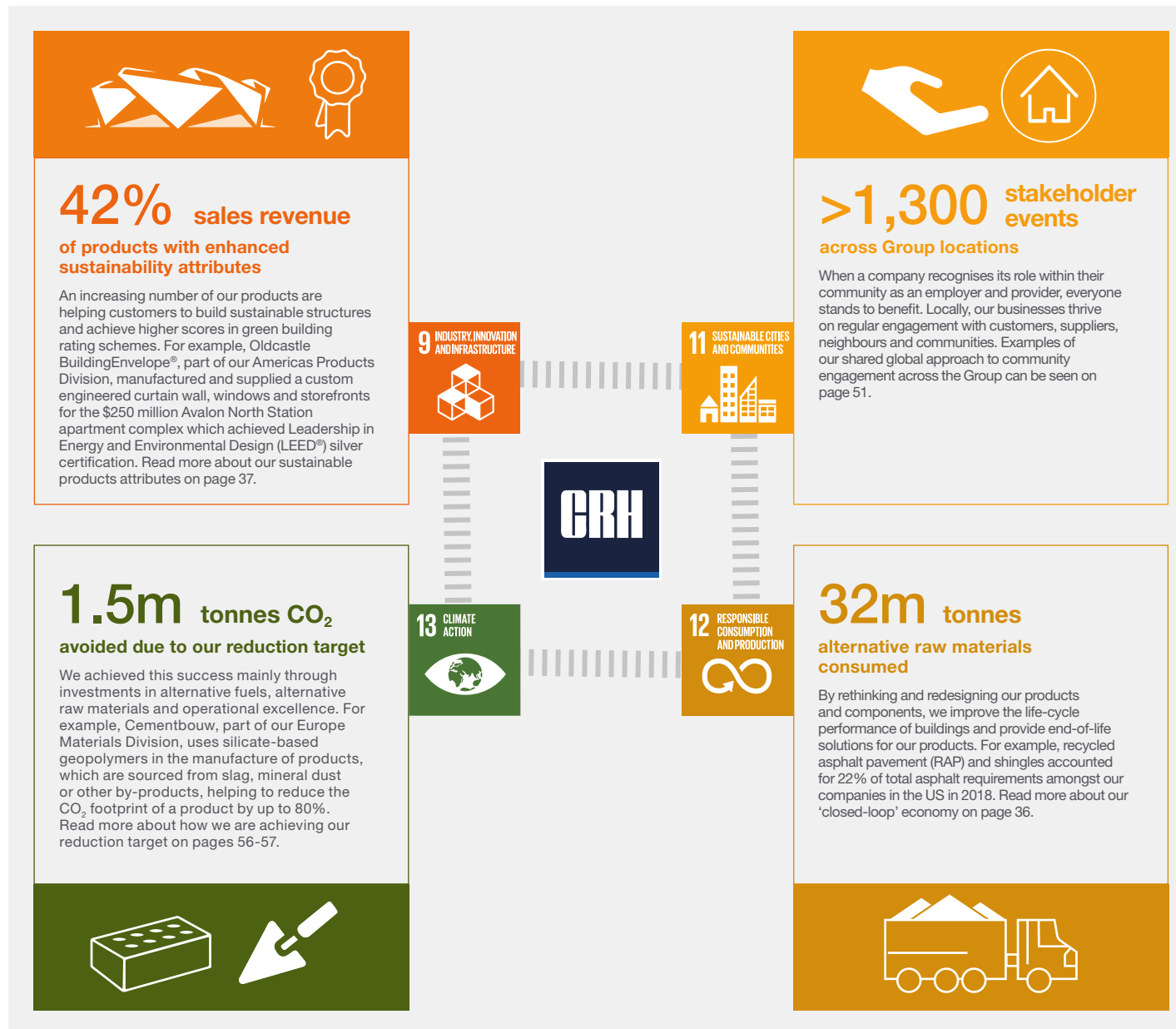
Supporting the UN Sustainable Development Goals

Business is increasingly seen as having a key role to play in responding to society's global challenges. The UN SDGs have become the platform for stakeholders to work together to develop solutions on a global stage.

Like many companies, we are on a journey to embed the SDGs into our business planning and activities, with a focus on those SDGs that most closely align to the areas where we have the greatest influence and impact.

The SDGs represent a real opportunity for sustainable business growth – fostering new opportunities and partnerships while contributing to societal challenges and protecting the environment. Here, we provide some examples to show how our activities contribute to our four focus SDGs.

Looking to the future, we will work to further align our processes with the SDGs, putting them front and centre of our post-2020 targets and short, medium and long-term action plans. We continue to work in collaboration with others to better measure our contribution to the detailed targets behind each SDG.





Operating with integrity

Addressing sustainability topics across a diversified Group

As of 1 January 2019, Asia was combined with Europe Heavyside to form Europe Materials. As of 1 January 2019, Americas Products and Europe Lightside, together with our Europe Distribution Division merged into one new global Building Products Division.

This simplified new structure provides CRH with a more focused business, driven from a leaner corporate centre, with an improved ability to leverage our scale and create further value in our key markets and core lines of business.

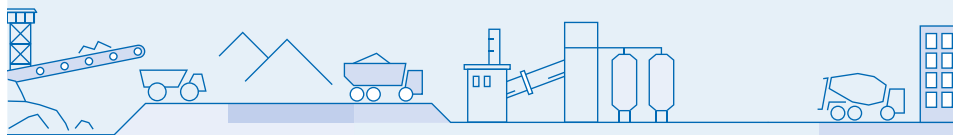
Europe Materials

Europe Heavyside

The overall performance of our Division is dependent on a vast array of local and regional metrics, including fluctuating market conditions, challenging trading conditions, pressures from governments and regulatory authorities, overcapacity, variable weather conditions and so on. Many of our customers 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.

Asia

Our regional positions in Asia provide us with exposure to industrialisation, urbanisation and population related construction demand. Performance is largely dependent on fluctuations in construction activities and overcapacity in the market, coupled with instabilities in the price for fuels and imported and exported materials. Our operations in these countries are within a burgeoning market, and many of our plant locations are set within local communities in rural areas, therefore it is of vital importance that our companies actively engage with local government units, NGOs and the local communities.



Americas Materials

Americas Materials

Considering the nature of our activities, our approach to safety is our number one priority, with other material issues relating to energy supply, 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 communities, but strengthens our competitive advantage, allows us to leverage talent and build strong regional leadership positions underpinned in local markets.



Building Products

Americas Products

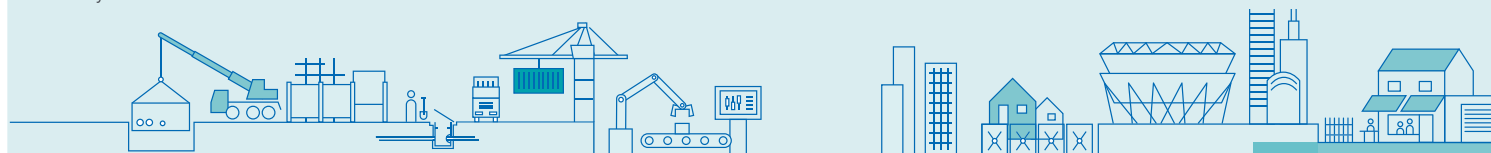
Material issues include operational efficiencies, competitive markets, supply-side factors such as labour and construction cost inflation and unpredictable weather conditions. We want to be seen as an industry leader in every aspect of our operations and sustainability is a key aspect. We leverage our scale, breadth and capabilities to build competitive advantage and we frequently engage with our customers in terms of our products and solutions and how they perform. We are also very active in the whole discussion and debate around moving on the sustainability agenda through trade associations participation and interaction with government agencies, helping to work as a bridge between industry and the communities that we work in.

Europe Lightside

Considering the nature of our businesses, 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. We continually focus on product innovation and development, working with specialist end users to develop environmentally sound design-solutions and practices that will assist us in the futureproofing of our businesses and meet the longer-term opportunities presented by economic development, changing demographics and sustainability.

Europe Distribution

Our Distribution Division is often faced with challenging market conditions in a competitive environment, as well as the increasing trend in online sales and inclement weather conditions. Our network of trusted local and regional brands place a key focus on building deep customer relationships through quality of service, reliability and innovation. The changing needs of our increasingly environmentally-conscious customers have resulted in the introduction of additional product categories, new formats and technology supporting our interaction with customers, leading to more sustainable business practices.





Operating with integrity

Creating value through risk management

Enterprise Risk Management (ERM) plays a critical role in how we respond to a world of increasing uncertainty and globalisation. Effectively managing our risks and challenges facilitates better decision making, thereby driving performance, creating growth opportunities and generating sustainable shareholder value for CRH.

Our ERM Framework

Our ERM framework is fully integrated into our risk management culture and utilised in strategic decision-making processes.

Sustainability risks relating to areas such as health and safety, emissions, energy efficiency, climate change and local communities are covered through our ERM processes and assessed on an ongoing basis.

Proactively managing risks

We recognise that strong risk management practices can provide a competitive advantage and an opportunity for value creation – as is highlighted by the integration of our ERM framework into our strategy and performance agendas.

Risks are continually identified and assessed as the relevant economic, social, political and regulatory landscape evolves, along with changes to our business and the markets in which we operate. Our business leaders constantly monitor our exposures, prioritising the management of those risks which could result in significant value erosion.

To support consistent application of our ERM framework, we run formal risk workshops throughout our businesses. These business-specific, discussion-based workshops for senior leaders enable comprehensive risk analysis to ensure appropriate execution of their strategic objectives.

Our ERM process optimises the allocation of resources and prioritises mitigating risks which could prevent the achievement of strategic

objectives. At Group level, formal materiality assessment processes regularly 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 is our success in addressing the risk of changing customer preferences by becoming a leader in the manufacture and supply of sustainable building products.

Our businesses focus on realising the opportunities provided by managing risk effectively, such as having best-in-class health, safety, sustainability and environmental practices, which makes us an attractive partner of choice.

We will continue to identify and manage emerging risks and look for ways to turn them into opportunities to strengthen both our business and our reputation.

Transparency to enable better decision-making

Our Group-level Risk Register is compiled by the Group Risk function and identifies risks which may impede the realisation of core strategic objectives.

Our principal risks and uncertainties are listed on pages 104 to 109 of the 2018 Annual Report and Form 20-F. They constitute the register which forms the basis of Board and Audit Committee communications and discussions.

2018 highlights

In order to continue to develop the ERM framework and integrate it into our operations, a number of activities were carried out during 2018:



Risk Workshops

Over 30 risk workshops were held, bringing the total number to c. 100 in three years.



Senior Group Leadership Survey

CRH conducted a number of face-to-face interviews and surveys among its senior leaders, with the activity being completed by 36 participants.

The feedback and recommendations provided by senior leaders were integrated into the ERM framework and helped to improve ERM within our operations and Group.



Senior Operating Leadership Engagement

Over 300 senior leaders participated in workshops, bringing the total number to over 900 in three years.



Risk Champion Forums

Creation and hosting of forums involving 31 business leaders as part of our Risk Champion network.

Risk Champion forums act as a medium to share best practice risk management within our operating companies and create opportunities for sharing knowledge and competencies within the network and the wider Group.



Operating with integrity

Upholding good business conduct

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 behaviours set out in our Code of Business Conduct (CoBC). The CoBC is underpinned by policies including Anti-Fraud & Anti-Theft; Anti-Bribery; Competition/Anti-Trust Code; Ethical Procurement; and the Supplier Code of Conduct.

Our vision of ethical leadership

We support and encourage ethical leadership, as outlined by our Group Chief Executive in the introduction to the CoBC. We 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.

A 24/7 multi-lingual confidential "Hotline" facility is available for employees to report any good faith concerns relevant to the CRH Code of Business Conduct or violations of any of CRH policies, or of any local laws.

In 2018, a total of 328 concerns were raised globally. Of these, 243 (74%) of the calls were HR related. A breakdown by type is shown on page 24.

All allegations are taken seriously and are fully investigated. In 2018, 23 proven incidents

resulted in disciplinary action. 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.

Managing compliance risk

We have a robust programme in place to build on our compliance capacity across the business and 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, supported through our network of country compliance managers.

Risk workshops are attended by a selection of cross functional senior management throughout the year. They are led by Group Risk and facilitate meaningful discussions around management's view of risks to ensure a coordinated approach with Group Risk and Group Legal & Compliance.

Business conduct

Our stakeholders tell us

“Responsible conduct has moved from compliance to strategic planning and into the Boardroom. Expectations of transparency towards business are increasing. It is not enough to have the right controls; this has to be explicitly demonstrated and communicated. Since 2011, CRH companies in Ireland have held the Business Working Responsibly Mark, the only third party audited standard assessing policies, practices and impact across 22 business dimensions. We see this commitment by CRH as critical to ensure sustainability is embedded across the organisation.”

Tomás Sercovich,
CEO Business in the Community Ireland

What's in place to manage it?

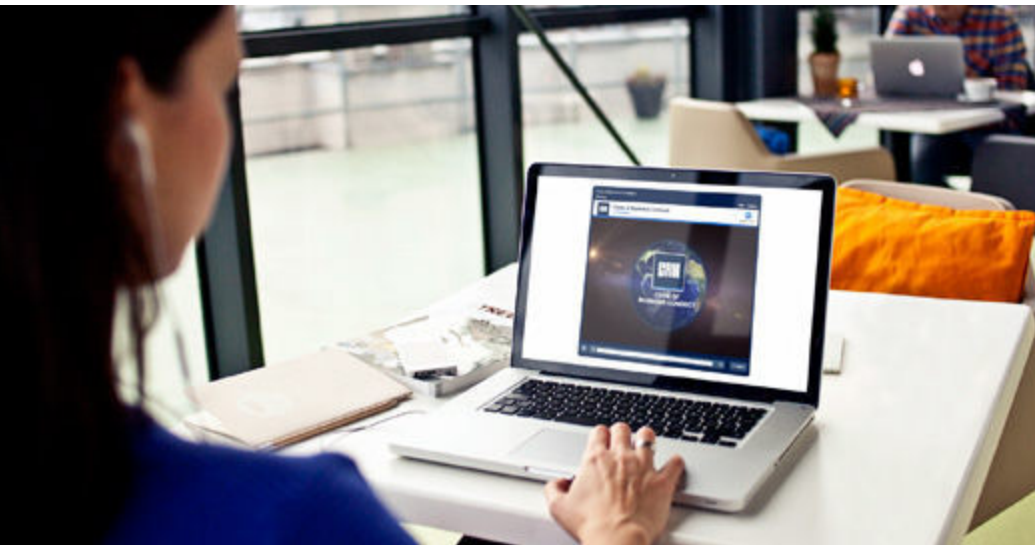
Our CoBC and related policies and our Legal & Compliance Programme.

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?

Reviewing and updating of existing policies and codes, in particular the CoBC to ensure we continue to meet the needs of our business and international best practice as they and our external environment evolve.



Our Code of Business Conduct (CoBC) training programme, which includes an e-Learning component, has at its core the aim of ensuring that everyone in CRH understands that there is never a good business reason to do the wrong thing.



Operating with integrity

Upholding good business conduct – continued

Employee training

All new employees are required to complete our CoBC training. 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. During the year e-Learning modules were enhanced to include both a first time and refresher element to the programme in 23 languages. Of the employees receiving ACT in 2018, 36% were Managerial, 47% were Clerical/Administrative and 17% were Operational.

During 2018 we implemented policies and guidance to support compliance with the General Data Privacy Regulations (GDPR) across the CRH Businesses. Personal Data Privacy e-Learning along with general Personal Data Privacy information was rolled out. A total of 20,163 employees were trained on GDPR in 2018.

Group Legal & Compliance ensures training and communications materials and methods for delivery remain relevant to the risks our employees face in their roles.

The CoBC and its policies are available in 23 languages and are regularly reviewed to ensure

a user-friendly experience. We are working towards a 2020 target to ensure 95% of relevant employees receive both CoBC and ACT training.

Investigations and proceedings

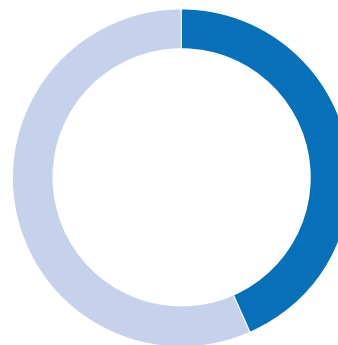
CRH has robust internal controls to help in the fight against corruption and/or fraud as well as a committed training regime on these topics. Risks of corruption and fraud are monitored by the Regional Legal and Compliance teams and Group Legal & Compliance. In addition, Internal Audit independently monitors these risks and relevant activities. In 2018, there were no investigations from external parties into allegations of corruption against CRH or any of its Group businesses.

Some of our operating companies are party to legal proceedings, including some in which claims for damages have been asserted against them. 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, operational performance, or liquidity.

In 2015, 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 CHF34 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 €30 million (2017: €29 million) is recorded in the Group's Consolidated Balance Sheet.

Employees trained in CoBC 2018

(Total: 38,500)



● Americas16,700
● Europe/Asia Pacific21,800

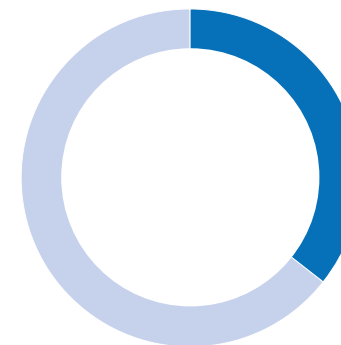
Concerns reported

(number of concerns)



Employees trained in ACT 2018

(Total: 14,000)



● Americas5,000
● Europe/Asia Pacific9,000

Concerns reported by type 2018

(% of total concerns)





Operating with integrity

Ensuring high standards of corporate governance

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 on pages 58-67 of the 2018 Annual Report and Form 20-F and in the Governance Appendix (both documents are available on www.crh.com)

The Board

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

As of 1 March 2019, there are two executive and eleven non-executive Directors on the CRH Board, 38% 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 ensure the Board has the appropriate blend of skills, knowledge and experience, from a wide range of industries, regions and backgrounds, necessary to lead the Group. In 2018, there were 6 full meetings of the Board.

Board Committees

The Board has established six 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, the Remuneration Committee and the Safety, Environment & Social Responsibility Committee. The role of these Committees is to provide strategic direction, oversight and assurance on the specific objectives set for each Committee. The Chairman of each Committee reports to the Board on its deliberations and minutes of all Committee meetings are circulated to all Directors.

Committee Chairs also attend the Annual General Meeting to answer questions from

shareholders. 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 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.

Compliance

We have clear procedures in place to ensure compliance with our obligations under the applicable rules and regulations, including those issued by the Securities & Exchange Commission. In 2018, we implemented the 2016 UK Corporate Governance Code and we will implement the 2018 Code, which was published during 2018, from January 2019.

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



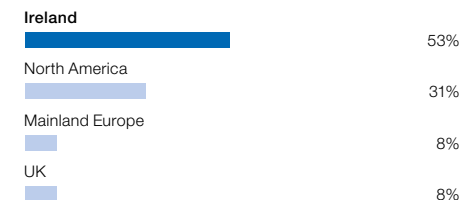
Gender diversity % of Female Directors



Board membership - Independence



Board membership - Geographical spread





Operating with integrity

Ensuring high standards of corporate governance — continued

Sustainability governance

At CRH, we do not have a separate sustainability strategy; rather sustainability is embedded in our business strategy.

The fundamentals of how we do business are managed within a 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.

The Group Chief Executive has overall responsibility for CRH's sustainability performance and for ensuring Sustainability and Corporate Social Responsibilities (CSR) policies are implemented in all business lines.

During 2018, the Board set up a new permanent committee to deal with safety, environment and social responsibility (SESR) matters. The SESR Committee receives regular updates in each of these areas and is responsible for monitoring the Group's performance in these areas. The Board receives regular updates in sustainability matters including environment, health, safety and social performance.

Monitoring our sustainability policies

Policy implementation and monitoring is a management responsibility across all businesses. Managers are assisted by safety officers, environmental liaison officers, country compliance coordinators and human resource

managers. Sustainability risks are integrated into our ERM processes to ensure effective monitoring and management.

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



Further detailed information on corporate governance may be found in the 2018 Annual Report and Form 20-F, as well as the Governance Appendix, both of which are available on www.crh.com.

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
- Human resources and succession planning
- Health and safety review, with a particular focus on the Group's fatality elimination programme
- Performance review of acquisitions against the original Board proposal following three years of Group ownership
- Funding proposals
- Risk management and internal controls
- Regulatory, Compliance & Ethics
- Environmental review, including climate-related risks

Operating with integrity

Creating economic value

Our business model centres on making our core businesses within all divisions and regions better through continuous improvement in order to create further long-term value.

Our portfolio

By balancing our portfolio across geography, product, sector and end-use, we reduce 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. 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 have a continuous focus on identifying and acquiring strong businesses that complement our existing portfolio of building materials businesses and add value for our stakeholders. We undertake extensive sustainability due-diligence for all acquisitions, recognising strong performance across environmental, social and governance (ESG) issues as 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 2018, we recorded total disposal proceeds of €3.0 billion and invested €3.6 billion on 46 transactions, including the acquisition of Ash Grove Cement Company, which received regulatory approval in June 2018. We also completed the divestment of our Americas Distribution business in January 2018 for €2.4 billion and we divested our Benelux DIY

business, together with certain related property assets, for a total consideration of c. €0.5 billion.

Economic value CRH created for stakeholders in 2018 included:

- EBITDA (as defined)* €3.4 billion
- €2.5 billion profit after tax
- 302.4 cent EPS
- 9.6% RONA**
- €663 million in taxes paid

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

**Return on Net Assets (RONA) 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. RONA is calculated by expressing total Group operating profit as a percentage of average net assets.

Economic value creation

Our stakeholders tell us

“ We advocate for practices that we believe will drive sustainable, long-term growth and profitability...

BlackRock's Investment Stewardship engagement priorities for 2019 are: governance, including your company's approach to board diversity; corporate strategy and capital allocation; compensation that promotes long-termism; environmental risks and opportunities; and human capital management. These priorities reflect our commitment to engaging around issues that influence a company's prospects not over the next quarter, but over the long horizons that our clients are planning for.”

Larry Fink,
Chairman and Chief Executive Officer,
BlackRock

What's in place to manage it?

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

What are the challenges?

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.

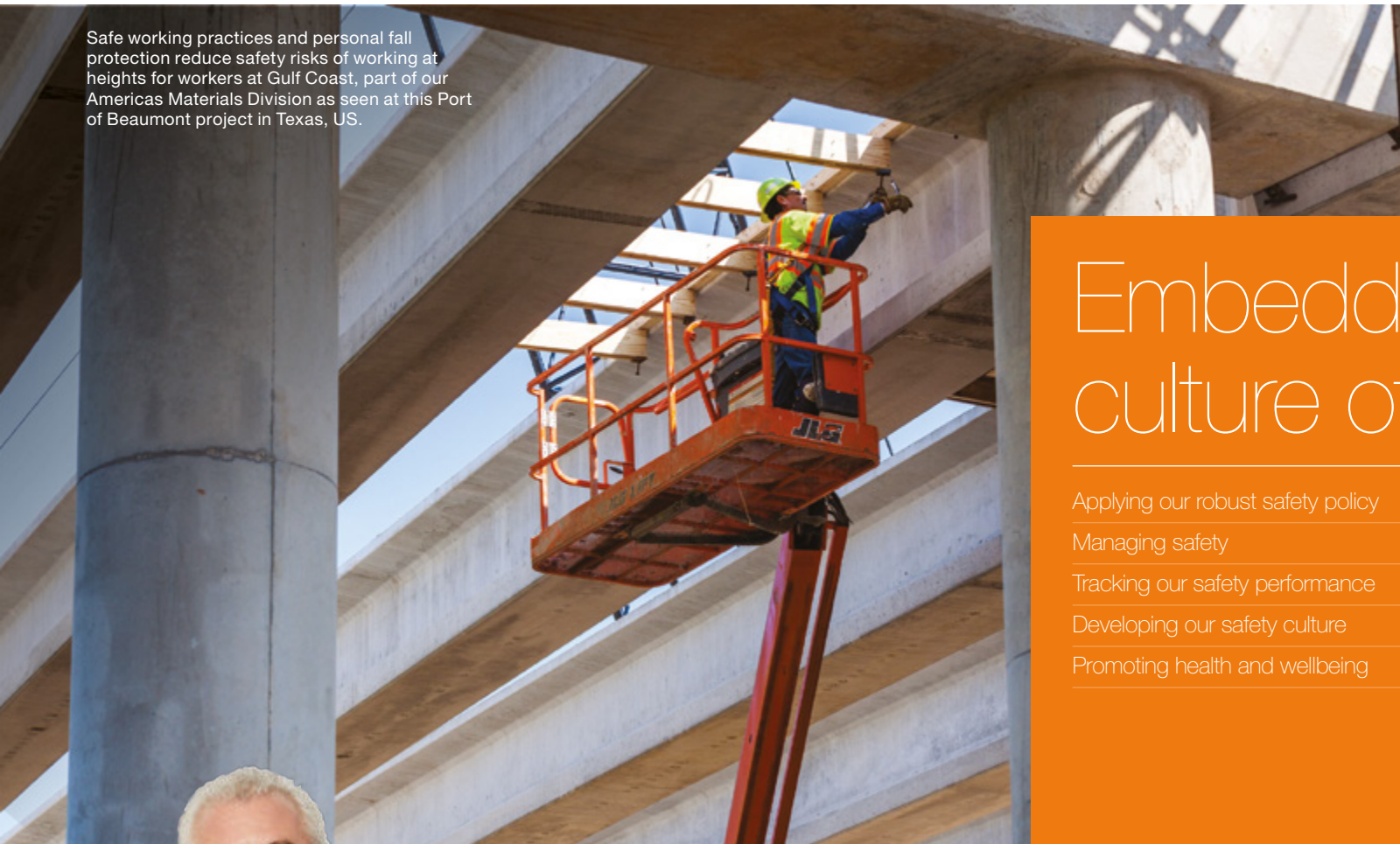
What's next?

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

In 2018, we launched our new global brand endorsement model. CRH businesses across the world now carry the endorsement line “A CRH Company” integrated into their own logo. The new logos were displayed at the CRH Conference in February 2018, which was attended by senior leaders including David Dillon, President, Group Strategy and Business Development and Keith Haas, President Global Building Products.



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.



Embedding a culture of safety

Applying our robust safety policy	29
Managing safety	30
Tracking our safety performance	31
Developing our safety culture	32
Promoting health and wellbeing	33



“ We are united in our common goal that nobody gets hurt at work. Our safety culture sets us apart in our industry, but we still have more work to do. We are keenly focused on eliminating fatalities and accidents in our activities, and on working with others to drive safety improvements across our industry and beyond.”

John Keating
Chief Operating Officer, CRH's Americas Materials Division





Embedding a culture of safety

Applying our robust safety policy

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, health and safety has long been a strategic priority for CRH and we view our culture of safety as a pre-requisite for success. Our culture of safety sets us apart and is driven by employees and management at every level as we work to achieve our common goal – that nobody gets hurt at work.

The annual CRH Europe Transport Safety seminar took place in Amsterdam in October 2018. Over 150 participants attended the event, including senior representatives from our main contractor companies. A key element of the event is a focus on display and demonstration, where delegates get to see and try out new safer vehicle design features, new innovations around driver training and advances in driver monitoring. A number of external speakers addressed the event, including Cynthia Barlow from the RoadPeace charity, an organisation which helps victims of road accidents, especially around the dangers of HGVs for cyclists and other vulnerable road users.

Our employees are guided by our Health & Safety Policy (see page 69), which is applied rigorously across all of our operating companies. It is complemented by our CRH Life Saving Rules, designed to support our global focus on eliminating fatalities. Our no compromise approach to safety management continues to enhance our safety culture, with clear lines of responsibility through operational management up to the Chief Executive, the Safety, Environment & Social Responsibility (SESR) Board Committee and ultimately, the CRH Board.

Business leader engagement around safety is essential to building a leading safety culture. Our leaders, therefore, have been made accountable for achieving a culture of safety excellence at every location.

They are supported by a strong safety management structure, with each operating company having either a full-time or part-time Safety Officer, depending on the scale of the business. This network of safety officers collaborates with regional and Group specialists. Together, they coordinate and support company health and safety programmes and processes.

Development of our safety culture is a continuous focus for us and we are well practiced at integrating acquisitions into our safety culture. We have developed robust processes to address the often significant challenges in countries and regions that traditionally have poorer safety records.



Safety

Our stakeholders tell us

“ I had the opportunity to visit CRH plants across Europe and the USA in 2018. I found that the commitment to safety from the top was mirrored by every work team I met. CRH is clearly determined to prevent accidents and ill health by ensuring that everyone has the leadership, the knowledge and the ability to work safely. In the complex and ever-changing environments in which CRH works, it is this people-first philosophy that is most likely to bring continued improvement and success.”

Lawrence Waterman OBE

Partner, Park Health and Safety Partnership and former Head of Health and Safety for the Olympic Delivery Authority, London 2012

What's in place to manage it?

Our Health & Safety Policy is applied across all Group companies and we implement safety management systems to ensure its effectiveness. We make necessary investments and incentivise safety at every level of the organisation.

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?

Continued focus on the promotion of health, safety and wellbeing, together with the elimination of fatalities, accidents and recordable incidents.



Embedding a culture of safety

Managing safety

We demand the highest safety standards in everything we do. To achieve it, we implement appropriate safety management systems at every one of our 3,700 locations.

Internal targets and key performance indicators (KPIs) measure and benchmark our safety performance and guide us to integrate safety into all we do.

Safety management systems

Our businesses apply a safety management system as relevant to their particular business and region. Our safety management systems apply to all work undertaken at our locations or all work carried out under our control. In Europe, 32% of locations are certified to OHSAS 18001/ISO 45001 with the remainder using a different system. In the US, we comply with the safety systems set by the relevant safety authority. 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 those particular challenges.

Managing risks

We focus on the elimination of hazards at source, carefully planning our activities, identifying potential hazards through risk assessment, managing risks and investing in necessary areas for improvement.

A hierarchy of control approach is followed, with the preferred control being to eliminate the risk.

Over the last 5 years we have invested over €190 million in all aspects of health and safety. In 2018, as well as our continued focus on transport and mobile plant safety, we invested in further machinery guarding, improvements in platforms and fall protection measures, electrical system upgrades, pedestrian/mobile plant segregation and noise and dust reduction initiatives.

Communicating our safety message

Our company-wide CRH Life Saving Rules Safety Alert is distributed monthly and is supported by various region-specific communication programmes that use a variety of ways to reach employees, including through video, social media and toolbox talks.

Excellence in safety performance is recognised through internal safety award schemes at business unit and regional levels. All breaches of safety procedures are subject to investigation and potential disciplinary action.

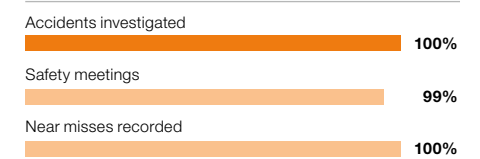
We work with our peers to create industry-wide safety standards. As well as influencing the safety and processes of contractors and suppliers, we help to lead regional and global discussions through our membership of the WBCSD and GCCA as well as regional industry associations including CEMBUREAU, the Europe cement association, and the National Asphalt Pavement Association (NAPA) in the US.

Monitoring the effectiveness of our safety systems

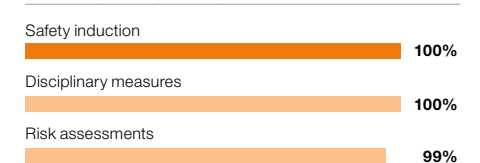
To deliver our ongoing commitment to safety, we carry out a comprehensive annual review of the health and safety performance of all Group companies. Our review findings form an agenda item for the SESR Committee and the Board and are fed back to our operating companies through our network of safety officers and at safety best practice meetings.

We also implement a global safety audit programme. In 2018 83% of our 3,700 locations were audited for safety by either internal safety managers or external agencies.

Safety management 2018 (% Group companies)



Employee safety management 2018 (% Group companies)



While mobile phones offer many advantages in terms of efficiency and availability, their inappropriate use by some when operating vehicles has become a significant hazard to all road users. The CRH Europe 2018/19 safety campaign, which is being delivered in 16 languages, focuses on this issue. It includes an interactive video with a participant booklet and guidance for all workshop facilitators.



Embedding a culture of safety

Tracking our safety performance

Achieving our goal of zero injuries is an ongoing challenge and understanding safety performance across our businesses is key to achieving this target. We track safety performance in real time and through weekly, monthly and annual reports. This enables quick learning to identify risks and continuously improve personal and process safety. We can then share lessons learned, with the goal of preventing future accidents.

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

Eliminating fatalities

Eliminating fatalities is our highest priority. Our mandatory CRH Life Saving Rules 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.

Our fatality elimination programme proved effective in eliminating employee fatalities in the past, with zero employee fatalities in both 2014 and 2015. However, continuing this

strong performance has been challenging and in 2018, we deeply regret to report the loss of three employees' and three contractors' lives in subsidiary companies, two 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.

Reducing accidents

Over the past decade, accident frequency and severity rates across the Group have reduced by an average of 10% and 8% respectively per annum, representing a significant improvement. This trend continued in 2018 with 94% of locations recording zero accidents, similar to the previous year.

Accident trends are similar to the previous year with an accident frequency rate of 1.7 lost time accidents per million man-hours.

The main causes of accidents in 2018 were: slips, trips and falls on the same level; falling objects or moving objects; and falls from height. The most frequent injuries were to the arms, hands, legs and feet.



Group frequency rate

(Number of lost time accidents per million man-hours)

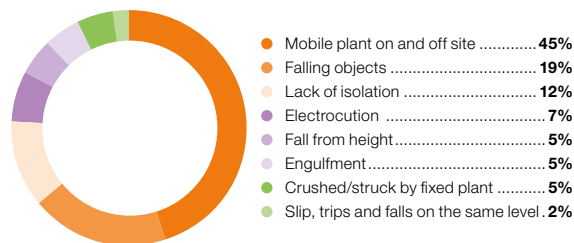
2018	1.7
2017	1.7
2016	1.9

Zero accident location

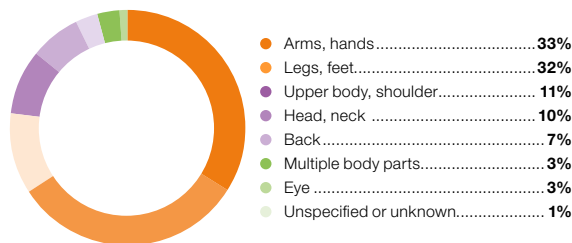
(% Group companies)

2018	94%
2017	94%
2016	90%

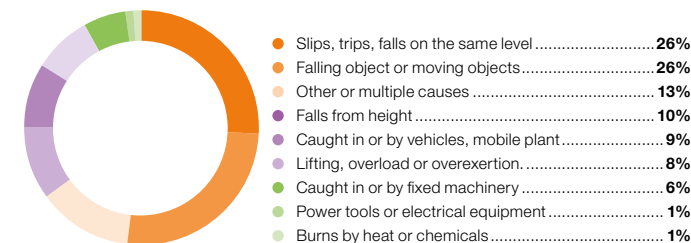
Fatalities by cause 2009 - 2018



Accidents by injury type 2018



Accidents by cause 2018





Embedding a culture of safety

Developing our safety culture

Our commitment to safety applies equally to our employees, our contractors and our customers. We expect everyone working at our operating companies to understand the safety risks associated with their role and to behave in a safe and responsible manner at all times.

Health and safety training

Training empowers people to make safe decisions based on knowledge, awareness and confidence that they are doing the right thing. We have developed a holistic approach to safety training using many customised training techniques including on-the-job training, use of technology platforms such as virtual reality and classroom training, delivered in all relevant languages. Our integrated frontline leadership programmes and senior management development programmes also include strategic safety modules. In 2018, employees completed a total of 1.8m hours of health and safety training, an average of 20.3 hours per employee across all categories.

Employee empowerment

We have regular safety meetings and 76% of employees were involved in formal joint management/worker safety dialogue to discuss ways we can improve safety in 2018.

Safety performance is incentivised where appropriate through recognition and in bonus structures however, everyone working at CRH has the authority to stop unsafe work on a no-reprisals basis.

Safety is also an integral part of discussions with trade unions, covering topics such as safety initiatives and ongoing fatality elimination actions. The CRH hotline is available for employees to report any safety concerns (refer to page 23).

Contractor safety

We employ contractors to carry out many different functions, from specialised work to supplementing labour requirements and delivering products. This presents a challenge as we do not have direct control over contractor processes, an issue that is common 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.

Robust safety management systems across our businesses require all contract employees to be competent and have the relevant training and qualifications to carry out the job safely. In 2018, we completed over 193,000 contractor transport safety checks to ensure competence and appropriate supervision. Our 'no-compromise' approach to contractor safety includes disciplinary measures where performance falls below expected standards. In 2018, 2,237 contractor disciplinary actions were recorded and addressed, demonstrating our robust approach.

Customer safety

We continuously focus on delivering high quality, safe products to our customers and our strong reputation and performance in 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 processes.



Contractor site induction

(% Group companies)



Safety training

(Number of hours per employee)



Following years of improvement, safety performance at CRH Canada, part of our Americas Materials Division, had flatlined. As highlighted by Division President, Wayne Lazzarato, "if we keep doing the same things, the same way, we will get the same results", and the management team realised the potential to drift into failure. This became the impetus to adopt the Human Performance (HP) initiative in 2018.

HP centres around six principles and actions, based on the facts that even the best people make mistakes, events can be avoided by learning and culture influences individual behaviours. Their ready-mix concrete teams were first to introduce HP training and error elimination tools. Results were positive, and key safety metrics improved, including the recordable incidents rate, which improved by 47%.

Today, HP teams across CRH Canada provide front-line employees the freedom to openly discuss the underlying factors that create risks on the job and then work with management to eliminate these factors. Combined with safety culture assessment action plans, these teams are driving a new level of safety engagement.

Embedding a culture of safety

Promoting health and wellbeing

We have an opportunity and a responsibility to raise safety and welfare standards and keep people out of harm's way. This is especially important when working with contractors and in emerging economies where there is a particular need.

Occupational health

As well as promoting 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, if not controlled, can cause long-term health issues.

By monitoring the health of our workforce, we help employers and employees understand the potential hazards people may be exposed to within our industry, allowing us to continually develop and promote effective health and safety procedures. We work with industry bodies to develop global best practice and standards across the building materials industry.

We actively assess and mitigate potential health risks in the workplace as part of our safety systems. 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 2018, demonstrating our success in occupational health.

Employee wellbeing

We implement employee health and wellbeing programmes across our companies, providing incentives, tools, social support and strategies to encourage our employees to adopt and maintain healthy behaviours. These programmes help our employees to maintain health and general wellbeing.

In 2018, 90% of Group companies had health and wellbeing programmes in place.

These focused on issues such as smoking cessation, stress reduction, diet, nutrition, fitness, weight management, vaccinations and drug and alcohol awareness. In addition, 86% of Group companies also offer assistance with employee health insurance.

Workers can access these programmes in different ways, depending on the region in which they work. These include face to face consultation with a medical professional, through a confidential helpline, and through an online service.

Healthy communities

We also address local health topics through our community programmes. An example is in the Philippines where our Republic Cement business has partnered with a local community development foundation, Gawad Kalinga, to deliver a campaign against child hunger and

malnutrition. Currently in its second year, over 2,700 schoolchildren (aged 5-9) in the Batangas and Bulacan communities are benefiting from nutritious vegetable-based lunch meals, delivered daily to their classrooms.

The programme engages the community, specifically the parents of the schoolchildren, who volunteer in the kitchen in meal preparation. The programme has seen a significant reduction in the incidence of malnutrition, as measured by the Department of Education Health Division, from 10% to 6% by the end of 2018.

We give our employees incentives, tools, social support and strategies to adopt and maintain healthy behaviours.



Following a successful 2017, Republic Cement, part of our Asia Division, has continued in its efforts to combat child malnutrition in the Philippines. The company launched a second 'kusina', a community space equipped with kitchen facilities, in its host community in Bulacan province this year. They have also developed a community garden for the growing of local fruit and vegetables that can be used by all involved in the project. Through the Kusina ng Kalinga (Kitchen of Care) programme, Republic strives to educate the surrounding community about the value of proper nutrition. Children also receive free, nutritious lunches from the kusina every school day.

CRH Denmark Heavyside precast panels are formed to exact specifications informed by Building Information Modelling and other digital tools.

Creating solutions for our customers

Serving our customers responsibly	35
Closing the loop	36
Delivering sustainable products	37

“Our customers are shaping the sustainable built environment of the future and they depend on us to provide the innovative solutions that enable them to do that. For CRH, collaborating around key themes such as climate change, the circular economy and resource efficiency is an important opportunity, delivering outcomes for our customers, our employees, our business and society.”

Onne van der Weijde
President, CRH's Europe Materials Division





Creating solutions for our customers

Serving our customers responsibly

Our organisation and culture is focused on serving the individual needs of customers around the world. We work with forward-thinking customers to innovate the design, delivery and application of sustainable products. Our role is to provide the construction, building materials and technical support that will enable our customers to deliver a more sustainable built environment.

Customer satisfaction

To understand how our products and solutions are meeting customer needs and identify areas for improvement, we carry out regular perception surveys across our markets. In 2018, out of the 56% of Group companies who carried out formal surveys, customer satisfaction was rated at a high level, with 94% of completed surveys indicating above average levels of satisfaction with our products and/or services.

Oldcastle BuildingEnvelope®, part of our Americas Products Division, manufactured and supplied a custom engineered curtain wall, windows and storefronts for the \$250 million Avalon North Station apartment complex, one of the tallest in Boston, Massachusetts, US. The Avalon North Station complex achieved Leadership in Energy and Environmental Design (LEED®) silver certification.

Product responsibility

Product responsibility concerns the impact of our products and services on the environment, our stakeholders and our customers.

We consider health and safety aspects from product concept stage right through to product use stage. Where necessary, our products are accompanied by Safety Data Sheets containing information on use, storage and application.

All of our companies operating within the EU comply with the European Regulation on

Chemicals (REACH) requirements in providing health, safety and environmental information.

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.



Customer relations and satisfaction

Our stakeholders tell us



The use of Oldcastle Building Envelope's curtainwall system on the award winning CallSO Headquarters project gave us greatly expanded possibilities of glazing. It allowed for fine tuning of systems relating to daylighting and energy modeling which provided us great benefit in achieving a rating of LEED Platinum. The result was a striking building that has won over a dozen design awards.

Kris Barkley,
Principal Designer,
Dreyfuss + Blackford Architecture

What's in place to manage it?

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

What are the challenges?

Meeting evolving customer expectations and devising effective strategies to overcome the technological, operational and cultural barriers to meeting these needs.

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.

Creating solutions for our customers

Closing the loop

The concept of a 'closed-loop' or 'circular' economy decouples growth and prosperity from our use of natural resources. It challenges us to create a more regenerative system that ensures valuable resources are reused and recycled for as long as possible as part of new product life-cycles, while fostering sustainable economic growth.

Alternative raw materials

By rethinking and redesigning our products and components, we improve the life-cycle performance of buildings and provide end-of-life solutions for our products. In 2018, we re-used a total 32m tonnes of alternative raw materials, substituting 8% of the virgin materials we would have otherwise used.

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 by replacing certain virgin materials needed for cement clinker manufacture. You can find out more on page 57.

Strategic partnerships for the circular economy

We actively participate in the WBCSD, GCCA, CEMBUREAU, Portland Cement Association (PCA), European Ready Mixed Concrete Organization (ERMCO) and other trade associations which promote the long-term benefits of concrete for the circular economy.

We also focus on providing input and monitoring in the standardisation processes of low-carbon cements through our participation in industry association working groups. This includes Factor10, a WBCSD project on circular economy which looks across full value chains to take high-level principles into actionable business practice.

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 track indicators on a product-by-product basis through our performance systems.

What are the challenges?

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?

Maintaining the strong relationships we have established with our customers, suppliers and standard setters throughout the value chain to ensure that we can use the optimum raw materials to meet our high quality standards.

RAP and shingles

(m tonnes)



C&D

(m tonnes)



Other reused material

(m tonnes)



11m tonnes of RAP and shingles

RAP (recycled asphalt pavement) is removed and reprocessed road surface material. Shingles are an asphalt cladding material. Together, they accounted for 22% of total asphalt requirements amongst our companies in the US in 2018.



8.5m 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.



9.9m 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.



2.6m 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.


Creating solutions for our customers

Delivering sustainable products

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

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 has developed a Responsible Sourcing Scheme industry standard for concrete.

Products with sustainable attributes

We offer multiple products and building solutions that contribute to a sustainable built environment, including:

- 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



Hardrives, Inc., part of our Americas Materials Division, collaborated with the Minnesota Department of Transportation and Cargill on a research project to identify the best performance-engineered mix design procedures using high levels of reclaimed asphalt pavement (RAP) and rejuvenators. In early October 2018, Hardrives Inc. paved approximately 3,000 tonnes of RAP. These will have ongoing laboratory testing and field monitoring, providing a platform for performance-based design protocols and quality control.

- Products with a lower environmental footprint such as low-carbon cement, warm-mix asphalt and products with high recycled content

A total of 42% of our product revenue is from products with enhanced sustainability attributes, demonstrating the importance of this market.

Green Building Solutions

From healthy, energy-efficient buildings to green infrastructure, our products can make a real difference in addressing the sustainability challenges that increased urbanisation brings. An increasing number of our products are helping customers achieve higher scores in green building rating schemes such as BREEAM®, DGNB, and LEED®. Overall, 24% of our relevant product revenue is from products that can be used in certified sustainable building schemes. Relevant product revenue for this metric is revenue from products that can be

used directly in structures such as concrete and building envelope products and not intermediary products such as cement and lime.

We are an active advocate of increased product transparency and provide information on the environmental performance of our products, supported by Environmental Product Declarations (EPD).

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

42% of our product revenue is from products with enhanced sustainability attributes

Sustainable products

Our stakeholders tell us

“With a growing global population that is set to exceed 9 billion by 2050, the need for a sustainable building material is greater than ever. Concrete, with its versatility and inherent performance benefits, is providing solutions to the challenges of a changing world - solutions that are low carbon, long lasting, resilient and built from local materials. Realising the full potential of concrete is achievable with commitment and collaboration between the supply industry, architects, engineers and clients.”

Andrew Minson

Concrete and Sustainable Construction Director, Global Cement and Concrete Association (GCCA)

What's in place to manage it?

Technical advice for our customers to help use our products in a more sustainable built environment.

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.

Employees at CRH Serbia's Novi Popovac plant, part of our Europe Heavyside Division, where there is a focused strategy for employee development, including a partnership with a local management academy, where employees both lecture and attend.



Developing and empowering our people

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Fostering diversity	42
Rewarding our employees	43



“ To successfully compete in the global talent marketplace at a time of rapid change, our industry needs to do more to communicate that it offers meaningful and rewarding careers. This makes it ever more important that we attract diverse talents, focus on empowering our workforce to develop skills and capabilities, and inspiring the new generation joining us that will meet our needs in the future.”

Alex Jacob

Senior VP of Human Resources, CRH's Europe Materials Division

Developing and empowering our people

Applying our robust social policy

With almost 90,000 employees in 32 countries, CRH is a multinational and multicultural organisation. Our aim is to attract and develop a global workforce that is as diverse as our customers and communities, recognising that people are critical to sustaining competitive advantage and long-term success.

We treat our employees with integrity and fairness and clear requirements are set out in Group policies and guidelines. These outline management responsibilities in key areas including employment, human rights, procurement, competition law and customer relationships together with obligations regarding charitable and community activities.

We apply our Social Policy (see page 69) rigorously across all our operating companies. It highlights 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 (see page 17).

Our Social Policy also aims to ensure fair and equal remuneration that meets the evolving needs of the Group and supports the delivery of the CRH strategy.

Implementation of our 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, supported by Human Resources teams and Group management.



Ancon, part of our Europe Lightside Division in the UK, was awarded the Queen's Award for Enterprise in the Innovation category. Ancon received the award - shared with strategic partners MagmaTech Ltd. - for the successful introduction and ongoing development of its low thermal conductivity range of wall ties. When used to join the two leaves of a masonry cavity wall, these ties virtually eliminate cold bridging across the insulated cavity, improving the energy efficiency of the building envelope.



For the seventh time in a row, EQIOM, part of our Europe Heavyside Division, has been recognised as a Top Employer for the quality of work life it offers to its employees.



Developing and empowering our people

Engaging with employees

Everything we achieve is made possible by the 90,000 engaged and talented employees who deliver our strategy, products and materials and who are the reason for the success of the organisation.



Oldcastle Infrastructure (OI), a company within our Americas Products Division, has rolled out the OI employee app. This new tool allows better environmental, health and safety communication with our employees and provides them with a mechanism to report incidents or conditions. It also displays our four focus UN Sustainable Development Goals - see page 20.

Culture of communication

We want our people to reach their full potential and play their part in the success of our business. We foster a culture of open communication that ensures we understand our employees' needs and that they have the necessary information and skills needed to help deliver our strategy.

In 2018, 86% of employees were included in regular employee briefings - informal meetings that take place where open dialogue is encouraged. There are also suggestion schemes in place at many of our companies.

Monitoring employee satisfaction

We aim to foster a dynamic, entrepreneurial environment to drive global collaboration and innovation. To keep our efforts on track and measure how far our employees believe we

are living our values, we monitor employee satisfaction and feedback both formally and informally. With an average of 24 employees at each location, we benefit from close working relationships between management and staff, which also supports informal monitoring.

In 2018, 27% of employees participated in formal employee satisfaction surveys, covering both management and staff. Results indicated a high level of employee engagement, with 100% of those indicating engagement in the "engaged" or higher categories.

Our operating businesses use the insights we gain through employee feedback to inform ways of working, engagement strategies and leadership development approaches.

Employee engagement

Our stakeholders tell us

There is fierce competition for qualified workers among companies in America's aggregates industry. Building materials companies like CRH understand that today's employees want more than just a job. The men and women working in America's quarries produce the very building blocks of our infrastructure, economy and communities. CRH's recruitment practices, employee development programs and employee engagement show that CRH understands how to listen to employees and enable them to use their talents to deliver success for themselves, the company and the communities in which they work."

Michael W. Johnson, IOM
National Stone, Sand & Gravel Association
President and CEO

What's in place to manage it?

Our Social Policy (page 69) informs local HR practices to ensure we have the right people at every level of the organisation to run our business.

What are the challenges?

The success of a company relies on the engagement of employees. When employees are not actively engaged, it can have detrimental effects on an organisation.

What's next?

Continuing to champion diversity and inclusion and increasing our focus on talent management, leadership development and creating a globally mobile workforce.

Reaching our employees in a decentralised, dynamic and diverse organisation



Global Level

- Online newsletters
- Video messages
- CEO blog



Company Level

- Employee briefings
- Open dialogue
- Suggestion schemes
- Exit interviews
- Newsletters



Regional Level

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



Developing and empowering our people

Developing our employees

Continuous development of our employees ensures we have the talent and capabilities we need, now and in the future. We provide employment opportunities at all skill and education levels.

Professional development

We provide access to world-class learning and development resources, educational and performance support systems and educational reimbursement for job-related degree programmes. This is particularly important in smaller communities where we make a significant contribution to local employment. In 2018, 88% of our companies offered career development opportunities or advice to employees. Career guidance was received by 51% of management, 28% of operational employees and 25% of clerical/admin staff globally.

We promote international mobility across the different lines of business, particularly in the management category. Employees have the opportunity to work outside their native state or country for long or short-term assignments to expand their skills base and develop their careers.

Employee training

In 2018, we invested 2.7m hours of training across the Group, equivalent to 31 hours per employee. Our focus is on teaching our employees new skills and deepening expertise in areas such as 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 and in 2018 98% of employees received training.

Leadership development

We aim to cultivate a diverse leadership base in terms of both nationality and culture, which can develop other leaders, empower teams that can create and innovate on behalf of customers and inspire our employees to be the best at what they do.

Our 'CRH Leadership Profile' outlines the core competencies for leadership development which are now being fully integrated within performance management and leadership development programmes. We commit significant resources to 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.

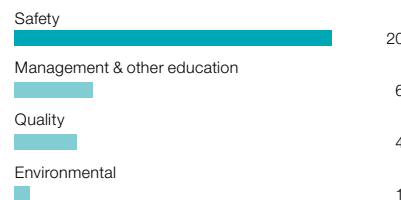
Supporting graduates and apprentices

We offer successful graduates and apprentices the opportunity to gain hands-on experience across various aspects of our operating businesses at many of our operating companies. We continue to progress 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.



Participants in the Graduate Programme at our Podilsky Cement Plant, Ukraine, part of our Europe Heavyside Division. Through its graduate programme, Podilsky Cement aims to team up with tomorrow's brightest creative talents and make products that create opportunities for everyone.

Training by type 2018 (Hours per employee)





Developing and empowering our people

Fostering diversity

Our international employee base represents a broad range of ethnicities, backgrounds and experiences, creating an inclusive workforce and helping us understand and meet the needs of our global customer base.

Equality in the workplace

We focus on equality beyond the numbers, ensuring both women and men feel included and appreciated for their contribution at all levels. Group companies have policies to ensure equal pay for women and men. We also offer equal opportunities to people of all working ages and to those with disabilities where possible. At present, 7% of our workforce are under 25 and 37% of our workforce are millennials. A total of 1,690 people with disabilities were employed across 54% of Group companies during 2018.

Striving for gender balance

The building materials industry has traditionally attracted a larger number of males and gender diversity remains a particular challenge. Overall, males comprised 84% of our employees in 2018. In operations, 8% of employees are female and 43% in clerical/administration roles. At management levels, 15% of managers and 10% of senior managers are female.

Relatively, our gender balance is good for the industry, however, we are 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 (see page 11 for our article on 'inclusion and diversity').

Developing a diverse talent pipeline

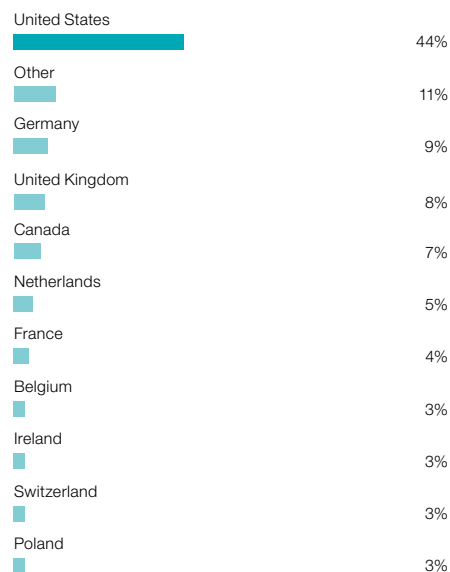
Attracting, developing and empowering the next generation of performance-orientated, innovative and entrepreneurial leaders is an ongoing priority. We increasingly focus on secondary level students and encourage females to consider careers in science, technology, engineering and mathematics (STEM) subjects in the building materials industry. We are also 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.

Read more about our inclusion and diversity focus on page 11

Small steps to achieve bigger things: Tarmac, part of our Europe Heavyside Division in the UK, has had a sustained focus on diversity and inclusion, concentrating recently on supporting women in the industry and youth employment - pictured are apprentices at Tarmac's Cornelly Quarry in South Wales. Recognising that open and inclusive businesses are better placed to deliver long-term value, further considered steps are being taken across the whole company to build a diverse talent pipeline and nurture inclusion at all points of the employee journey. Tarmac is also aiming to make targeted progress in additional inclusion issues such as social mobility.

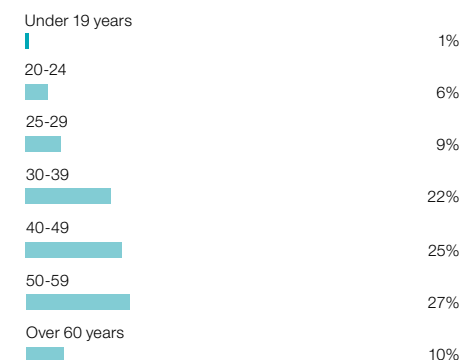
Employee by country 2018



Gender balance by category 2018 (% female)



Employee by age



Developing and empowering our people

Rewarding our employees

While things are changing quickly in society, our industry is still perceived as relatively traditional. Here at CRH, we strive to meet the evolving standards expected of a modern-day employer to attract and retain talent and inspire our dedicated workforce.

Satisfying working conditions

We strive to be an attractive and inclusive workplace where our employees are satisfied with their work and have the drive to engage and inspire our customers.

As a minimum, we comply with local wage and working time laws and our operating companies offer entry-level wages at or above the minimum wage. We also promote flexible work practices where appropriate to accommodate a healthy work-life balance for our employees, approximately 4% of whom work part-time. 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 and change management

More than 41% of our employees have been working in our businesses for over 10 years, bringing a balance of knowledge and experience. The seasonal and cyclical nature of our industry means our workforce and management are required to deal with peaks

and troughs in demand. Our employee turnover rate is 21%; this includes seasonal employees, many of whom return year after year. We work to limit the impacts of seasonality and we provide assistance to employees and managers with retirement planning and downsizing when it is 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.

Rewarding our employees fairly

We reward our employees based on performance, their contribution to the success of the organisation and the extent to which they demonstrate behaviours that reflect our values. 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. Our reward systems are transparent and can be designed to reward the entire workforce, sending a positive message about our values and ways of working.

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 provided in accordance with regulatory and industry practices in particular jurisdictions.

Rudus, part of our Europe Heavyside Division, continued its tradition of organising an occupational safety orientation event for summer recruits at its Safety Park. This year's orientation was a one-day event, in which inductees were given a guided tour of the safety park which features simulated dangerous scenarios and instructions on how to manage these situations.



CRH collaborates with the Wildlife Habitat Council to enhance biodiversity at many of its locations across North America. This insect hotel was constructed by employees and their children on the award-winning wildlife habitat site of Stoneco Ottawa Lake Quarry, Michigan. The Quarry achieved Wildlife Habitat Council certification in 2018.



Collaborating and engaging for sustainability

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“The societal challenges we are facing require a pace of change and innovation that can only be achieved by working together across sectors and industries. Our motivation to engage and collaborate goes beyond economic, social and environmental responsibility. We want to create lasting value for all our stakeholders by building partnerships across the value chain.”

Hillary Johnson
Community Relations Director, CRH Americas





Collaborating and engaging for sustainability

Engaging with our stakeholders

We engage with multiple stakeholders around the world, serving as a materials and products provider to millions of projects, an employer to thousands and operating as a family of businesses immersed in our local communities. We take an inclusive, collaborative and responsive approach to developing stakeholder relationships, while empowering our businesses to deliver local engagement in an inclusive and transparent way.



Callanan Industries and Tilcon New York Inc, both operating companies within our Americas Materials Division, were joint-winners of the NAPA Community Involvement Award. Callanan Industries was acknowledged for its 'Callanan in the Community' programme, and Tilcon NY was recognised for over 40 community relations activities with active employee participation.

Stakeholder engagement process

We take a wide view on our stakeholder landscape which includes investors, customers, employees, NGOs, local communities, assessment organisations, advocacy groups and other interested parties. In the table on page 46, we summarise our key stakeholder groups and some of the ways we engage with them.

Locally, our businesses thrive on regular engagement with customers, suppliers, neighbours and communities. In 2018, our companies hosted over 1,300 stakeholder engagement events and participated in many more. In addition, many of our employees give their time to our communities in many ways, including participating in Boards of charities and industry associations.

Interactions with legislative and regulatory authorities are handled at company level, product group or regional level, as appropriate. Company representatives are also involved with educational institutions in most of the countries in which we operate.

Using outcomes of stakeholder dialogue

Stakeholder input is particularly important in developing, implementing and continuously improving our sustainability policies and commitments. We use the outcomes from our stakeholder interactions to identify gaps and opportunities for our businesses at a global and local level. This analysis then feeds into our action plans for relevant areas.



Stakeholder engagement

Our stakeholders tell us

Business is inseparable from the community. The taxes paid by Cement Ożarów S.A., a CRH Company, employees allowed the town of Ożarów to make investments in modern municipal facilities such as water supply, sewerage and public buildings. The voluntary support of the company enriches the community through promoting sports clubs, hosting an annual 2-day community event and sponsorship of art and music events. With 95% of the employees from Cement Ożarów S.A. living locally, there is no division into “we” and “they”.

Mr Marcin Majcher,
Mayor of Ożarów, Poland

What's in place to manage it?

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

What are the challenges?

Ensuring that all necessary stakeholders are identified and involved in business activities and growth.

What's next?

The outcome from stakeholder engagement informs continuous improvement processes and plays an important part in our Materiality Assessment (see page 67).

Collaborating and engaging for sustainability

Stakeholder groups

	Employees	Local communities	Investors	Customers	Suppliers	Government and regulators	Academic and 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 Human rights 	<ul style="list-style-type: none"> Potential local impact Health and safety Environment and climate Corporate governance Planning matters Natural capital Standard setters 	<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/briefings 	<ul style="list-style-type: none"> One-to-one meetings Open days Site tours Participation in local events Employee engagement processes 	<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 Exhibitions 	<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 Intern, 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	Ongoing	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 and maintaining our licence to operate	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 and innovative 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

Collaborating and engaging for sustainability

Managing our supply chain

Together, our companies purchase around €17 billion of goods and services from 148,000 suppliers every year. They also extract raw materials – such as aggregates, sand and gravel – to use in our own processes as well as to supply to external customers.

With such a complex supply chain, understanding the impacts of our sourcing processes and taking direct action to manage our risks is an ongoing priority.

Tarmac, part of our Europe Heavyside Division, has been working with its customers and supply chain to encourage the recovery of pallets for repeated use. The cost model incentivises major customers to return used pallets and suppliers to remanufacture and redistribute pallets instead of using valuable resources to produce new ones. Tarmac has now doubled its use of repatriated pallets over 5 years - moving up to 145,000 per annum. In the last 5 years, the scheme has saved 2,200 tonnes of timber, equivalent to 19,000 trees.

Our supply chain footprint

We aim to develop a responsible sourcing approach that is world class and ensures our businesses are well-equipped to deal with the challenges of implementing and managing a sustainable supply chain.

The CRH Group Procurement Council oversees all aspects of purchasing strategy, policy, targets and objectives.

Core business lines each have their own specific supply chain footprint with different characteristics, challenges and opportunities:

- Our Materials businesses are vertically-integrated and often extract much of their own raw materials or use 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



Target
100%
Supplier Code
of Conduct



Supply chain

Our stakeholders tell us

By working collaboratively, as partners across the pallet supply chain, Tarmac, Scott Pallets and key customers have together delivered fantastic results. Through the recovery and reuse of pallets produced from sustainably sourced timber, the innovative Green Pallet Scheme fits perfectly with our shared circular economy objectives.

Karen Hunter,
Group Marketing Director, Scott Group

What's in place to manage it?

Our processes have been developed to meet the principles set out in ISO 20400. We assess our supply chain risks at a commodity level. This means we can identify and prioritize sustainability opportunities that can make an impact on our business and the communities we work within.

What are the challenges?

Our main challenge comes down to the sheer size and complexity of our supply chain. Understanding where our main risks are and prioritising areas for improvement is key to achieving real progress with our supply chain partners.

What's next?

We are targeting 100% compliance by relevant suppliers with our Supplier Code of Conduct and looking at what future targets and outcomes will be appropriate to support our sustainable development agenda. We have undergone a review of our policy requirements and plan to update these in 2019.

Collaborating and engaging for sustainability

Managing our supply chain – continued

Responsible sourcing strategy

Our customers and stakeholders want assurance that the products we supply are produced in a responsible way. We have systemised our sourcing strategy in five clear stages, known as our “pathway to impact”, as highlighted in the infographic on this page.

Understanding our risks and opportunities

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. Based on the risks identified and the outcomes of an accompanying opportunity assessment, we enhance our Category Strategy Plans to drive improvement actions at the point where we have most influence with our suppliers.

Collaboration in sustainable supply chain management

We aim to support the transition towards more responsible supply chains across the entire industry. We engage with suppliers, governments, businesses and other partners and collaborate to find new ways to innovate and create positive change.

We also support local communities by using local suppliers where feasible, aiming for a sustainable supply chain. For example at our Aberthaw cement plant, 25% of our spend was within 25km and 35% within 50km.

€17 billion spend 148,000 suppliers

45% in Americas | 52% in Europe | 2% in Asia | <1% in the Rest of the World

Our supply chain risks

Commodity	% Spend	Safety	Health	Labour practices	Fairness, inclusion and respect	Social value	Energy and climate	Environmental stewardship	Resource efficiency	Circular economy	Water	Economic growth	Governance and ethics
Packaging	2%	■	□	■	■	□	□	■	■	■	□	□	□
Chemicals	3%	■	■	□	□	□	■	■	■	■	□	□	□
General services	10%	■	□	■	■	■	□	□	□	□	□	■	■
Building components and manufacturing materials	19%	■	■	■	■	■	■	■	■	■	□	■	□
Energy	8%	□	■	□	□	□	■	■	■	□	□	□	■
Production and mobile equipment	11%	■	■	□	□	□	■	□	■	■	□	□	□
Raw materials	20%	■	■	■	□	■	■	■	■	■	■	■	■
Logistics	15%	■	■	■	■	■	■	□	■	□	□	■	■
Maintenance and production services	12%	■	■	■	■	■	□	□	□	□	□	■	□

High ■ ■ ■ ■ Low

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

Clear and robust policies and standards that reflect best standards.



Enablers

Developing 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.



Sourcing process

Integrating safer, fairer, cleaner and better performance in all of our procurement and buying activities

Benefits



Reduced risk

By integrating CSR requirements at the start of the tender stage we are able to mitigate risks more effectively than after the event.



Innovation

Sustainability and innovation is increasingly linked and often leads to lower total cost of operation solutions.



Collaboration

Responsible sourcing creates a critical narrative that can demonstrate trust and deeper relationships with both customers and suppliers.

Collaborating and engaging for sustainability

Respecting human and labour rights

Stakeholder expectations of business to uphold human rights have never been higher. We have always seen it as our responsibility to respect human and labour rights, no matter where we operate in the world.

We 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. Our commitment is formalised through our Code of Business Conduct (CoBC) (see page 23).



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

Managing human rights risks

We use a number of mechanisms to assess and manage risks in relation to human rights. These include our Enterprise Risk Management Framework (see page 22), our annual review of social performance, which includes a focus on human and labour rights, and our supply chain risk assessment processes (see page 48). We have determined that within our sphere of influence, the greatest risk area for human rights is within our supply chain.

Upholding human rights in our supply chain

Our potential impact on human rights can occur anywhere along the value chain and could include issues relating to labour rights, child labour and forced labour to poor health and safety standards and impacts on local communities.

We use risk assessment to identify our high-risk commodities. Currently, these include natural stone, wear parts and some alternative fuel sources. Where we discover potential human rights risks in our supply chain, we investigate them openly and transparently with our partners, adopting an appropriate level of interaction and intervention to manage the risk.

Labour practices

We review labour practices annually across all Group companies. In 2018, we found 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 were members of trade unions in 2018. A number of our companies are unable to disclose this information due to regional legal restrictions and we respect this position. Membership varies by country, with union membership exceeding 70% in certain countries.

Wage negotiation is carried out depending on local industry practice. In 2018, 75% 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 low again in 2018, with just 8,917 man-days lost, equivalent to 0.04% of all man days.

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

CRH has made a good start in tackling modern slavery in its overseas supply chains. CRH has shown it appreciates the many factors and challenges that vary by product and service. It would be good to see how suppliers continue to embrace better ways of working and how CRH can share this learning with others in industry, as well as more transparency, while recognising the need for balance between detail and brevity in the annual report.

Dr Shamir Ghumra,

Director BREEAM, Building Research Establishment (BRE)

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.

What are the challenges?

We have determined that our greatest risk areas for human rights abuses are within our supply chain.

What's next?

We will continue to improve our processes in line with evolving best practice, with a focus on ensuring 100% of our relevant suppliers are compliant with our human rights and labour policies by 2020. We continue to publish our 'Commitment to Human Rights' Modern Slavery Statement', which is available on www.crh.com and updated annually.



Collaborating and engaging for sustainability

Engaging with communities

We are very much embedded in the local communities where we extract our raw materials and where we manufacture and distribute our products and services. Over 90% of our employees live in the area local to our businesses. Further developing mutually beneficial relationships with our local communities helps differentiate us as a desirable organisation to work for and do business with.

We aim to use our reach and influence to maximise our positive impact. Our companies contribute to their local communities through employment, supporting educational development and supporting local businesses.

Engaging with our local communities

We constantly strive to promote positive neighbourly relations and understand the needs and priorities of local stakeholders. To achieve a consistent approach, our companies are

In 2018 Cement Ożarów, S.A., part of our Europe Heavyside Division, celebrated forty years of consistent production, loyal service, and community involvement. Cement Ożarów first opened in 1978, and was acquired by CRH in 1995. Now, Cement Ożarów boasts the largest cement kiln in Europe, and CRH Poland has expanded to include lime, blacktop, readymix concrete and paving businesses.

developing community engagement plans in all relevant locations, to help us understand and address any concerns and take responsibility for potential impacts.

Investing in our communities

Community investment is one of the ways we contribute to thriving and inclusive communities. In 2018, we donated €4.9 million to local organisations and initiatives, focusing on the most prevalent needs in our communities (see page 72 for a breakdown of donations by priority area). Education is a focus area, and as well as donations, we had over 980 educational interactions with 49,800 people participating. These interactions included career development guidance for students, bringing science alive, provision of work experience and site tours for students. In addition our Rocks Build our World programme, which is run in the US, enables school children to learn about our industry in a classroom setting.

Understanding our social impacts

Like many global companies, assessing the impacts of our social investments is an ongoing challenge. We are focused on measuring the global impacts of our investments – including

financial, nonfinancial and social benefits – so that we can make informed choices and scale up our positive contribution.

In 2018, we commenced a trial of a Group-wide Communities Reporting Tool to develop a systematic approach to measuring inputs and outputs of our investments and projects.

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.

Many of our companies are developing partnerships to tackle the housing crisis in their own communities. For example, our North American business sponsors a company-wide Habitat for Humanity project each year, uniting employees to build a home for a family. In addition to employees' hands-on participation, we donate products including concrete block, pavers and mulch. More impressive than the material and financial support is the impact that these types of partnerships have on neighbourhoods, communities and individuals.



Community engagement

Our stakeholders tell us

“Successful community engagement requires the desire to understand the needs of local communities and address those specific issues in a meaningful way. We've been fortunate to partner with CRH and Dufferin Aggregates, a CRH Company, for many years, focusing on ways in which they contribute to addressing the unique needs of our children and families, and more globally, to build capacity and increase livability in the community. For The Darling Home for Kids, partnerships are critical to ensuring the sustainability of our programs.”

Kristin Horrell, Chief Executive Officer

The Darling Home for Kids,
Milton, Ontario, Canada

What's in place to manage it?

Our companies have developed strong partnerships with their local communities in line with Group guidelines and local operating company procedures.

What are the challenges?

We want to ensure that we make a real and lasting impact within our local communities through our efforts, however, tracking outcomes and measuring benefits is challenging.

What's next?

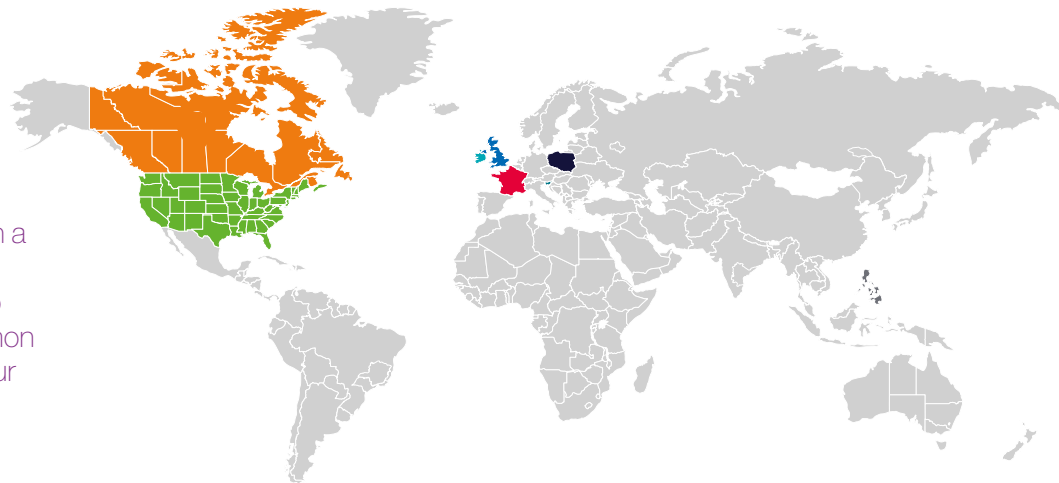
Our businesses are required to implement a community engagement plan where appropriate and we have a target that 90% of relevant businesses have such a formal plan by 2020.



Collaborating and engaging for sustainability

Creating value for communities

We aim to build more capable, inclusive and resilient communities through a shared global approach that considers the specific needs of each community. Our social strategy aligns with our core business strategy to empower communities and provide opportunities for us to create common value across our global footprint. Here are some examples of the way our businesses supported their local communities in 2018.



Canada

In 2018, CRH Canada participated in “The Big Bike Ride” in support of the Heart & Stroke Foundation of Canada. This emphasises health and safety by raising awareness among employees and the public about heart health while raising funds to support building capacity in the community to address this important health issue.



United States

One way CRH Americas promotes corporate social responsibility is by sponsoring a Habitat for Humanity home. Each year, CRH supports a build and donates products to the construction of a safe and affordable home for a deserving family. Employees are instrumental in building the entire home from start to finish. These homes not only make a lasting impact for each family, they also help to build thriving communities.



Ireland

Employees from Irish Cement and Roadstone, part of our Europe Heavyside Division, collaborated in the improvement of the playground at Mount Hanover School in Duleek, Co. Meath, Ireland. Under the supervision of Irish Cement engineers a new drainage system was installed, before Roadstone resurfaced the entire playground.



UK

Tarmac, part of our Europe Heavyside Division, is the national partner for the ‘Solutions for the Planet’, an award-winning social enterprise that encourages young people to consider science and technical careers and engage with sustainability issues. Tarmac delivers mentoring to participating schools across the country, providing opportunities for both the participants and mentors to think creatively and develop new skills while tackling pressing sustainability issues.



France

EQUIOM, part of our Europe Heavyside Division, actively encourages its employees to take part in community initiatives through its ‘Together and Solidarity’ week, which occurs every two years, allowing each employee a day off work to volunteer with local community organisations and charities.



Slovakia

CRH Slovakia, in partnership with the town of Rohoznik, provide annual grants up to a total of €20,000 as part of the ‘Our Rohoznik’ program. Community organisations apply for a grant for a variety of projects within the region and are assessed on the long-term benefits of the projects for not only the inhabitants of Rohoznik in terms of education or environmental improvement, but also for the potential to improve the life of the community.



Poland

Cement Ożarów S.A. has forged a 40-year link with the local community – supporting the community through corporate citizenship initiatives as well as its role as a major customer, supplier, and producer of building products. In 2018, the local community joined to celebrate this milestone.



Philippines

Republic Cement, part of our Asia Division, continues its efforts to combat hunger and malnutrition among public schoolchildren in its local community through the Kusina ng Kalinga (Kitchen of Care) program, which works with local stakeholders to provide nutritious lunch meals for the schoolchildren. They have also developed a community garden for the growing of local fruit and vegetables that can be used by all involved in the project.

CRH Canada's biodiversity initiatives are focused on creating habitats that complement adjacent lands and enhance opportunities for attracting new native species, such as the Red Fox located at the Dufferin Aggregates Flamboro Quarry.



Protecting the environment

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“Every day, we see more and more evidence that human activities are pushing our planet towards its natural limits. Now more than ever before, we must focus on building a low carbon, energy efficient, circular and restorative business. Not only will it secure our licence to operate in the long-term, it will underpin our success by delivering both financial and extra-financial benefits.”

Angela Edralin-Valencia
 Director for Environmental Performance and Community Relations,
 Republic Cement, a company within CRH's Asia Division





Protecting the environment

Applying our robust environmental policy

Many of our companies are resource intensive and we depend on natural resources to sustain our business. We have a responsibility to ensure strong environmental management to drive continuous improvement and reduce our impacts. It also delivers financial benefits and helps to protect our licence to operate. We focus on harnessing sustained value from our environmental strategies in all areas of our business.

Our environmental impacts and opportunities vary across our diverse activities. Our greatest challenges lie in our heavyside activities, which include our 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, and so, to ensure a consistent approach, we apply our Environmental Policy across all our operating companies.

Our Environmental Policy (see page 69) demonstrates our commitment to implementing and exceeding best practices concerning

environmental issues and forms the foundation of environmental improvements to be made across our organisation. It also applies to 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 operating locations. They are supported by a network of experienced Environmental Officers who engage with each other and regional and

Group specialists to share best practice and experience.

We monitor implementation 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 covers all subsidiaries and most joint ventures and associates to confirm that potential environmental risks are being appropriately managed.

Pike Industries, part of our Americas Materials Division, received the National Asphalt Pavement Association (NAPA) Ecological Award for relocating and retrofitting an asphalt plant to improve efficiency and sustainability. Renovations included paving the site so that stormwater would now run into the quarry's holding pond, installation of a new counterflow drum mixer to increase plant energy efficiency, and the purchase of a new baghouse for air emissions abatement.





Protecting the environment

Mitigating our potential impacts

We strongly believe in leading by example and implement environmental best practices to meet stakeholders' increasing expectations around sustainability. By mitigating against our potential impacts on the environment, we are helping to preserve the natural resources that we depend on and increase our chances of thriving in a globally competitive market.

Strengthening environmental management

The building materials industry is, by nature, a very environmentally intensive sector and subject to stringent laws, regulations and standards to minimise impacts on the environment. To comply with these standards, we require all of our companies to establish appropriate environmental management systems (EMS), in line with local environmental permit requirements.

In 2018, c. 1,000 Group locations were certified to ISO 14001 Environmental Management System (EMS) standards and 53% of our subsidiary clinker plants were ISO 14001 certified. Our target is for 90% of relevant businesses have a permitted or certified EMS by 2020.

Environmental compliance

Our policy is to address and resolve compliance issues as soon as they are discovered and we are pleased to report continued excellence in environmental compliance in 2018. During the reporting year, fines totalling €661k were paid to regulatory authorities. These related to a number of minor issues, none of which caused significant environmental damage.

Environmental investments

We continuously invest in technology and efficiency projects across our operating companies to enhance environmental performance, as well as investing in the environmental expenditure element of major investment projects.

In 2018, our total environmental expenditure was €154 million in areas such as carbon reduction projects, resource efficiency and water management equipment.

Environmental performance goals

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

Cementbouw, part of our Europe Heavyside Division, is a leader in putting environmental management and circular economy considerations at the heart of its processes. Working with partners across the Netherlands in its "Concrete remains Concrete" concept, Cementbouw recycles construction waste in its products. Overall, 8% of raw materials in readymixed concrete plants and 30% of raw materials in precast concrete are from such recycled material. The aim is to re-use 100% of available concrete rubble by 2025, which would replace up to 1 million tonnes of sand and gravel. Cementbouw also uses geopolymers in the manufacture of products. These silicate-based materials are sourced from slag, mineral dust or other by-products and help reduce the CO₂ footprint of a product by up to eighty percent.



Target
Recent acquisitions integrated in roadmaps



Target
90%
Environmental management system

Significant areas of environmental expenditure 2018

Emissions reduction	34%
Monitoring licensing and other operational expenses	22%
Waste management and reduction	17%
Reduction of water usage and discharges	9%
Restoration and biodiversity	6%
Increasing use of alternative materials and fuels	5%
Energy reduction and process optimisation	4%
Other	3%

€154 million investment in environmental performance





Protecting the environment

Focusing on climate change

Climate change is one of the most urgent issues facing society but, despite international efforts, emissions continue to rise. In 2018, UN's International Panel on Climate Change (IPCC) Report set out the dangerous trajectory we are on and highlighted the need for broad and systemic change.

Our integrated climate approach

Addressing climate change is a cornerstone of our approach to sustainability. We acknowledge the 2015 Paris Climate Agreement's target to limit global warming to below 2°C, with efforts to keep targets to 1.5°C above pre-industrialised temperatures. To play our role in achieving this, we are working to drive down emissions across the entire value chain, with a focus on our high-

emitting cement activities. We also recognise the contribution many of our products can make to carbon emission reductions from buildings, through, for example, harnessing the thermal mass property of concrete for improved building energy efficiency, and the use of building envelope solutions such as 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.

We also plan to address the recommendations from the Task Force on Climate-related Financial Disclosures (TCFD). Read more about our plans on page 10.

Our carbon footprint

Our carbon footprint includes 100% of our activities – from production to distribution. Our main source of CO₂ emissions is our cement and lime processes. In 2018, our cement and lime activities accounted for 93% of our direct CO₂ emissions and these activities are a key focus of our Group-level reduction target (see page 19).

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 40% were covered by an emissions trading scheme. In assessing capital investment projects, we use an internal carbon price mechanism which takes into account the context of the project, including geography and expected lifetime.

We address climate impacts across 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. Read more on page 10.

Cementos Lemona, part of our Europe Heavyside Division, supplied concrete for the highest Passivhaus residential building in the world, the first of the two Towers of Bolueta. Located in Bilbao, this 28-storey building measures 88 metres and contains 171 homes. The Passivhaus standard is the most demanding in the market in terms of energy efficiency, allowing these homes to save more than 75% heating compared to conventional ones. Construction on the second tower of Bouleta, which will be home to 21 floors and 190 homes, commenced in early 2018.



Climate change

Our stakeholders tell us

“In recognizing the tangible business benefits of disclosure and action, companies are raising their ambitions and taking meaningful steps to address climate change, deforestation and water security. This ensures their long-term sustainability and profitability, as well as equipping them to respond to regulatory and policy changes, such as the Paris Agreement.”

CDP, formerly the Carbon Disclosure Project

What's in place to manage it?

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.

What are the challenges?

Quantifying the scale of our contribution to a more sustainable built environment and reducing our direct emissions due to availability of alternative raw materials and fuels in certain markets.

What's next?

We will continue with our processes for emission reduction and expand our transparency in line with TCFD recommendations. At the same time, we are aiming to further develop our low-carbon product portfolio and work with our customers in reducing emissions along the product lifecycle.



Protecting the environment

Targeting CO₂ emission reduction

Having achieved our first CO₂ reduction commitment three years ahead of target in 2012, we are on-track to achieve our 2020 reduction commitment. This is for a 25% reduction in specific net CO₂ cement plant emissions by 2020, compared with 1990 levels.

In 2018, our specific emissions of 0.583t CO₂/t cementitious product represented a 23% reduction, compared with 1990 emissions of 0.760t CO₂/t cementitious product. Our 2020 commitment covers 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.

We achieved this success through investments in low carbon technologies such as alternative fuels, alternative raw materials and operational excellence. From our plants covered by our emissions reduction target, we avoided 1.5m tonnes of CO₂ emissions in 2018 through preventative measures such as using alternative materials and fuels.

Our total Scope 1 CO₂ emissions in 2018 increased due to acquisitions. Data from Ash Grove Cement, which we acquired in June 2018, is included on a part-year basis, along with a full year of data from Fels, our German lime business, acquired in the fourth quarter of 2017.

Looking ahead

We are now working to identify our post 2020 target with respect to the Paris Climate Agreement, the UN Sustainable Development Goals and our ambition to be part of a lower-carbon future.

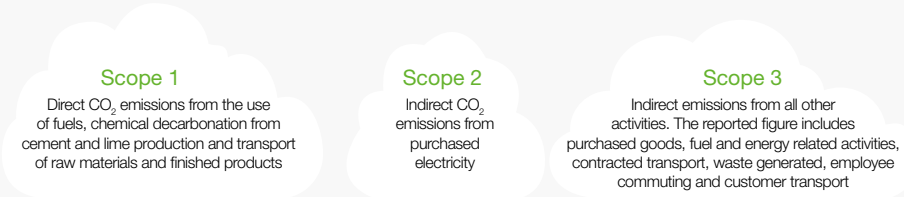
This includes preparing an emissions reduction roadmap beyond 2020 by reviewing the potential future emissions profile of all plants and aligning this to our capital investment programme. Our aim is to more fully integrate our recently acquired cement businesses into our carbon reduction roadmaps.

We will report on our new targets and the outcomes of this work in our 2019 report.

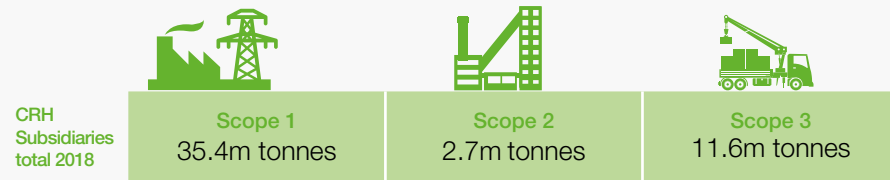
Read more on pages 8-10 about the drivers on carbon reduction in our industry.



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

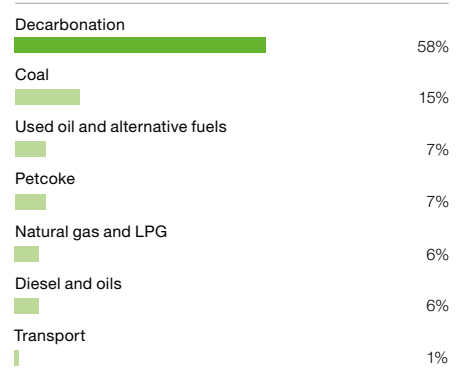


Source of CO₂

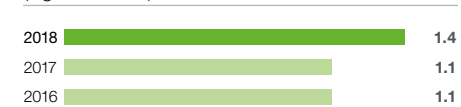


When joint ventures and associates are included (proportionate to our shareholding), combined Scope 1 emissions amount to 40.3m tonnes, Scope 2 emissions are 3.0m tonnes and Scope 3 emissions are 12.7m tonnes. Note that in previous years reporting of Scope 3 emissions was limited to contracted transport alone.

CO₂ emissions by source (Scope 1) 2018



CO₂ emissions per unit revenue (Scope 1+2) (Kg/€ revenue)





Protecting the environment

Manufacturing lower carbon cement and concrete

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 is critical to the production of lower-carbon cement. We have the knowledge and experience to recover energy from alternative fuels and increase the volume of co-processing materials from other sectors in our cement

plants to overcome challenges such as fossil fuel depletion and waste management, while supporting the transition to a circular economy (see pages 9-10).

Alternative raw materials

Waste materials and by-products from other sectors serve as valuable raw materials to replace a portion of the finite raw materials or clinker used in our cement manufacturing. These co-processing materials currently include fly ash, ground granulated blast-furnace slag (GGBS) and quarry overburden.

In 2018, we used a total of 7.2m tonnes of alternative raw 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 further increasing our use of alternative materials. In some cases, we are limited by market and functional requirements and the availability of alternative materials. However, we are continuously working to overcome supply-side barriers and to optimise clinker mineralogy to improve product quality and further the development of blended cements.

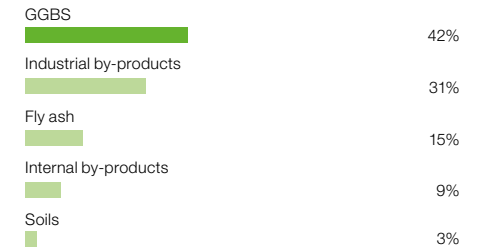
Alternative fuels

Using alternatives to finite fossil fuels, such as coal and petcoke, is key to reducing the carbon intensity of cement production. The alternative fuels typically used by our cement plants 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.). By substituting traditional fossil fuels with alternative fuels we conserve natural resources, reduce CO₂ emissions, deliver financial efficiencies and support the circular economy.

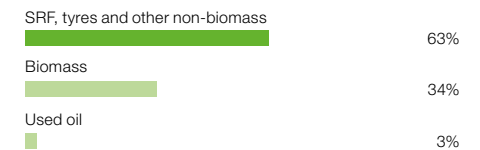
Our efforts generated successful results in 2018, with 2.2m tonnes of alternative fuels used by our subsidiary cement plants, providing 48% of our total energy consumption for our plants in the European Union.

However, there remain limitations in the availability of alternative fuels for cement production in some markets and we continue to work with our wider stakeholders to address these barriers as a prominent industry advocate and leading user of alternative fuels.

Alternative materials used in CRH cement plants 2018 (Total: 7.2m tonnes)



Alternative fuels used in CRH cement plants 2018 (Total: 2.2m tonnes)



Tarmac, part of our Europe Heavyside Division, is a participant in LEILAC, Low Emissions Intensity Lime and Cement, a European Union Horizon 2020 project. This project aims to enable both Europe's cement and lime industries to reduce their emissions dramatically while retaining, or even increasing, international competitiveness. LEILAC involves developing a breakthrough calciner that can directly separate and capture 95% of the CO₂ released from limestone when being transformed into clinker. Approximately 60% of CO₂ from cement production is generated from the limestone itself, and this technology allows capture of these emissions without significant energy or capital penalty.





Protecting the environment

Increasing energy efficiency

Energy efficiency is one of the key ways we can reduce carbon emissions and conserve resources. We are focused on reducing our own carbon emissions and providing a sustainable source of energy for our operations as well as providing building solutions that enhance the energy-efficiency of the built environment.

Energy management

Energy management is a key focus of our efforts towards continuous improvement in our business. We spent over €1 billion on energy in 2018. In our most energy intensive activities, cement and lime, which together account for 80% of our energy use, performance teams are implementing detailed improvement roadmaps.

We are also introducing formal Energy Management Systems across other activities. In Europe, over 1,000 of our locations now have certified ISO 50001 Energy Management Systems. Such certification is not common in other regions of the world and we apply relevant systems as appropriate.

Energy use

Our energy use in 2018 totalled 60.3 TWh of energy (2017: 44.4 TWh). The increase on the previous year was due to acquisitions in our energy-intensive materials activities.

Almost three-quarters of our operating businesses (representing 97% of energy use) have now set energy reduction targets and programmes to actively reduce energy use across operations. As a result of these efforts, we saved approximately 39 GWh of energy in 2018.

Energy efficient products

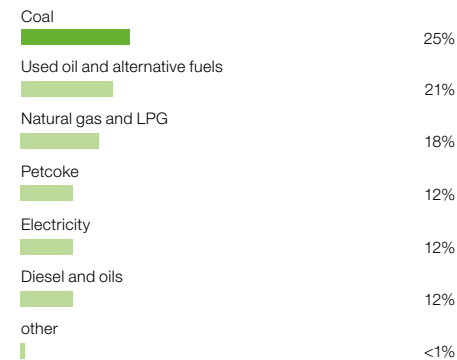
As well as the thermal mass properties of concrete (see the article on page 9), a number of important innovations in our Lightside products deliver energy efficiency benefits along the lifetime of buildings.

For example, Oldcastle BuildingEnvelope® offers products, such as insulated glass, that meet the most stringent thermal performance requirements and reduce energy consumption and solar heat gain.

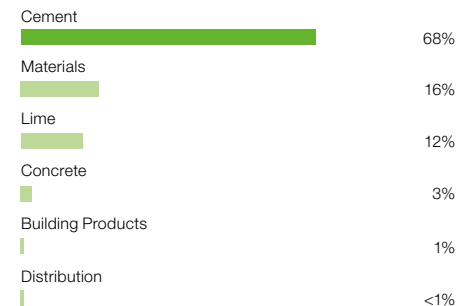
Several of our businesses also use sophisticated building information modelling (BIM) tools which help architects and designers select and specify solutions with optimal energy performance for their design. See page 6 for more details.



Energy use by source 2018 (Total: 60.3 TWh)



Energy use by activity 2018 (Total: 60.3 TWh)



Energy use (TWh)



A passive building, "THE ONE", located in Brussels, Belgium, to which Ergon, part of our Europe Heavyside Division, supplied concrete hollow core slabs, beams and columns.

Energy efficiency

Our stakeholders tell us

“ Extraction of raw materials and energy consumption is a prerequisite for our industry, but as these resources are finite, our industry must drive the issue of resource and energy efficiency. Opterra Wössingen, a CRH company, is setting an example by continuously optimising the use of alternative materials and renewable energy in its production processes. Thus Opterra Wössingen fulfils the goal of being energy efficient and closing the loop for materials use.”

Thomas Beißwenger

CEO, Industrial Association of Building Materials, Germany, Baden-Württemberg

What's in place to manage it?

Energy management systems and a focus on energy reduction from our performance teams.

What are the challenges?

Complex energy and fuel markets mean that renewable energy and alternative fuels may not always be available.

What's next?

Continued focus on our detailed performance improvement roadmaps at business unit level and further development of innovative energy efficient products.



Protecting the environment

Increasing energy efficiency – continued

The need to manage diminishing fossil fuel reserves is a significant challenge facing society today. Energy efficiency and renewable energy are key to protecting these finite reserves and to securing reliable future energy resources. We promote the use of renewable energy and generate our own electricity on-site, as well as seeking to reduce our fuel consumption through transport efficiencies.

Renewable energy

Many of our companies actively pursue energy from renewable resources as part of their energy mix, contributing to CO₂ emissions reductions. We operate on-site renewable energy generation systems at a growing number of locations - mainly solar panels and wind turbines. In 2018, we purchased 1,101 GWh of 'green' electricity from external suppliers. We also provide materials for construction of renewable energy installations.

On-site electricity generation

A number of our companies partner with local utilities to install wind turbines on-site. These supply energy to their operations and feed the surplus to the grid. 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.

Transport efficiencies

We continually strive to optimise transport logistics across our companies. This enables us to improve our customer service and reduce our energy consumption, air emissions and CO₂ emissions.

We 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

Of our transport of products by road, 23% is by our own trucks, with the remainder transported by contractors or customers. We used approximately 188 million litres of fuel in our own company trucks in 2018.

We have established fleet fuel reduction targets at our operating companies and we endeavour to make use of fuel-efficient rail, boat and barge transportation where possible.

Overall, 59% of 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.

Upgrade of lighting systems is one way in which our businesses are improving energy efficiency. At Oldcastle Infrastructures, part of our Americas Products Division, a lighting upgrade programme is ongoing. At the Thermomass plant in Boone, Iowa, US pictured, lighting levels were increased by 30% and energy savings were 50%.



Protecting the environment

Managing air emissions

Controlling and minimising air emissions is crucial for reducing our impact on climate change and protecting the health and wellbeing of our employees and communities.

Understanding our impacts

We are committed to reducing, beyond regulatory compliance, the impact of the main air emissions arising from our activities, namely dust, nitrogen oxide (NO_x) and sulphur oxides (SO_x).

Dust 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 from the oxidation of sulphur in raw materials, with only a small proportion from sulphur present in certain fuels.

Mitigation measures

We monitor our major and minor stack emissions, invest in modern abatement technologies such as filter control, and ensure regular maintenance of equipment at our manufacturing operations emissions.

While our overall total air emissions increased in 2018 as a result of acquisitions in our cement activity, specific NO_x and SO_x emissions are lower, while dust emissions are similar.

Measures to control fugitive emissions include building enclosures for material storage and

conveyor belts, and paving plant areas and internal roads. We will continue to reduce dust emissions through investments in new, more efficient filters and by improving the efficiency of operating plants.

Air emission reduction targets

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

- 80% reduction in average clinker dust 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 72-73. We also report on our minor air emissions, and the associated coverage rates of monitoring, on page 73. We are targeting 100% minor emissions monitoring in our subsidiary plants by 2020.



Target
80%
dust reduction



Target
22%
NO_x reduction



Target
100%
minor
emission
monitoring

A new bagfilter was installed at Republic Cement's Bulacan plant in the Philippines, part of our Asia Division. It replaced an older-technology electrostatic precipitator and enabled reductions in dust emissions by a factor of three at that plant.

Air

Our stakeholders tell us

“Clean air is essential to a healthy environment. We, as proud stakeholders committed to provide technological solutions towards more sustainable cement production, have been pleased to work with Republic Cement, a CRH Company, towards that common goal. Upgrading the dust abatement equipment at its Bulacan Cement plant in the Philippines, reduced dust emissions from 130-150 mg/Nm³ to 20 mg/Nm³. This contributed to the overall efficiency of the plant and also led to savings in electrical energy and water consumption.”

Pramod Kumar,

Vice President – Projects, KHD Humboldt Wedag

What's in place to manage it?

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

What are the challenges?

Having achieved significant specific reductions in recent years, further contributing to cleaner air requires complex connections between capital expenditure, technical projects and stakeholder collaboration.

What's next?

Integrating new acquisitions into our reduction plans, ensuring we meet our targets and looking at appropriate post-2020 actions.



Protecting the environment

Reducing waste

We can play a significant role in supporting the transition to a circular economy and reducing waste across our value chain. To achieve this we look at our waste, not as a disposable remnant of production, but as a valuable resource for new products and materials.

Reusing our by-products

We practice waste minimisation wherever practical, reducing the amount of waste materials generated, especially hazardous materials, and enhancing process efficiency.

The main residual by-products of our production processes are baghouse fines (dust particles captured from the exhaust gases of cement kilns), overburden (excess quarry material) and other internally sourced secondary materials such as product off-cuts.

These types of internal wastes are recycled back into our production processes.

For example, we use baghouse fines in asphalt mixes, thereby delivering significant cost savings and reducing the quantity of raw materials used in production. In 2018, we diverted 2.6m tonnes of by-products from waste streams through these measures.

Recycling our waste

When it is not possible to recycle waste material internally, it is sent for final disposal to licensed facilities. During 2018, 81% of the 2.3m tonnes of waste generated by our companies was externally recycled.

Waste disposal

Waste from our production processes that is not recycled is either incinerated or sent to landfill. A small number of Group companies are permitted to landfill waste on-site and these sites are operated strictly in line with permit requirements. All Group companies take extensive precautions to prevent unauthorised waste disposal.

Waste management

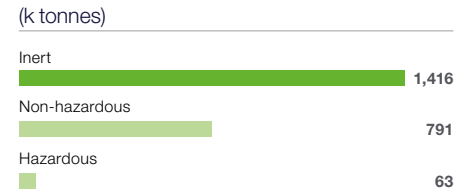
We are dedicated to operating in accordance with all regulations and managing waste materials safely and responsibly. Our Group-wide target is for at least 95% of relevant businesses to have waste reduction or recycling targets in place by 2020.

Looking ahead

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 aim to reduce waste within our value chain in line with our circular economy ambitions. Clogrennane Lime, part of our Europe Heavyside Division, supplies lime for environmental applications including desulphurisation of air emissions, wastewater treatment and sludge treatment. It operates a waste minimisation and recycling initiative as part of its environmental management system, which is certified to the ISO 14001 standard.

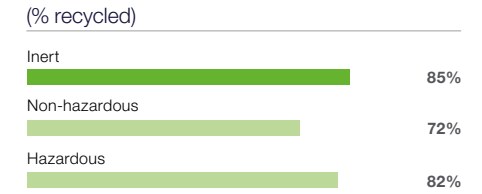
Waste by type



Waste by activity



Waste recycled



Protecting the environment

Protecting water resources

Water is crucial to our operations and production processes. Therefore it is imperative that we protect this natural resource, not only for our environment and local communities, but also for the continued success of our businesses.

Water efficiency

In 2018, our companies used an estimated 119.6m m³ of water, up from 95.3m m³ in 2017. Our main water use is in our materials activity (84% total usage). 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 our relevant activities. Water was recycled at 885 of our locations in 2018, reducing our water intake by 58%. This reduction was achieved through the use of water from settlement ponds and closed-loop systems installed in manufacturing processes.

Water quality

We comply with stringent environmental regulations to ensure that our activities, in particular raw material quarrying, do 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.

Water discharge can be difficult to quantify because of the contribution of storm water and limitations in metering. Our total water

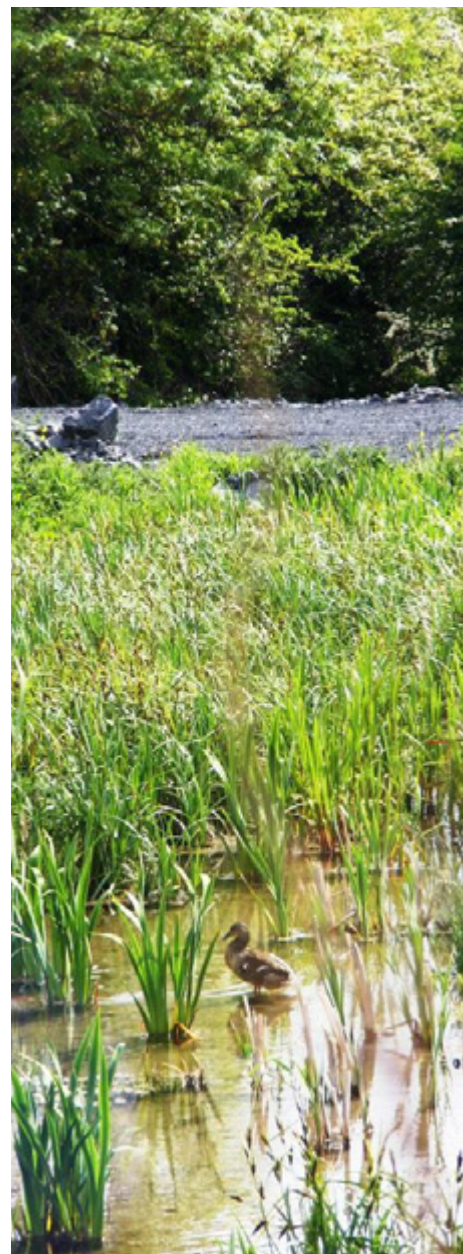
discharge in 2018 was estimated to be 44.5m m³, with 96% discharged to surface water and the remainder to public sewers and other. To avoid potential spills of fuels and other polluting materials, we implement best practice in materials storage. Our policy is to decommission all unprotected underground storage tanks.

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). We do not generally operate in water stressed areas; 0.2% of our active locations were identified as within or close to areas of water stress. These businesses have measures in place to promote water conservation and efficiency in processing. For example, at our Republic Cement Batangas Plant in the Philippines, a rainwater harvesting project provides 100% of the plant's water requirements.



In 2018, Roadstone, part of our Europe Heavyside Division, developed an Integrated Constructed Wetland (ICW) at its Belgard Quarry location, as a means of treating the quarry's drainage waters before discharge to an adjacent stream. Construction of the wetland, consisting of two treatment cells, was completed mid-year 2017, with the planted vegetation fully established by mid-2018, transforming the available land from a disused state to a highly aesthetic and diverse habitat for local wildlife.



Water

Our stakeholders tell us

“ This year we brought together local governments and private organizations alike to take a stand and to protect our watersheds, and Republic Cement has supported us all the way. Many lives count on the conservation of our watersheds, and Republic Cement has helped make this possible.”

Joel Palma,
President and CEO
World Wide Fund for Nature (WWF) Philippines

What's in place to manage it?

We closely monitor our water use and discharge, invest in water recycling systems and ensure the quality of water discharge through appropriate treatment systems. We have a Group target in place that 75% of our relevant businesses will have water efficiency and quality programmes by 2020.

What are the challenges?

It can be difficult to monitor water intake and discharge from all of our activities due to limitations in metering, an area of water accounting that we are targeting for improvement.

What's next?

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

Protecting the environment

Enhancing biodiversity

As a large-scale landholder, our approach to the preservation of land and protecting 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 of extractive activities. Environmental impact assessments (EIAs) associated with permit applications require biodiversity management plans (BMPs) and our target is that all locations deemed to be biodiversity sensitive (those within, containing or adjacent to high biodiversity value areas) will have a BMP in line with best international practice by 2020.

Currently, 503 Group locations are noted for their biodiversity due to the variety of species and habitats or the presence of rare species of flora and fauna. In 2018, 77% of relevant locations in sensitive areas for biodiversity had BMPs in place.

The inauguration of a nature trail at our Operra Wössingen Cement Plant in Germany, part of our Europe Heavyside Division, where visitors can see biodiversity and restoration in action.

Managing the impacts of extractive activities

The extraction of natural resources makes up a significant portion of our company activities. We carefully balance the need for raw material against the effects on local biodiversity. We aim to avoid and minimise potential impact, and mitigate 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 also create important habitats for rare species. 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 a key feature of site restoration planning (see page 64).

**Collaborating for biodiversity benefits**

We believe that an effective way we can mitigate the environmental impacts of our operations is through collaborating with international, national and local organisations to pool resources and drive best practice management in areas of high biodiversity. Many of our companies successfully collaborate to develop conservation solutions with partners including the World Wide Fund for Nature (WWF) in the Philippines, the International Union for Conservation of Nature (IUCN) France, the Wildlife Habitat Council in North America and Canada.

**Biodiversity****Our stakeholders tell us**

“Global biodiversity loss and climate change are inextricably linked. Restoring nature and reclaiming lands for habitat can be part of the solution. With 17 WHC Conservation Certification® programs in the U.S. and Canada, CRH Americas illustrates its commitment with a company-wide dedication to the natural environment that also supports employee engagement and community relations. By creating the enabling environment to mainstream biodiversity into operations, CRH makes a meaningful contribution to our global challenges and builds resilience for a sustainable future for people and planet.”

Margaret O’Gorman

President, Wildlife Habitat Council

What’s in place to manage it?

We have set a target that all biodiversity-sensitive locations should implement a biodiversity management plan in line with best international practice by 2020

What are the challenges?

Progressing our production capacities to meet growing consumer demand without creating irreversible damage to the habitats in which we operate.

What’s next?

Further delivering on our unique opportunity to maintain habitats, as well as meeting our biodiversity management targets and expanding our work to protect and promote biodiversity with partner organisations.



Protecting the environment

Preserving natural and cultural heritage

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.

Restoration planning

To ensure the protection and enhancement of biodiversity, we only extract worthwhile raw materials if they can be exploited in an environmentally compatible and economical manner. Once raw materials are fully extracted from a location, we ensure that all associated 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.

Our target is for 100% of relevant extraction sites to have a restoration management plan in place by 2020. Currently, 98% of such locations have restoration plans in place.

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. In 2018, 622 hectares of quarry and pit area was reinstated.

Preserving local heritage

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

To ensure no identified or potential archaeological or geological features are at risk, prior to opening new extractive areas, our companies engage qualified archaeologists to survey the area. We are 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.

The preservation of our natural and cultural heritage is important to keep our integrity as a society.



As part of the national strategy for biodiversity established with International Union for Conservation of Nature (IUCN) France, EQIOM, part of our Europe Heavyside Division, conducted a campaign to eradicate invasive plants present at Sully-sur-Loire site.



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.

Our reporting history, scope and basis

→ P66



Our materiality assessment performance and sustainability policies

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Our external recognition and benchmarks

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Our data in summary

→ P71



Our GRI index

→ P75



Assurance statement

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Our sustainability performance

Our reporting history, scope and basis

History

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

This Sustainability Report, published in 2019, covers our activities during 2018 and KPIs cover the period January 2018 to December 2018. It is CRH's 16th 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 82-83.

Global Reporting Initiative (GRI)

We have voluntarily adopted sustainability reporting guidelines developed by GRI. This report has been prepared in accordance with the GRI Reporting Standards Comprehensive Option. The GRI content index is provided from page 75.

Reporting scope and basis for reporting

This report is based on data from 100% of our subsidiaries covering the calendar year 2018. Our principal subsidiaries are listed on pages 252-256 of the CRH Annual Report and Form 20-F 2018. 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 257 of the CRH Annual Report and Form 20-F 2018. Most of these companies supply sustainability data to the Group. We include key data on an appropriate % shareholding basis at points throughout this report.

Data has been collated from over 3,700 locations spread across 32 countries. We have a robust data collection and management process in place, as assured by DNV GL for specific KPIs. Our basis for reporting follows the CSI definitions and GRI definitions, and these are publicly available at <http://www.wbcscement.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 reviewed and approved by the Safety, Environment and Social Responsibility Committee of the CRH Board 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 67-68).

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

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. Data from 2018 acquisitions is included from the date of acquisition where possible; data for Ash Grove Cement, the acquisition of which closed in June 2018, is included for part year.

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 and definitions '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. During 2018, we participated in consultation processes with 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 sustainability performance

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.	<p>Stakeholders were engaged through variety of means:</p> <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 	<p>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:</p> <ul style="list-style-type: none"> Long-term organisational strategy Competitive position Financial value drivers 	<p>Multi-step validation process included:</p> <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 	<p>Informed:</p> <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 	<p>Updating our formal materiality assessment as we look to:</p> <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 sustainability performance

Our materiality assessment processes — continued

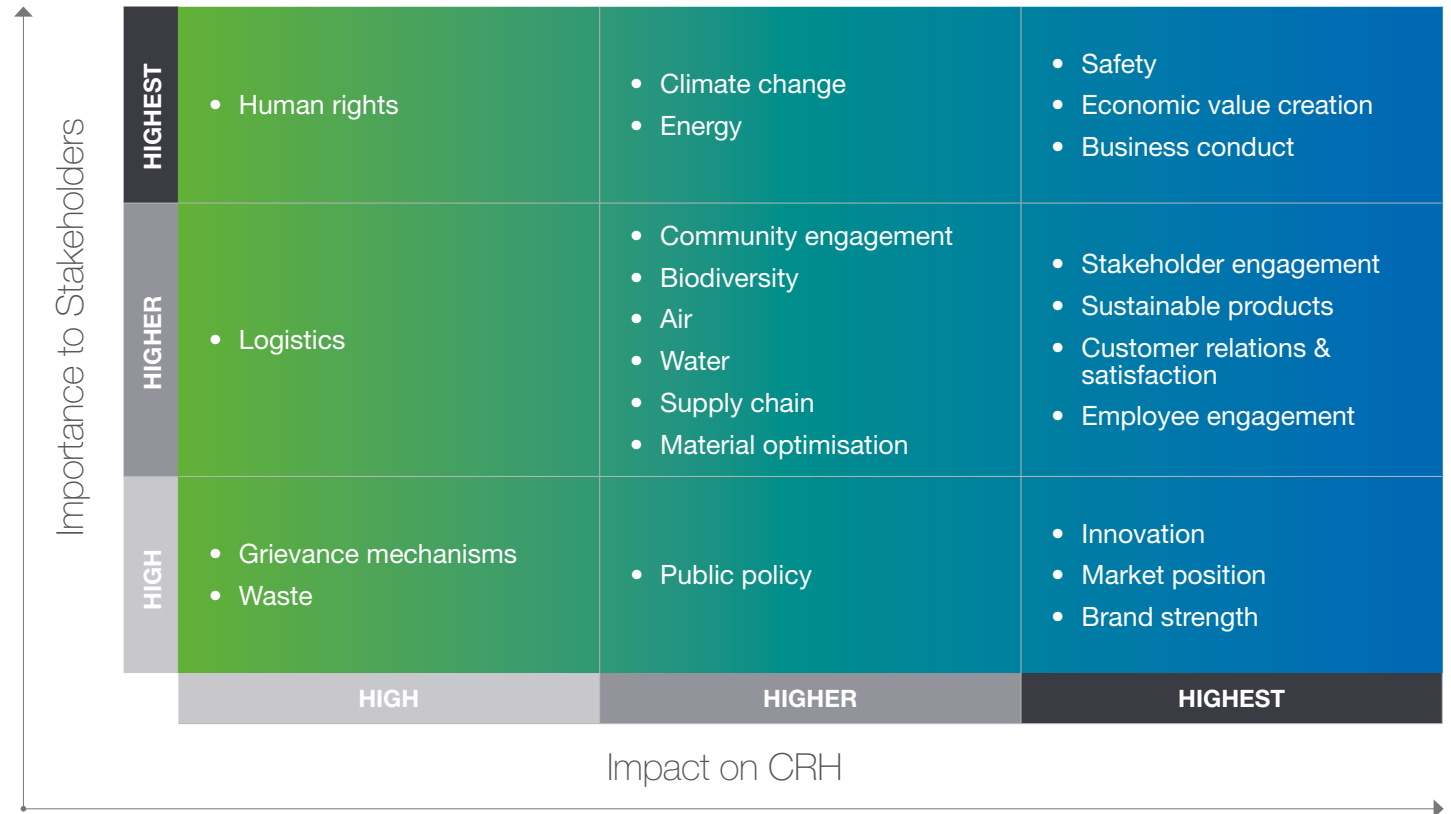
Outcomes

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.

Materiality matrix









Our sustainability performance

Our sustainability policies

With our global presence and industry leadership positions, we are committed to ensuring that sustainability principles are embedded in all areas of our business strategy.

At Group level we set policies in key sustainability areas, more specifically, Health & Safety, Social and Environment, demonstrating our commitment to the welfare of, not only our employees, but of society and the environment. Our management team works closely with our businesses in implementing these Policies.

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.

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.

CRH's Environmental 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.



Our sustainability performance

Our external recognition and benchmarks



CRH continues to be included in the FTSE4Good Index.



In September 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 2018 review, Vigeo Eiris included CRH in its Euronext Vigeo index: World 120, Euronext Vigeo index: Eurozone 120 and Euronext Vigeo index: Europe 120. These indexes distinguish companies achieving the most advanced Environmental, Social and Governance performance.



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



CRH continues to be included in the MSCI ESG Leaders Indexes.

(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.)



CRH continues with its "Prime" rating by ISS-oekom. This is awarded to companies that meet specific minimum requirements in Corporate Ratings and achieve the best ESG scores among their sector peers.



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. In CDP's 2018 ranking, CRH was awarded a B grade. Our responses are publicly available at www.cdp.net.



CRH was included in CDP's annual Supplier Engagement Rating leader board. The leader board comprises those companies from around the world that have been specifically recognized as leaders in their efforts and actions to manage carbon emissions and address climate-related issues across their supply chains in the past CDP-reporting year.



In its September 2018 Review, CRH was included in the Dow Jones Sustainability Indices. These are best-in-class benchmarks tracking the performance of the world's leading companies in terms of economic, environmental and social criteria.

In February 2019, CRH received the Silver Class and Industry Mover distinctions from SAM for its excellent sustainability performance.

Other bodies

At operating company level, our businesses won nearly 1,000 external awards for environmental and safety performance.

Our sustainability performance

Our data
in summary

Description	2018	2017	2016	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	1	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of fatalities (involving 3rd parties)	0	0	2	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of lost time injuries (directly employed)	34	18	18	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Number of lost days (directly employed)	1,357	594	444	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
LTI rate per 1m man-hours (directly employed)	1.95	1.19	1.34	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Severity rate per 1m man-hours (directly employed)	78	39	33	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)	39	45	51	
Number of lost time injuries (indirectly employed)	19	27	24	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Lost time injuries per 1m man-hours (indirectly employed)	0.69	1.14	1.18	CSI KPI for Health/Safety. Refers to cement plants only. See note 2 for details.
Employment				
New employees by region				
America	64%	63%	56%	
Europe	35%	36%	43%	
Asia	1%	1%	1%	
New employees by gender				
Male	85%	83%	82%	
Female	15%	17%	18%	
Employee turnover by gender				
Male	86%	83%	82%	
Female	14%	17%	18%	
Length of service				
<1 year	15%	15%	16%	
1-4 years	29%	29%	26%	
5-9 years	15%	15%	17%	
10-14 years	14%	13%	14%	
15-19 years	10%	10%	10%	
20-24 years	7%	7%	7%	
>25 years	10%	11%	10%	
Employees by category				
Operations	69%	69%	69%	
Clerical/Admin	20%	20%	20%	
Management	11%	11%	11%	
Training and Education				
Employee Training by Category (% of total training hours)				
Operations	71%	72%	69%	
Clerical/Admin	16%	15%	19%	
Management	13%	13%	12%	
Percentage of employees receiving career development reviews				
Operations	28%	25%	26%	
Clerical/Admin	25%	32%	21%	
Management	51%	43%	53%	

Our sustainability performance

Our data
in summary
(continued)

Description	2018	2017	2016	Comment
Social				
Local Communities				
Donations	€4.9m	€5.2m	€5.8m	
Civic & Community	42%	49%	41%	
Other	20%	14%	16%	
Community Development & Environment	17%	19%	22%	
Education & Research	17%	13%	17%	
Arts & Culture	4%	4%	3%	
Job Creation	0%	1%	1%	
% of sites with community engagement plans in place	86%	85%	73%	CSI KPI for Local Impacts. Refers to cement plants only. See note 2 for details.
Environmental				
Energy				
Energy efficiency (kcal per kg of clinker)	899	876	886	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
% fuel substitution for virgin fuels	30.3%	38.6%	33.4%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
% biomass in kiln fuel	9.7%	11.1%	10.6%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
Renewable electricity purchased by CRH	1,101 GWh	828 GWh	771 GWh	
Emissions				
Total gross CO ₂ emissions (million tonnes)	30.4	23.3	22.8	CSI KPI for Climate Change. Refers to cement plant only. See note 1 for details.
Total net CO ₂ emissions (million tonnes)	28.1	21.4	20.9	CSI KPI for Climate Change. Refers to cement plant only. See note 1 for details.
Specific gross CO ₂ emissions (kg per tonne of cementitious product)	644	624	630	CSI KPI for Climate Change. Refers to cement plant only. See note 1 for details.
Specific net CO ₂ emissions (kg per tonne of cementitious product)	595	572	578	CSI KPI for Climate Change. Refers to cement plant only. See note 1 for details.
Total air emissions				
Total NO _x (tonnes)	40.7k	38.5k	40.2k	
Total SO _x (tonnes)	14.6k	13.6k	20.9k	
Total Particulates (dust) (tonnes)	5.4k	5.8k	7.6k	
NO_x by Activity (%)				
Cement	92%	94%	89%	
Materials	4%	4%	9%	
Lime	3%	1%	1%	
Concrete	1%	1%	1%	
Building Products	<1%	<1%	<1%	
SO_x by Activity (%)				
Cement	91%	91%	94%	
Materials	4%	5%	3%	
Lime	3%	2%	2%	
Concrete	2%	2%	2%	
Building Products	<1%	<1%	<1%	
Particulates (dust) by Activity				
Cement	54%	58%	74%	
Materials	35%	33%	21%	
Lime	6%	3%	3%	
Concrete	5%	5%	2%	
Building Products	<1%	<1%	<1%	
% clinker produced with monitoring of major and minor emissions	75.4%	86.2%	88.0%	CSI KPI for Emissions Monitoring. Refers to cement plants only. See note 2 for details.
% clinker produced using continuous monitoring of major emissions	94.3%	94.8%	100.0%	CSI KPI for Emissions Monitoring. Refers to cement plants only. See note 2 for details.

Our sustainability performance

Our data
in summary
(continued)

Description	2018	2017	2016	Comment
Environmental				
Particulates (dust)				CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Specific (g per tonne of clinker)	48	46	97	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	1,715	1,334	2,635	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.7%	94.8%	100.0%	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)	1,072	1,368	1,327	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	38,630	39,391	36,042	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.7%	94.8%	100.0%	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)	388	477	497	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	13,981	13,732	13,487	CSI KPI for Major Emissions. Refers to cement plants only. See note 1 for details.
Coverage rate	94.7%	94.8%	100.0%	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)	80	49	55	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (tonnes per year)	2,371	1,095	1,120	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	82.3%	77.9%	75.2%	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)	27	54	33	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (mg per year)	807	1,218	631	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	83.8%	78.5%	69.7%	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)	20	24	26	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	617	553	507	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	85.6%	81.8%	78.2%	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)	90	65	10	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	2,009	1,434	209	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	62.0%	76.7%	77.0%	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)	359	292	326	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Total (kg per year)	7,826	6,275	6,659	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
% of clinker produced with monitoring	60.4%	74.5%	75.2%	CSI KPI for Minor Emissions. Refers to cement plants only. See note 1 for details.
Water				
Total water withdrawal	119.6m m ³	95.3m m ³	88.7m m ³	
Water withdrawal by source (%)				
Quarry water	22%	27%	34%	
Surface water	28%	25%	27%	
Groundwater (well)	32%	30%	27%	
Utility (mains)	8%	9%	9%	
Rainwater	10%	9%	9%	
Water withdrawal by activity (%)				
Materials	81%	78%	74%	
Cement	15%	17%	20%	
Concrete	2%	3%	4%	
Lime	2%	1%	1%	
Building products	<1%	1%	1%	

Our sustainability performance

Our data
in summary
(continued)

Description	2018	2017	2016	Comment
Environmental				
Water Continued				
Total water withdrawal by source	19.6m m ³	16.9m m ³	18.3m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Surface	8.7m m ³	6.9m m ³	8.0m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Groundwater	6.5m m ³	5.4m m ³	4.9m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Quarry	2.8m m ³	2.5m m ³	3.6m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Utility	1.0m m ³	1.0m m ³	1.2m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Rain	0.6m m ³	1.1m m ³	0.6m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Total water consumption (GWT for Cement Sector)	9.3m m ³	8.4m m ³	9.7m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
% of sites with a water recycling system(1)	51%	41%	40%	CSI KPI for Water. Refers to cement plants only. See note 3 for details.
Materials				
Materials used by weight or volume (total)(tonnes)	436m	425m	403m	
Virgin raw materials (tonnes)	385m	375m	350m	
Associated process materials (tonnes)	7m	8m	8m	
Semi-manufactured components (tonnes)	44m	42m	45m	Includes alternative materials.
Packaging materials (tonnes)	234k	188k	185k	
% alternative materials (clinker and cement)	13.8%	14.9%	13.9%	CSI KPI for Alternative Fuels & Materials. Refers to cement plants only. See note 1 for details.
clinker : cement ratio	78.3	77.5	76.5	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	44.5m m ³	23.4m m ³	22m m ³	
% Discharged to surface water	96%	79%	86%	
% Discharge to public sewer and other	4%	21%	14%	
Total water discharge by destination	10.3m m ³	8.5m m ³	8.6m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Surface water	10.2m m ³	8.1m m ³	8.5m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Public Sewer	0.1m m ³	0.4m m ³	0.1m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Other	<0.1m m ³	<0.1m m ³	<0.1m m ³	CSI KPI for Water. Refers to cement plants only. See note 1 for details.
Waste by type and disposal method (total)(tonnes)	2.3m	2.3m	1.9m	
Inert waste (tonnes)	1,416k	1,481k	1,394k	
Non-hazardous waste (tonnes)	791k	715k	473k	
Hazardous waste (tonnes)	63k	66k	48k	
Local Impacts				
% of active sites with quarry rehabilitation plans	90%	85%	83%	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	30	25	23	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	73%	68%	70%	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.wbcscement.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 including subsidiaries on a 100% basis together with joint ventures and associates on a 100% basis, excluding Kunda and Yatai.

(4) "Accident", in the context of safety statistics, refers to 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).

(5) "Fatality" refers to the 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.

(6) "Recordable incidents" 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.

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 2018 Annual Report and Form 20-F and “GA p.” refers to the CRH 2018 Governance Appendix. GRI data covers all Group subsidiary companies, on a 100% basis. For details on external assurance conducted by DNV GL please see pages 82-83.

GRI Code	Description	Reference	Comment
General Disclosures			
Organizational Profile			
102-1	Name of the organization	p. 75. See comment	CRH plc.
102-2	Activities, brands, products and services	p. 2, 5-13, 35, 37	
102-3	Location of headquarters	p. 75. See comment	Dublin, Ireland.
102-4	Location of operations	p. 2; AR p. 252-259	
102-5	Ownership and legal form	p. 2, 75. See comment.	CRH is a public limited company, incorporated in Ireland.
102-6	Markets served	p. 2; AR p. 252-259	
102-7	Scale of organization	p. 2, 21, 27, 42; AR p. 2, 3, 4, 24, 32-53, 259	
102-8	Information on employees and other workers	p. 42, 43, 75. See comment	Note that 55% of employees are employed on permanent contracts, 4% 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 - 16% female - applies to both permanent and temporary staff. It is estimated that 30% of part-time staff are female, while 16% of full-time staff are female. Note that the data in the chart on page 42 includes both permanent and temporary employees.
102-9	Supply chain	p. 47-49	
102-10	Significant changes to the organisation and its supply chain	p. 75. See comment	No significant changes.
102-11	Precautionary approach or principle	p. 22, 67, 68, 75. See comment	CRH takes sustainability considerations at operational level when developing and introducing products.
102-12	External initiatives	p. 9, 20, 33, 36, 42, 51, 55, 63	
102-13	Membership of associations	p. 20, 36, 37, 42, 63	
Strategy			
102-14	Statement from most senior decision-maker	p. 4	
102-15	Key impacts, risks and opportunities	p. 16, 67, 68	
Ethics and Integrity			
102-16	Values, principles, standards, and norms of behaviour	p. 23, 24	
102-17	Mechanisms for advice and concerns about ethics	p. 23	
Governance			
102-18	Governance structure	p. 25; AR p. 54-57	
102-19	Delegating authority	p. 25, 26; AR p. 54-57	
102-20	Executive-level responsibility for economic, environmental and social topics	p. 26	
102-21	Consulting stakeholders on economic, environmental and social topics	p. 40, 45, 46; AR p. 67	
102-22	Composition of the highest governance body and its committees	p. 25; AR p. 54-57, 63, 64	
102-23	Chair of the highest governance body	p. 25; AR p. 54, 58	
102-24	Nominating and selecting the highest governance body	p. 25; AR p. 58-59, 63-64	
102-25	Conflicts of interest	p. 25, 26; AR p. 58-59, 63-64; GA p.2	
102-26	Role of highest governance body in setting purpose, values and strategy	p. 25, 26; AR p. 22-23, 64	
102-27	Collective knowledge of highest governance body	p. 25, 26; AR p. 54-57, 63-65	
102-28	Evaluating the highest governance body's performance	p. 25; AR p. 54-57, 64, 75. See comment	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. 26; AR p. 22-23	



GRI Code	Description	Reference	Comment
General Disclosures			
Governance continued			
102-30	Effectiveness of risk management processes	p. 22, 26; AR p. 22-23	
102-31	Review of economic, environmental and social topics	p. 19; AR p. 16-17, 22-23	
102-32	Highest governance body's role in sustainability reporting	p. 66	
102-33	Communicating critical concerns	p. 23	
102-34	Nature and total number of critical concerns	p. 76; GA p. 2,3. 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. 68-97	
102-36	Process for determining remuneration	AR p. 68-97	
102-37	Stakeholder's involvement in remuneration	AR p. 68-97	
102-38	Annual total compensation ratio	p. 76. 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. 76. 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. 45, 46	
102-41	Collective bargaining agreements	p. 49	
102-42	Identifying and selecting stakeholders	p. 45, 46, 67, 68	
102-43	Approach to stakeholder engagement	p. 49, 44-47, 50, 51, 67, 68	
102-44	Key topics and concerns raised	p. 44-49, 50, 51, 67, 68	
Reporting practice			
102-45	Entities included in the consolidated financial statements	p. 66, AR p. 252-257	
102-46	Defining report content and topic Boundaries	p. 66-68	
102-47	List of material topics	p. 67, 68	
102-48	Restatement of information	p. 76. See comment	No reinstatements.
102-49	Scope or aspect boundary changes	p. 76. See comment	No significant scope or boundary change.
102-50	Reporting period	p. 66	
102-51	Date of most recent report	p. 66	
102-52	Reporting cycle	p. 66	
102-53	Contact point for questions regarding the report	Back cover	
102-54	Claims of reporting in accordance with the GRI Standards	p. 66, 82	
102-55	GRI Content index	p. 75-81	
102-56	External assurance	p. 82	
GRI 200 Economic Topics			
GRI 201 Economic Performance			
103-1	Explanation of the material topic and its Boundary	p. 2, 4, 15, 16, 18, 68; AR p. 1-4	
103-2	The management approach and its components	p. 2, 15-18, 21, 25-27, 66; AR p. 54-57	
103-3	Evaluation of the management approach	p. 2, 15-18, 21, 25-27, 66; AR p. 54-57	
201-1	Direct economic value generated and distributed	€26.8 billion sales (p. 35, 76; AR p. 1-4). 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). CRH also publishes a payments to Governments for Extractive Activities Report, available on www.crh.com.
201-2	Financial implications and other risks and opportunities due to climate change	p. 54-57; AR p. 20, 106	
201-3	Defined benefit plan obligations and other retirement plans	p. 76; AR p. 131, 182-187 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. 76. See comment	No significant assistance.
GRI 202 Market Presence			
103-1	Explanation of the material topic and its Boundary	p. 2, 42, 76; AR p. 1-4, 54-57. 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, 42, 76; AR p. 1-4, 54-57. 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, 42, 76; AR p. 1-4, 54-57. 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. 76. 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. 42, 76; AR p. 54-57. 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. 5-7, 8-10, 11-13, 18, 77. 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. 5-7, 8-10, 11-13, 18, 77. 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. 5-7, 8-10, 11-13, 18, 77. 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.
203-1	Infrastructure investments and services supported	p. 5-7, 8-10, 31, 77. 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.
203-2	Significant indirect economic impacts	p. 5-7, 8-13, 18, 36, 37, 47, 57, 77. 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 204	Procurement Practices		
103-1	Explanation of the material topic and its Boundary	p. 47-49	
103-2	The management approach and its components	p. 47-49	
103-3	Evaluation of the management approach	p. 47-49	
204-1	Proportion of spending on local suppliers	p. 47, 48, 77. 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. 23, 24; AR p. 66, 98, 107, 230	
103-2	The management approach and its components	p. 23, 24; AR p. 66, 98, 107, 230	
103-3	Evaluation of the management approach	p. 23, 24; AR p. 66, 98, 107, 230	
205-1	Operations assessed for risks related to corruption	p. 23, 24, 77; AR p. 67, 107. 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. 23-25, 77; AR p. 67, 107. See comment	Some breakdowns requested by GRI are currently unavailable, including business partners.
205-3	Confirmed incidents of corruption and actions taken	p. 23, 24, 77. 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 2018. No contracts with business partners were terminated or not renewed due to violations related to corruption.
GRI 206	Anti-competitive Behaviour		
103-1	Explanation of the material topic and its Boundary	p. 23, 24	
103-2	The management approach and its components	p. 23, 24	
103-3	Evaluation of the management approach	p. 23, 24	
206-1	Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices	p. 23, 24, 77. See comment	Certain breakdowns required by GRI cannot be disclosed for confidentiality reasons.
GRI 300	Environmental Topics		
GRI 301	Materials		
103-1	Explanation of the material topic and its Boundary	p. 36, 37, 57	
103-2	The management approach and its components	p. 36, 37, 57	
103-3	Evaluation of the management approach	p. 36, 37, 57	
301-1	Materials used by weight or volume	p. 36, 37, 57, 77. See comment	Alternative raw materials are those that replace traditional raw materials. For CRH, the more significant alternative raw materials used are recycled asphalt pavement (RAP) and recycled asphalt shingles (RAS), construction and demolition (C&D) waste and materials with cementitious properties, such as fly ash and ground granulated blast-furnace slag (GGBS), which are by-product materials sourced mainly from external power generation and steel production to replace virgin materials in cement, concrete and concrete products.
301-2	Recycled input materials used	p. 36	
301-3	Reclaimed products and their packaging materials	p. 77. 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. 36, 57-59, 68	
103-2	The management approach and its components	p. 36, 57-59	
103-3	Evaluation of the management approach	p. 36, 57-59	
302-1	Energy consumption within the organization	217.2 PJ (60.3 TWh, p. 58)	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. 77. 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. 77. See comment	Energy intensity for cement is 899 kcal/kg clinker. Refers to kiln fuels (internal energy).
302-4	Reduction of energy consumption	p. 57-59, 66, 77. 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. 36, 57, 77. 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. 62, 68	
103-2	The management approach and its components	p. 62, 67, 68	
103-3	Evaluation of the management approach	p. 62, 67, 68	

GRI Code	Description	Reference	Comment
GRI 300	Environmental Topics		
303-1	Water withdrawal by source	p. 62, 74	
303-2	Water sources significantly affected by withdrawal of water	p. 77. See comment	None identified as significantly affected.
303-3	Water recycled and reused	p. 62, 66	
GRI 304	Biodiversity		
103-1	Explanation of the material topic and its Boundary	p. 63, 64, 68	
103-2	The management approach and its components	p. 63, 64, 67, 68	
103-3	Evaluation of the management approach	p. 63, 64, 67, 68	
304-1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	p. 63, 78. 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. 63, 64	
304-3	Habitats protected or restored	p. 63, 64, 78. 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. 78. 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. 37, 55-57, 60, 68	
103-2	The management approach and its components	p. 37, 55-57, 60	
103-3	Evaluation of the management approach	p. 37, 55-57, 60	
305-1	Direct (Scope 1) GHG emissions	p. 56, 66	
305-2	Energy indirect (Scope 2) GHG emissions	p. 56, 66, 78. 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. 56, 78. 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 2018 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. 56, 78. See comment	Sales intensity in 2018 was 1.4 kg/€ revenue.
305-5	Reduction of GHG emissions	p. 56, 66	
305-6	Emissions of ozone-depleting substances (ODS)	p. 78. See comment	No significant emissions.
305-7	Nitrogen oxides (No _x), sulfur oxides (So _x), and other significant air emissions	p. 60, 66, 72, 73	
GRI 306	Effluents and Waste		
103-1	Explanation of the material topic and its Boundary	p. 61, 62, 68	
103-2	The management approach and its components	p. 61, 62, 67, 68	
103-3	Evaluation of the management approach	p. 61, 62, 67, 68	
306-1	Water discharge by quality and destination	44.5m m ³ (p. 62)	
306-2	Waste by type and disposal method	2.3m tonnes (p. 61)	
306-3	Significant spills	p. 72, 78. See comment	No significant spills.
306-4	Transport of hazardous waste	p. 62, 78. See comment	Total hazardous waste was 63k 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. 78. See comment	None identified as significantly affected.
GRI 307	Environmental Compliance		
103-1	Explanation of the material topic and its Boundary	p. 54	
103-2	The management approach and its components	p. 54	
103-3	Evaluation of the management approach	p. 54	
307-1	Monetary value of significant fines and total number of non-monetary sanctions for noncompliance with environmental laws and regulations	p. 54, 78. See comment	There were no material non-monetary sanctions or material cases brought through dispute resolution mechanisms.
GRI 308	Supplier Environmental Assessment		
103-1	Explanation of the material topic and its Boundary	p. 47-79	
103-2	The management approach and its components	p. 47-79	
103-3	Evaluation of the management approach	p. 47-79	
308-1	New suppliers that were screened using environmental criteria	p. 47-49, 78. 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. 47-49, 78. 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. 38-43	

GRI Code	Description	Reference	Comment
GRI 400	Social Topics		
103-2	The management approach and its components	p. 38-43, 49	
103-3	Evaluation of the management approach	p. 38-43, 49	
401-1	New employee hires and employee turnover	p. 71, 79. See comment	Turnover in the region "Americas" is 64% and in the region "Europe and Asia" is 36%. Turnover in the category "under 29 years" is 32%, in the category "30-49 years" is 43% and in the category "over 50 years" is 25%.
401-2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	p. 43	
401-3	Parental leave	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.
GRI 402	Labour/Management Relations		
103-1	Explanation of the material topic and its Boundary	p. 30, 43, 49, 79. 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, 43, 49	
103-3	Evaluation of the management approach	p. 30, 43, 49	
402-1	Minimum notice periods regarding operational changes	p. 43, 79. 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. 28-33	
103-2	The management approach and its components	p. 28-33, 68	
103-3	Evaluation of the management approach	p. 28-33, 68	
403-1	Workers representation in formal joint management-worker health and safety committees	p. 32, 79. 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. 31, 33, 66, 79. See comment	Absenteeism was 2.6% in total. It was 85% in the category "medically certified", in the category "medically uncertified" was 11%, in the category "other" was 4% and in the category "accidental injury" was <1%. The occupational illness rate was 0.21 cases per million man-hours. Accidents to females account for just 5% of all accidents and 8% of all work days lost in 2018. Accident data cannot be disclosed by region due to confidentiality concerns. Of contractor fatalities, all three occurred off-site.
403-3	Workers with high incidence or high risk of diseases related to their occupation	p. 33	
403-4	Health and safety topics covered in formal agreements with trade unions	p. 32, 79. 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. 41, 24	
103-2	The management approach and its components	p. 41, 24	
103-3	Evaluation of the management approach	p. 41, 24	
404-1	Average hours of training per year per employee	p. 41, 71, 79. See comment	Note that relevant training is provided equally to both genders.
404-2	Programs for upgrading employee skills and transition assistance programs	p. 41, 43	
404-3	Percentage of employees receiving regular performance and career development reviews	p. 41, 79. 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. 11-13, 25, 42; AR p. 65	
103-2	The management approach and its components	p. 11-13, 25, 42; AR p. 65	
103-3	Evaluation of the management approach	p. 11-13, 25, 42; AR p. 65	
405-1	Diversity of governance bodies and employees	p. 11-13, 25, 42; AR p. 54-57, 65	
405-2	Ratio of basic salary and remuneration of women to men	p. 79. 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. 42, 49	
103-2	The management approach and its components	p. 23, 42, 49	
103-3	Evaluation of the management approach	p. 23, 42, 49	
406-1	Incidents of discrimination and corrective actions taken	p. 79. See comment	There were a total of 10 alleged instances of discrimination in 2018. 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. 47-49	
103-2	The management approach and its components	p. 47-49	
103-3	Evaluation of the management approach	p. 47-49	
407-1	Operations and suppliers identified in which the right to exercise freedom of association and collective bargaining may be at risk	p. 47-49, 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.
GRI 408	Child Labour		
103-1	Explanation of the material topic and its Boundary	p. 47-49	
103-2	The management approach and its components	p. 47-49	
103-3	Evaluation of the management approach	p. 47-49	

GRI Code	Description	Reference	Comment
GRI 400	Social Topics		
408-1	Operations and suppliers at significant risk for incidents of child labor	p. 47-49, 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 409	Forced or Compulsory Labour		
103-1	Explanation of the material topic and its Boundary	p. 47-49	
103-2	The management approach and its components	p. 47-49	
103-3	Evaluation of the management approach	p. 47-49	
409-1	Operations and suppliers at significant risk for incidents of forced or compulsory labor	p. 47-49, 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 410	Security Practices		
103-1	Explanation of the material topic and its Boundary	p. 23, 49, 69, 80. See comment	Group companies operate in accordance with the Social Policy and CoBC.
103-2	The management approach and its components	p. 23, 49, 69, 80. See comment	Group companies operate in accordance with the Social Policy and CoBC.
103-3	Evaluation of the management approach	p. 23, 49, 69, 80. 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. 80. See comment	Note that in 2018 40% of Group companies have security personnel on-site and 85% of companies provided human rights training to security personnel. 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. 80. See comment	Not applicable. CRH does not have a presence in countries of concern.
103-2	The management approach and its components	p. 80. See comment	Not applicable. CRH does not have a presence in countries of concern.
103-3	Evaluation of the management approach	p. 80. 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. 80. 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. 49, 68	
103-2	The management approach and its components	p. 41, 49, 68	
103-3	Evaluation of the management approach	p. 41, 49, 67, 68	
412-1	Operations that have been subject to human rights reviews or impact assessments	p. 49, 80. See comment	Note that 71% of companies carried out human rights assessments, similar to the past 3 years (Europe: 63%, Americas: 80%, Asia: 80%). 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. 41, 80. See comment	Note that in 2018 there were 57,000 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. 48, 80. 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. Significant suppliers in this case are those who we deem to have a higher potential CSR risk because of the value of their contract with CRH, the location of the source of supply or some other risk factor
GRI 413	Local Communities		
103-1	Explanation of the material topic and its Boundary	p. 50, 51, 68	
103-2	The management approach and its components	p. 50, 51, 68	
103-3	Evaluation of the management approach	p. 50, 51, 67, 68	
413-1	Operations with local community engagement, impact assessments, and development programs	p. 50, 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.
413-2	Operations with significant actual and potential negative impacts on local communities	p. 45, 50, 51, 80; AR p. 223. 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 Labour Practices		
103-1	Explanation of the material topic and its Boundary	p. 47, 48	
103-2	The management approach and its components	p. 47, 48, 68	
103-3	Evaluation of the management approach	p. 47, 48, 67, 68	
414-1	New suppliers that were screened using social criteria	p. 47, 48, 80. 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. 47, 48, 80. 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. 80. See comment	Not applicable. No significant contributions.
103-2	The management approach and its components	p. 80. See comment	Not applicable. No significant contributions.
103-3	Evaluation of the management approach	p. 80. See comment	Not applicable. No significant contributions.
415-1	Political contributions	p. 80. See comment	Not applicable. No significant contributions.
GRI 416	Customer Health and Safety		
103-1	Explanation of the material topic and its Boundary	p. 35	
103-2	The management approach and its components	p. 35	
103-3	Evaluation of the management approach	p. 35	
416-1	Assessment of the health and safety impacts of product and service categories	p. 35	
416-2	Incidents of non-compliance concerning the health and safety impacts of products and services	p. 80. 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. 35, 81. 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. 35, 81. 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. 35, 81. 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. 35	
417-2	Incidents of non-compliance concerning product and service information and labelling	p. 81. See comment	None known.
417-3	Incidents of non-compliance concerning marketing communications	p. 35, 81. 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. 81. See comment	Not material. CRH takes customer privacy very seriously and has appropriate policies and processes in place, such as those to comply with General Data Protection Regulation (GDPR) in Europe. Customer privacy, however, was not assessed to be among material issues for Sustainability Reporting.
103-2	The management approach and its components	p. 81. See comment	Not material. CRH takes customer privacy very seriously and has appropriate policies and processes in place, such as those to comply with General Data Protection Regulation (GDPR) in Europe. Customer privacy, however, was not assessed to be among material issues for Sustainability Reporting.
103-3	Evaluation of the management approach	p. 81. See comment	Not material. CRH takes customer privacy very seriously and has appropriate policies and processes in place, such as those to comply with General Data Protection Regulation (GDPR) in Europe. Customer privacy, however, was not assessed to be among material issues for Sustainability Reporting.
418-1	Substantiated complaints concerning breaches of customer privacy and losses of customer data	p. 81. See comment	In 2018, 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. 23, 24, 81. 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, 24, 81. 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. 23, 24, 81. 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. 23, 24, 81. 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.



DNV GL Assurance Statement

Scope of engagement

DNV GL Business Assurance Services UK Limited ("DNV GL", "us" or "we") were commissioned by CRH Group Services Limited to provide limited assurance to CRH plc ("CRH") over the Subject Matter presented in CRH's Sustainability Report 2018 (the "Report") for the reporting year ended 31st December 2018.

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) (tonnes); and Total CO₂ emissions (Net) (tonnes);
- Emissions Monitoring: % Clinker produced with monitoring of major and minor emissions; and % Clinker produced using continuous monitoring of major emissions; % CO₂ emissions covered;
- 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 (mg/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, total water consumption; and total water discharge;

- Health and Safety: Number of fatalities (directly employed); Fatality rate per 10,000 (directly employed); Number of fatalities (indirectly employed); 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 withdrawal (million m³); and
- Health and Safety: Group fatalities (directly and indirectly employed); Group lost time injuries; Group LTI; and Group severity rate.
- Social: Total number of employees.

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 66 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 2016 (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 2016.

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: Podilsky Cement PJSC, Ukraine; Architectural Products Group (APG), USA; Fels-Werke GmbH, Germany; Opterra GmbH, Germany; CRH (Srbija) d.o.o. (Novi Popovac cement plant), Serbia; Slovakia CRH (Slovensko) a.s. (Turňa cement plant), Slovakia; Suwannee American Cement (Branford cement plant), USA; Preferred Materials, Inc. (Aggregates / CYD), USA., to review processes 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 gross emissions was 11.7%.

- 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.

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 noted senior management commitment to sustainability performance, and there continued to be a thorough review of performance at Board level through a special sub-committee, which demonstrates top management buy-in and commitment.
- We noted that sustainability risks appear to be well integrated into the business risk management process, with a high level of internal and external auditing for key risks.
- In line with the building materials sector in general, accurate reporting of contractor working hours is a challenge. We recommend CRH continues to focus on this issue to further improve data quality and accuracy.
- We noted the expansion in the extent of reporting of CRH's Scope 3 GHG emissions data in 2018. We recommend that CRH continues to focus on how to further expand on the scope of reporting for this indicator.
- We noted a small number of immaterial corrections to Selected Information data submitted from sites visited. Updated data was provided in all cases and incorporated correctly in consolidated data presented in this Report.

2. AA1000 Principles

- **Inclusiveness:** CRH engages 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. At site level the approach to engaging with stakeholders was largely positive, but varies, and we recommend further guidance from Group on implementing a more systematic approach to identifying and engaging with stakeholders at a site level.
- **Materiality:** CRH has informally reviewed its material issues internally in 2018 with Group Risk, with the last full materiality process conducted in 2016. A number of forums feed into the informal review of material issues. We understand that a full materiality process will likely take place in 2019.
- **Responsiveness:** Information received from the three Stakeholder interviews we conducted demonstrated a high level of responsiveness to stakeholder feedback. We note CRH's initiative in 2018 to pilot a more systematic approach to measuring inputs and outputs of community investments.

DNV GL Business Assurance Services UK Limited

London, UK

27th March 2019

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





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Frank Heisterkamp
Head of Investor Relations

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

Cover image: Oldcastle BuildingEnvelope®, part of CRH's Americas Products Division, provided interior glass, doors, sidelights, exit devices and hardware through its C.R. Laurence business, for the renovation and expansion of the Visitor Centre and Museum at the famous Gateway Arch in St. Louis, Missouri. The arch soars almost 200 metres above the Mississippi River and the museum, a civic space for the city, opened to the public in July 2018. The museum has received LEED® Gold Certification from the US Green Building Council for the building's sustainable site development, water savings, and building materials selection.