



Our business and products

We're the largest supplier of heavy building materials to the construction industry



People

Creating sustainable communities



Water and biodiversity

Natural resources and enhancing the environment



Carbon

Climate change and energy



Waste and raw materials

Sustainable consumption and production



Systems

Management systems for continual improvement

**Performance and sustainability report
2014**

Performance and sustainability report 2014

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2013 highlights

- ✓ Waste to landfill falls by 4,000 tonnes
- ✓ Environmental complaints reduced by 50 per cent
- ✓ Eight megawatt solar farm comes on stream
- ✓ Mains water use per tonne of product down by 12.6 per cent
- ✓ *Right first time* initiative drives quality improvements

An eight megawatt solar farm is providing power for Ketton cement works in Rutland (see page 29).



2013 awards

- Mineral Products Association health and safety awards** – a stainless steel netting system to prevent loose material falling from the roof of cement cyclones during maintenance won the MPA Trophy for engineering initiatives; work done to provide a safer working environment for a Hanson Formpave employee who is severely disabled received the Mineral Products Qualifications Council (MPQC) Trophy for leadership, training and management. A system to remove broken teeth from the primary crusher at Cliffe Hill quarry in Leicestershire (engineering) and a GPS-based system for monitoring site boundaries at Mercaston quarry in Derbyshire (contractor safety) were runners-up in their categories. Three employees were recognised for individual achievement.
- Mineral Products Association biodiversity and restoration awards** – the ‘landscape scale restoration’ category of the biodiversity awards, sponsored by Natural England, was won by the Upper Nene Valley nature reserve in Northamptonshire. The reserve comprises a 16 mile long string of six restored former Hanson sand and gravel quarries stretching from Earls Barton in the south to Irthlingborough and Stanwick, which has been linked to create one of Europe’s newest Special Protection Areas for vulnerable bird species. A project to create a safe haven or ‘ark’ site for the threatened white-clawed crayfish at Whiteball quarry in Somerset finished runner-up in the biodiversity ‘innovation’ category.

Coldstones quarry near Pateley Bridge in Yorkshire was highly commended in the restoration awards and also won an MPA special award for the Coldstones Cut, a 92 hectare screening bank which incorporates a viewing platform created from a major piece of sculptural art.

- British Precast best practice awards** – an energy saving project at Whittlesey block works near Peterborough won the sustainability category; work done to provide a safer working environment for a Hanson Formpave employee who is severely disabled took the health and safety award.
- British Ready-Mixed Concrete Association awards** – the gold medal for excellence in customer service went to Hanson Concrete for exceptional work on a rail viaduct repair project in Yorkshire.
- Royal Society for the Prevention of Accidents** – Hanson Contracting received the Order of Distinction to mark 22 consecutive years of achieving the gold standard.
- Brick Development Association Brick Awards** – a project showcasing Chelsea Smoked Red and Oakthorpe Buff bricks, which are made at Measham works in Leicestershire and are part of the Ecostock range, won the inaugural chairman’s trophy. The bricks were used at Hammond Court, a housing development in Waltham Forest, London.
- CEMCO supplier awards** – Hanson Cement was named best heavy-side supplier by national buying group CEMCO.
- Wickes builders’ merchant awards** – Hanson’s packed products business won the supplier of the year award.

Top left: Hanson Cement managing director Jim Claydon, centre, with MPA health and safety trophy winners Paul Bidgway from Formpave, left, and Paul Cowell from Cement.

Top right: Pictured at the MPA biodiversity and restoration awards are, from left, ecology consultant Steve Brayshaw, landscape manager Dave Southgate, land and planning manager Mark Page and Phil Watson, development control manager for Northamptonshire County Council.

Foreword

by Patrick O’Shea, chief executive officer, Hanson UK

I am pleased to report that we enjoyed a relatively successful 2013 after five years of depressed markets, declining volumes and capacity reductions. I expected the trading environment to be tough following the debacle of 2012, with very little forward momentum. But in the event I believe it will be remembered as the year we turned the corner and returned to growth.

The UK economy expanded by 1.8 per cent during the year, and there was a similar rise in construction output. Sales volumes across all our business lines were ahead of budget and forecast, and the prospects for 2014 – and beyond – look very promising.

This welcome upturn in activity has been fuelled principally by private sector house building, but we are also beginning to see an increase in infrastructure and commercial projects, which leads me to believe that our industry is set to enjoy a much-needed revival.

Rising production volumes will inevitably lead to greater efficiency, improved profit, and greater job security for our employees – all critical elements in operating a sustainable business. It will allow us to invest in projects to improve efficiency and save energy in both manufacturing and distribution.

New systems are being introduced to make more efficient use of our trucks and we have invested in improved distribution facilities, most notably a new cement rail terminal at Avonmouth to supply our customers, both internal and external, in the south west of England. We have also re-opened a mothballed brick works and taken on additional staff at other plants to cope with rising demand.

All this is positive news after a long period of recession, but I’m afraid it is totally overshadowed by the fact that there were two fatalities in our business during the year.

These were shocking and distressing incidents which have left a lasting impression on us all. At the same time they have strengthened our resolve to identify and eliminate hazards, look out for each other and never pass by an unsafe act.

And to keep safety at the very top of the sustainability agenda.



“Rising volumes will inevitably lead to greater efficiency.”

Our business



Hanson UK is the largest supplier of heavy building materials to the construction industry

We produce aggregates (crushed rock, sand and gravel), ready-mixed and precast concrete, asphalt and cement-related materials and a range of building products, principally bricks and blocks. We are part of the HeidelbergCement Group, which has leading global positions in aggregates, cement, concrete and heavy building products.

Turnover for the UK business in 2013 was £1,153 million. Capital investment for the year totalled £22.7 million. Our principal markets are in England and Wales and the central belt of Scotland. We have no production operations in Northern Ireland. We operate around 340 manufacturing sites and employ around 4,700 people. Jobs range from specialist and professional managers through to production operatives.

Employee wages and benefits paid in 2013 totalled more than £125 million.

Our headquarters is located in Maidenhead, Berkshire, and our shared service and IT centres are in Chipping Sodbury, South Gloucestershire. The location of our production operations is determined by a number of factors, not least geology and planning constraints. Where practical, our sites are located close to core markets to reduce the costs and impact of transport.

We operate a series of depots and wharves, supplied by road, rail and sea, to ensure the efficient transfer of aggregates and cement to areas of greatest demand and where local materials are not readily available.

During the year we took full ownership of the Leicestershire-based asphalt and quarrying business Midland Quarry Products Limited (MQP). We already owned 50 per cent of MQP and exercised a contractual pre-emption right to acquire the remaining shares from Tarmac Limited when Tarmac was required to sell its stake in order to form a joint venture with Lafarge.

Our business is managed in five divisions – aggregates, concrete, asphalt and contracting, cement and building products.

Hanson Aggregates produces and distributes crushed rock, sand and gravel from a network of over 70 quarries, depots and wharves. The division includes **Hanson Aggregates Marine**, Europe's largest producer of marine-dredged sand and gravel which operates six trailing suction hopper dredgers delivering to wharves in the UK, the Netherlands, Belgium and France, and **Hanson Bath Stone**, which produces natural stone masonry.

Hanson Concrete is the UK's largest supplier of ready-mixed concrete from a network of 178 static and mobile production plants based on construction sites.

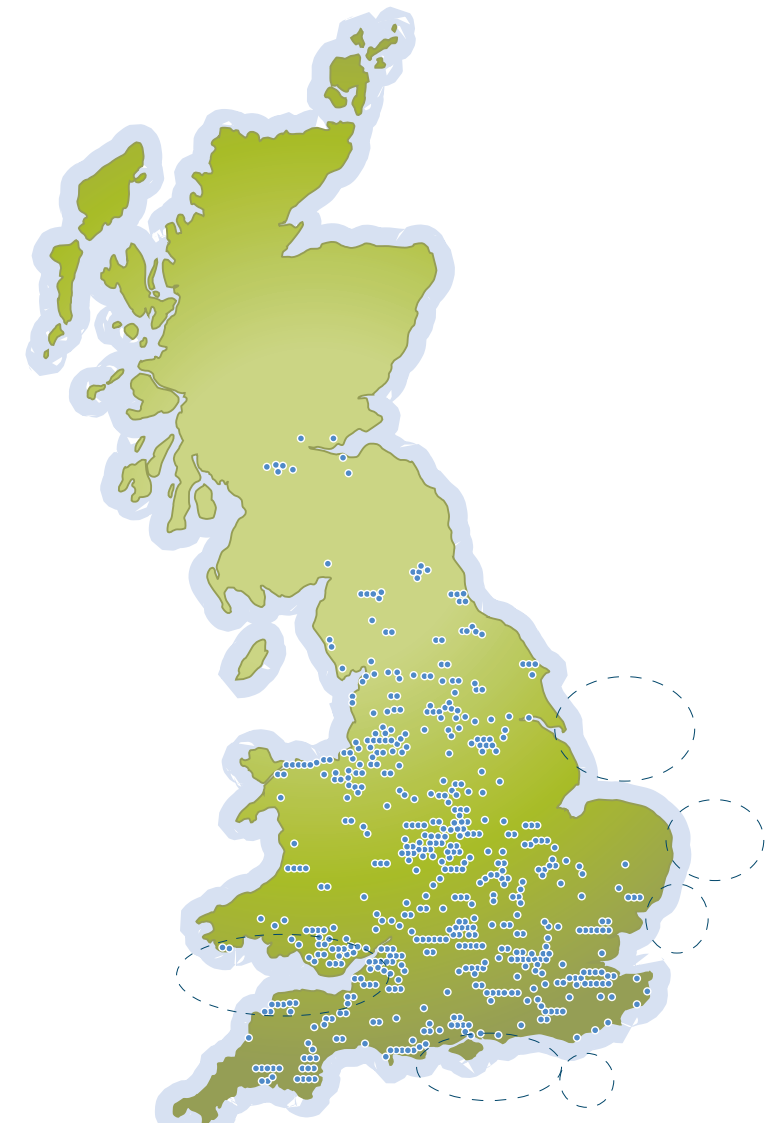
Hanson Asphalt and Contracting brings together management of our asphalt production sites and a national road surfacing and infrastructure contracting business. It also includes the asphalt and quarrying business Midland Quarry Products.

Hanson Cement is a leading manufacturer of cement, both in bulk and in bags, and produces Regen (ground granulated blastfurnace slag) – a cement replacement in ready-mixed and precast concrete. The division includes our packed products business, which produces a range of bagged cement, cementitious and aggregate products.

Hanson Building Products is one of the UK's largest producers of clay bricks and also makes Thermalite (aircrete) and aggregate blocks. Also managed within the division are **Hanson Formpave**, which specialises in block paving and sustainable urban drainage systems (SUDS), **Hanson Floors and Precast**, which makes a range of precast concrete products, **Hanson Structerm** which manufactures and installs structural cladding systems, predominantly for refurbishment projects, and **Irvine Whitlock**, a walling contractor.

Production operations 2013	
Aggregates depots and wharves	15
Asphalt plants	30
Bagged products plants	12
Block paving plants	1
Brick works	8
Cement depots and wharves	6
Cement plants	3
Concrete/aircrete block plants	7
Regen plants	3
Marine dredgers	7
Precast concrete and flooring plants	2
Quarries – sand and gravel	27
Quarries – crushed rock	25
Ready-mixed concrete plants	178
Recycling/landfill sites	13
TOTAL	337

Production volumes 2013 (million tonnes unless stated)	
Aggregates	20.90
Asphalt	2.39
Ready-mixed concrete (million cubic metres)	3.61
The Competition and Market Authority's market data order prevents us publishing our cement volumes.	
Bagged cement and aggregates	0.92
Precast concrete and flooring	0.19
Bricks (million)	439
Blocks	0.97



Hanson UK production sites

- Operation
- Marine licences

Managing sustainability

Our safety, health, environment and marketing functions are managed within a single sustainability department to provide increased focus both internally and externally. The department delivers a professional regulatory and advisory service to all business lines, audits and develops the Integrated Management System (IMS), and leads the drive to develop a trained and competent workforce. It covers:



- **Environmental excellence** – focusing on energy, carbon and natural resource management, reporting and communication, and product profiling
- **Advice and guidance** – delivered through a team of safety, health and environment professionals
- **Training and competence** – through co-ordination and delivery of our in-house and external training programmes
- **Audit and scrutiny** – combining internal audit with maintenance and development of the IMS
- **Marketing communications** – promoting the sustainability credentials of our business and our products to employees and stakeholders.

Our sustainability strategy

Our aim is to be a leading sustainable business, trusted and respected by our stakeholders for the ethics we adopt and the products we supply.

Our approach is built around five themes which underpin our sustainability policy and performance indicators:

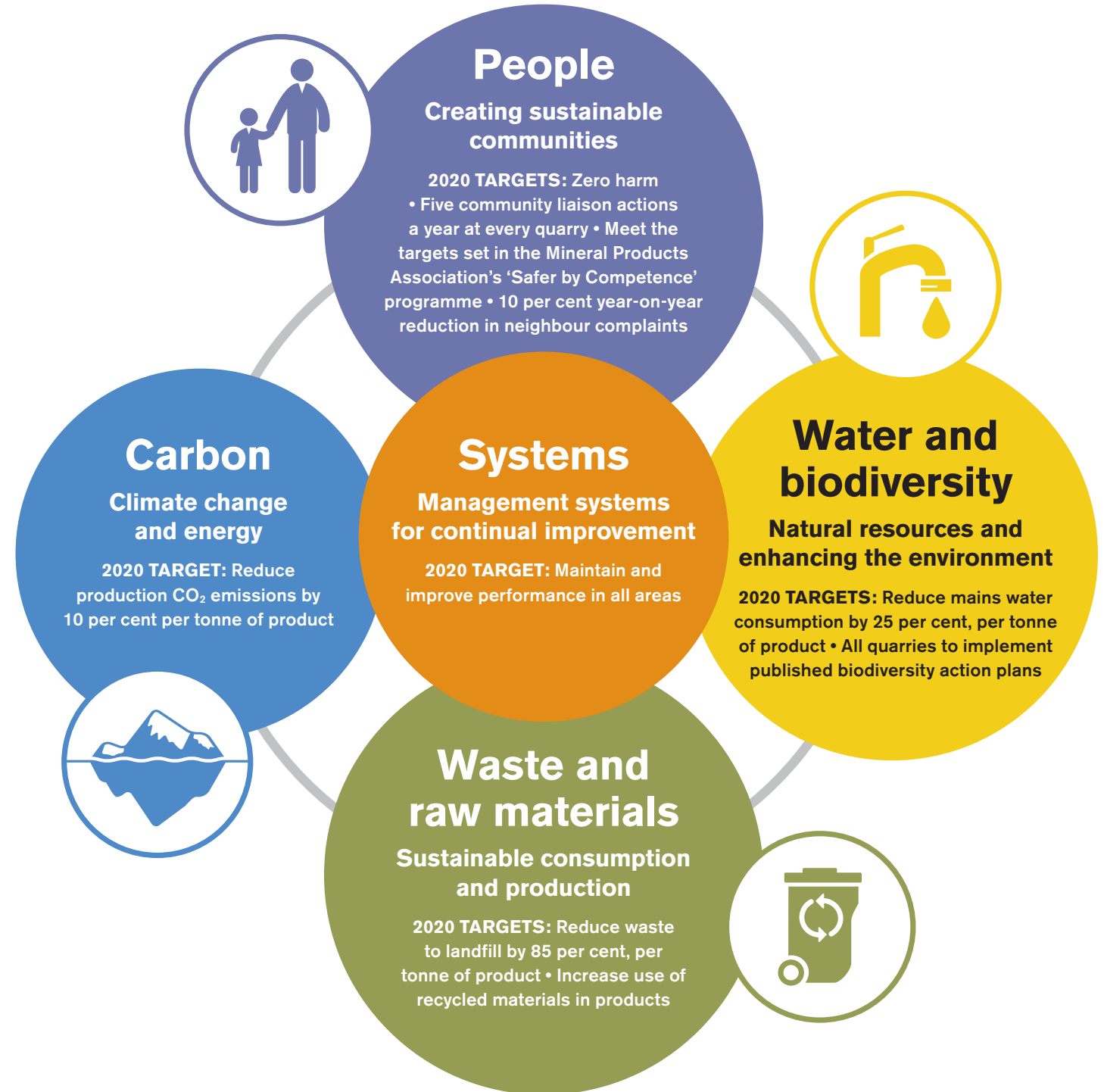
- **People** – creating sustainable communities and working with our stakeholders
- **Carbon** – climate change and energy
- **Waste and raw materials** – sustainable consumption and production
- **Water and biodiversity** – natural resource protection and enhancing the environment
- **Systems** – management systems for continual improvement.

Above: In-house training for the commercial teams was carried out by the sustainability department to improve knowledge and awareness (see page 18).

To support this approach we will:

- Provide training and guidance for employees to understand our key objectives, encourage them to take responsibility for performance and improve competency
- Continue to develop our Integrated Management System (IMS) as a mechanism to implement our sustainability strategy and ensure compliance with legislation, accurate reporting and continual improvement
- Publish annually a report on the prior year's performance following the guidelines of the Global Reporting Initiative (GRI)
- Implement a stakeholder review process and continue to develop our strategy to meet stakeholder interests
- Develop new products that enhance our credentials and the sustainable built environment meeting the needs of our customers
- Achieve and develop our sustainability targets and lead by example.

Towards 2020 – our core targets



Baseline for 2020 targets is 2010.

Scope of the report

This report covers all five divisions of Hanson UK and our corporate functions. Waste, energy and water data from contracting works sites has not been included due to the difference in the type of activity carried out. The same applies to two companies which are primarily involved as contractors – Hanson Structherm and Irvine Whitlock.

We have a controlling interest in two joint ventures, Smiths Concrete and Humber Sand & Gravel, and their active operations are included in the data, although Humber Sand & Gravel ceased trading in May 2014. We took full ownership of Midland Quarry Products, a quarrying and asphalt business based in Leicestershire, in April 2013 and its operations are included in the report. All historic data has been adjusted to exclude Solvent Resource Management (SRM) which was sold in 2011.

Our 2014 report remains closely aligned to the UK concrete industry's *Sustainable Construction Strategy* and the UK Green Construction Board's call for action on water, waste, carbon, materials and biodiversity. We use 18 key performance indicators for reporting which complement the overarching sustainability strategy of our parent company, HeidelbergCement, summarised on page 50.

We are committed to reporting annually and the report covers the calendar year to the end of 2013. Any changes in measurement methods are indicated alongside the relevant table. The report is available on our website at www.hanson.com/uk/sustainability

The figures quoted in the report are for the combined Hanson UK business. You can find a breakdown of the data by business line on our website.

The information and data contained within this report has been verified by Lucideon CICS as reliable and providing a fair and balanced representation of the reported sustainability activities in the reporting period. Nothing came to their attention that caused them to believe that our internal control is not effective.

Global Reporting Initiative

This document is based on the Global Reporting Initiative (GRI) framework for sustainability reporting. We have self-assessed our reporting to be Application Level B. You can find a table giving the location of the GRI standard disclosures on our website at www.hanson-sustainability.co.uk



MQP's flagship quarry at Cliffe Hill in Leicestershire produces over three million tonnes of granite a year.



New structure provides a solid platform for progress

by Paul Lacey, head of sustainability, Hanson UK

The new structure for managing sustainability, introduced at the start of the year, has proved to be very successful. By bringing together our health, safety and environment functions we have created a team of specialists who can provide advice and guidance across a wide range of issues and topics. We can also organise or carry out essential on-the-job training, deliver an internal audit service and ensure our integrated management system is kept relevant and up-to-date.

Communication is critical and the inclusion of the marketing team into the mix means we can better promote the sustainability credentials of our business and our products to our employees and customers.

Another important development last year was the embedding of our 2020 targets. Beneath these overarching corporate targets we have agreed and introduced objectives for each business line and ensured that the operational management teams have a clear understanding of what they have to do to influence performance. National compliance meetings are held to monitor progress at which we review performance and offer assistance where required. At site level, we have appointed sustainability reps to cover health, safety, environmental, social and community issues. The site reps share best practice through regular cross-business line working groups, chaired by a divisional managing director, with delegates from the working groups meeting annually with the executive board.

This formalised approach has strengthened our internal communications and provided a much more focused approach, which I believe is critical to achieving our 2020 targets.

We held a further two stakeholder engagement events last year in May and October involving customers, suppliers and non-government organisations (NGOs). 21 people from a wide range of organisations in the public and private sectors attended the sessions, which were facilitated by an independent consultant. They gave us a greater insight into how we are perceived and what we need to do to improve, and also provided valuable information on how we can develop our reporting and communication processes.

One issue to emerge was the need to provide better training for our sales teams so that they in turn can talk with confidence to customers and contractors about the sustainability credentials of our products and our business. As a result, a series of training sessions was held across the country attended by more than 150 people from the various commercial teams with the aim of developing their knowledge and skills.

The stakeholder groups also highlighted areas where further development is required, including creating a clearer connection between our strategy and our performance, holding open days at critical sites and further product innovation. All these issues are being addressed.

Finally, and staying with the communications theme, we held a number of very successful events as our contribution to HeidelbergCement's safety week. The week focused on workplace safety, driver safety and employee health and well-being. It featured conference calls and toolbox talks supported by additional online resources, including podcasts on our intranet. And for the first time the safety message was extended to the home, with a website for all the family stressing that health and safety should not be left at the office or factory gate. You can read more about safety week on page 15.

Looking ahead we accept that we still have a lot of work to do to achieve our 2020 targets. Employee engagement and involvement is critical and we will continue to promote the principles of working sustainably and endeavour to embed them into everything we do.



People

■ Creating sustainable communities



Our vision:

Zero harm in the workplace and a positive impact on communities around our sites. Effective partnerships and dialogue with stakeholders.

■ Objectives:

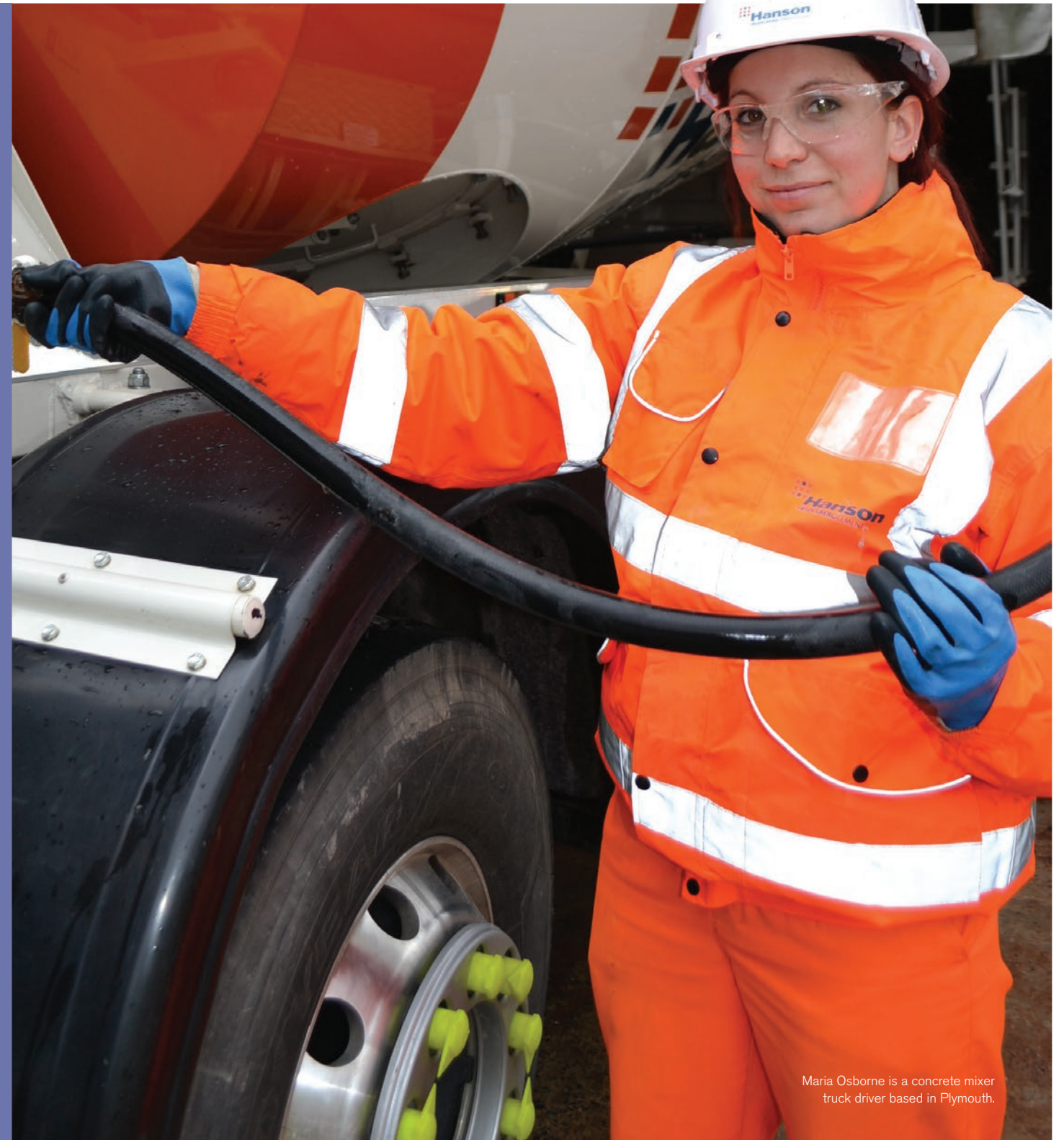
Ensure health and safety remains our number one priority; develop the skills of our workforce; make a positive contribution to the communities around our operations; report and act upon environmental incidents.

■ Action plan:

Focus on training and risk assessment; increase near hit reporting and one-to-one safety conversations with employees; host regular engagement meetings with stakeholders; reduce environmental incidents and emissions.

■ 2020 targets:

Zero harm; five community liaison actions a year at every quarry; meet the targets set in the Mineral Products Association's 'Safer by Competence' programme by 2017; reduce valid neighbour complaints year-on-year.



Maria Osborne is a concrete mixer truck driver based in Plymouth.



Health and safety

Two fatalities overshadow performance

There were two fatalities in 2013. Dainius Stogis, an agency worker contracted to our walling contractor Irvine Whitlock, died on a construction site in central London. William Ridge, a plant operator, was involved in a fatal accident at our packed products site at Dagenham in Essex. Investigations into both incidents are continuing.

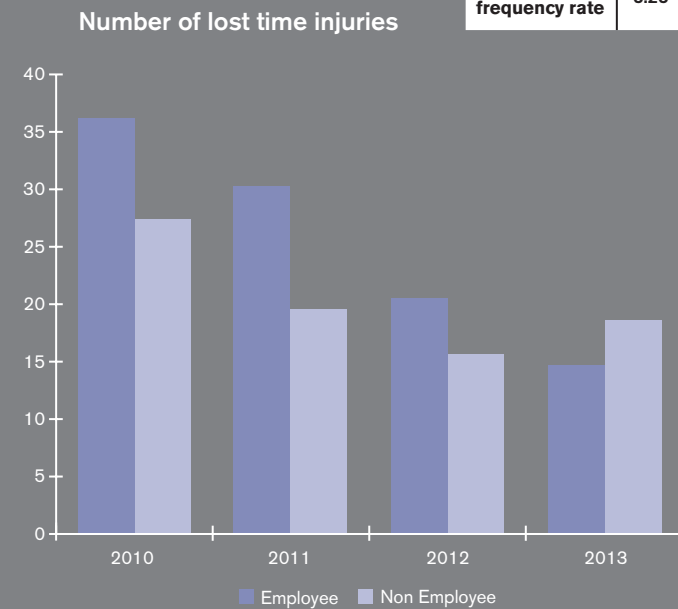
Employee lost time injuries (LTIs) fell from 20 to 14. The employee LTI frequency rate of injuries per one million hours worked, which has been adopted as a standard industry indicator, also fell based on the average number of people employed during the year. Non-employee (contractor) LTIs on our sites continue to cause concern. The total rose during the year from 15 to 18, prompting a decision to focus on contractor safety, and in particular hauliers. We remain on target to achieve the Mineral Products Association (MPA)'s interim target to halve the LTI frequency rate for direct employees and halve the cumulative number of contractor LTIs by 2014 based on 2009 figures. The LTI severity rate for our own employees, derived from the total number of days lost,

rose slightly but remained well below the 2011 level due to injuries being managed better and less severe.

A new initiative called Hazard Spot, which was launched in June, is playing an important part in the drive towards zero harm. Hazard Spot involves stopping work and taking a walk around the workplace with colleagues with the sole aim of identifying anything that could represent a safety or health hazard, however trivial it may appear. The findings are then reviewed with proposed actions logged and categorised until they are resolved – or dealt with immediately if the hazards are serious.

We continued to invest in health surveillance to detect existing or underlying issues, and we introduced free check-ups – or health MOTs – for all employees. We also provided comprehensive health and safety training for our staff, from both in-house specialists and external consultants.

Lost time injuries				
	2010	2011	2012	2013
Employees	36	30	20	14
Contractors	27	19	15	18
Employee severity rate	83.92	95.53	58.59	62.41
Employee frequency rate	3.23	2.79	2.08	1.52



Safety week spells out the key messages

The majority of the workforce took part in Hanson UK's contribution to the HeidelbergCement safety week. The week focused on workplace safety, driver safety and employee health and well-being. It featured a series of conference calls and toolbox talks supported by additional online resources, including podcasts on the company intranet.

A key topic looked at the things we need to do every day to stay safe at work, in particular a review of guarding, lock off, maintenance and safe systems of work.

And for the first time the safety message was extended to the home, with a website for all the family stressing that we shouldn't leave health and safety at the office or factory gate.

A campaign called 'Be safe with Hanson' was directed at hauliers, particularly owner-drivers and franchisees, and

urged delivery drivers to "take a minute to save a lifetime." Hauliers have been asked to carry out a series of safety checks when loading and unloading on site and complete a simple form

containing red, amber and green boxes. A number of events were staged at sites around the country by the transport and distribution teams to introduce drivers to the campaign.



Lessons learned from blast incident

Hanson UK and shot-firing contractors WCD Sleeman & Sons were both fined £20,000 following a quarry blast in 2011 which resulted in rocks flying onto a nearby road. Barnstaple Magistrates' Court was told debris from the 2011 blast at Brayford quarry in Devon damaged waiting cars. Sleeman admitted breaching the Health and Safety at Work Act and was ordered to pay £17,000 in costs.

Hanson pleaded guilty to a breach of the Quarries Regulations and paid costs of £14,000.

Aggregates division managing director Phil Redmond said: "Although we were not directly responsible for the incident we had an obligation under the regulations to properly supervise the blasting operations and some important lessons have been learned."

TARGET
Zero harm



Stakeholder performance

Briefing meetings communicate strategy and performance

Our employees remain an important stakeholder group and we continued to improve our internal communications through better use of the intranet platform, employee forums and staff briefing meetings. CEO Patrick O'Shea carried out a series of 10 meetings across the country to explain the strategy, performance and prospects for the business.

The remit of our employee working groups has been extended to embrace environmental, social and community affairs. At site level we have appointed sustainability reps to take responsibility for all these elements.

They share best practice through regional cross-business line working groups, chaired by a divisional managing director, and representatives from the regional groups meet once a year with the executive board.

We continued our programme of stakeholder engagement workshops involving customers, trade associations, NGOs and community leaders and have gained some valuable feedback.

The dialogue with customers in particular is helping us to understand both the data and information we need to supply to support their businesses, and the ways in which we can work together to promote sustainable development.

Five of our sites are within national parks and we are active members of the Corporate Forum for National Parks, which encourages dialogue between the park authorities and the businesses which operate within the parks.

Before submitting planning applications for new developments, we consult widely with both statutory bodies and local residents. We held three public exhibitions during 2013 to present proposals for mineral extraction. The exhibitions provided an opportunity for local residents to view and comment on the proposals prior to planning applications being submitted.

As members of the principal trade associations in our sector, we contribute to discussion and debate on a range of issues designed to improve our sustainability performance.

Welsh Assembly member Byron Davies, centre, pictured on a fact-finding trip aboard the marine aggregate dredger Arco Dart with the ship's master Mick Forster, left, and chief officer David Chubb.



Civil servants get the inside story

A tour of Ketton cement plant in Rutland gave a key group of civil servants an insight into the operation's size and energy needs. 15 people from the Department of Energy and Climate Change, the Department of Business, Innovation and Skills, and the Treasury attended the fact-finding visit, which was arranged in collaboration with the MPA and included a presentation on the effect of changes in carbon legislation on the cement industry.

"Our aim was to educate the officials, who were mostly economists, about cement production and its energy intensiveness so they can better represent our interests when shaping policy at UK and European level," said safety, health and environment manager Iain Walpole, who hosted the visit and also chairs the MPA's cement regulatory interface group.



Members of the Department of Energy and Climate Change, the Department of Business, Innovation and Skills, and the Treasury on a tour of Ketton cement plant in Rutland.

TARGET

To become a recognised leader in engaging with customers, suppliers, community leaders, NGOs and employees and developing collaborative projects to benefit sustainable development



Employment and skills

Product training for commercial staff

The number of staff employed at January 1, 2014 was 4,694. Spending per head on training and skills fell slightly during the year, but the focus remained on safety, health, environment and leadership. We also continued with our talent management and succession planning programmes. A database called the Learning Management System (LMS) records and tracks training needs and provision and contains all employee training records.

We recognise that workplace diversity is a growing area of interest and importance. You can find a full breakdown of our employees by gender and age on our website.

For the first time this year a training programme was delivered for commercial and customer-facing staff highlighting the environmental and sustainability credentials of our products and the work the company is doing to take a lead in the sustainability field. The training was the result of feedback from the commercial stakeholder workshops held in 2012 where the importance of an educated sales force was highlighted.

We continue to provide a range of benefits to support employees. FirstAssist provides a round-the-clock telephone counselling service through which employees can receive individual and confidential support on a broad

range of work-related and personal issues, including financial management, stress, bereavement and relationships. MySafeWorkplace is a confidential service for employees to report anything from workplace harassment to fraud.



Training the next generation of managers

The Hanson Leadership Education and Development (LEAD) programme, which was introduced two years ago to attract school leavers into the business as an alternative to university, is being repeated in 2014. The programme is designed to train, educate and develop future supervisors and managers. The first two years are spent gaining experience and relevant qualifications in operational aspects of the business, in conjunction with a Supervisory Apprenticeship through the University of Derby.

The apprentices can then progress into a trainee manager, plant supervisor or other role with further opportunities to enhance their qualifications. "The trainees study for industry-recognised qualifications, and at the same time develop skills in the real-life environment of the workplace," said learning and development manager Karen Wright. "They are fully supported by both a manager and a mentor." A further seven apprentices will be recruited to join the six already on the course.



LEAD apprentices, from left, James Kidd, Ben Strickland and Elliott Wellbelove.



Distribution co-ordinator Neerab Sthanakiya in the quarry products customer service centre at Shepshed, Leicestershire.



Local community

Site visits are encouraged

We recognise that our operations are part of the local community and we strive to be good neighbours. Many of our larger sites operate liaison committees attended by councillors, council officers and residents' representatives. The number of sites with liaison activities fell because we have increased the number of actions required from one to two. Visitor numbers were also down slightly, but we continue to promote visits, particularly from schools and community organisations and will be holding open days at two of our cement plants in 2014.

Our three cement plants all produce community newsletters to keep residents and businesses informed about their activities and provide a conduit for further information.

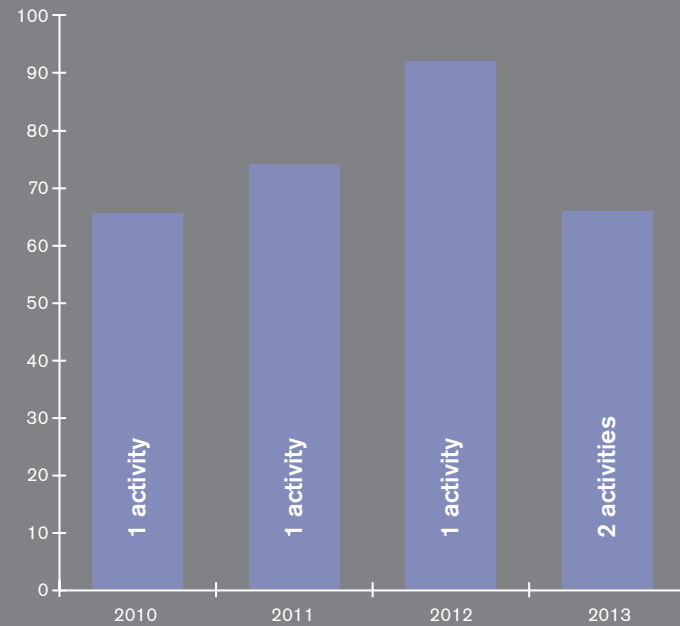
We help charities and voluntary groups in communities close to our sites and offices through the Hanson in the Community scheme. In 2013 we provided cash or materials to support over 150 organisations to the value of £22,590.

Our employee charity matching scheme contributed £20,000 to 42 charities during 2013 and has helped raise more than £1 million since its introduction in 1994. The scheme encourages employees to raise money for charity by matching their fundraising up to £400.

We are corporate patrons of CRASH, the construction industry charity which provides accommodation for the homeless, and we support a number of other smaller environmental and community-based organisations and charities.

Community relations				
	2010	2011	2012	2013
Relevant sites	77	73	62	62
Sites with liaison activity	51	54	57	41
Coverage	66%	74%	92%	66%
Visitor numbers	8,843	33,160	33,477	26,224

Sites with liaison activity (%)



The Padeswood cement works liaison group meets twice a year.

26,000

visitors to sites and centres in 2013

Gifts for children is 'overwhelming'

Shared service centre staff at Chipping Sodbury filled 44 shoe boxes with toys, books and other items as Christmas gifts for underprivileged children.

The boxes were presented by secretary Margaret Gargett, who organised the collection, to Shelagh Hillier, south west regional fundraiser for Action for Children, and Vince Spalding from the charity's Bristol branch.

"This is a fantastic effort which will mean a huge amount to the families who receive your gifts," said Shelagh. "We were quite overwhelmed by your generosity and the way the boxes were so carefully tailored for children of all ages to open and enjoy at Christmas."



Shelagh Hillier, left, Vince Spalding and Margaret Gargett with some of the gift boxes.

Quarry is on the Lancashire Geotrail

Lanehead quarry which provides limestone to Ribblesdale cement works, has become an important part of the new Clitheroe Geotrail guide. Hanson has created a viewing point and interpretation boards and provided funding for an explanatory leaflet.

The viewing platform has public access direct from the Ribble Way, allowing visitors to look at the quarry safely without having to make an appointment or be supervised. One display panel explains the site and local geology, while the other describes the cement making process and its end uses.

The Clitheroe trail is the fifth of 10 guides being produced by GeoLancashire and the Lancashire Group of the Geologists' Association (LGGA) at different locations along the River Ribble.

The former Hanson sand and gravel site at Brockholes, which is now restored and owned by Lancashire Wildlife Trust, featured in one of the earlier guides and there are plans to include Horton quarry in North Yorkshire in another next year.

TARGET
At least five community liaison actions a year at every quarry by 2020



Environmental incidents and emissions

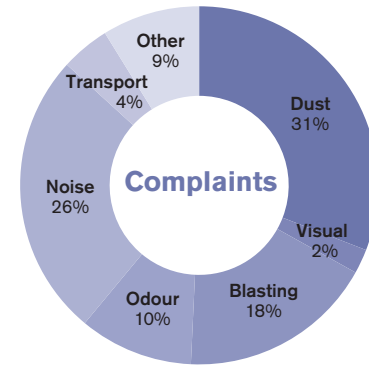
Complaints fall by 50 per cent

As part of our management systems we record incidents (occurrences noted by our own staff which may or may not have led to a complaint) and complaints (arising from external sources).

We use our Entropy software to record incidents, near hits and complaints and improve reporting. It allows us to analyse complaints and introduce appropriate mitigation measures.

Incident reporting increased slightly, which reflects our strategy of encouraging employees to report incidents and near hits so that we are able to deal with them before they have any external impact. However, complaints fell by more than a half with all business lines seeing a fall during the year.

Reports are generated monthly and systems are in place for recording and tracking required actions.



Incidents, complaints and prosecutions				
	2010	2011	2012	2013
Incidents	191	519	561	570
Complaints	294	225	263	132
Prosecutions	1	0	0	0

This reduction has brought us well below our target of a 10 per cent reduction year-on-year from the 2010 baseline of 294 complaints.



Our employees are encouraged to spot and report incidents and near hits.

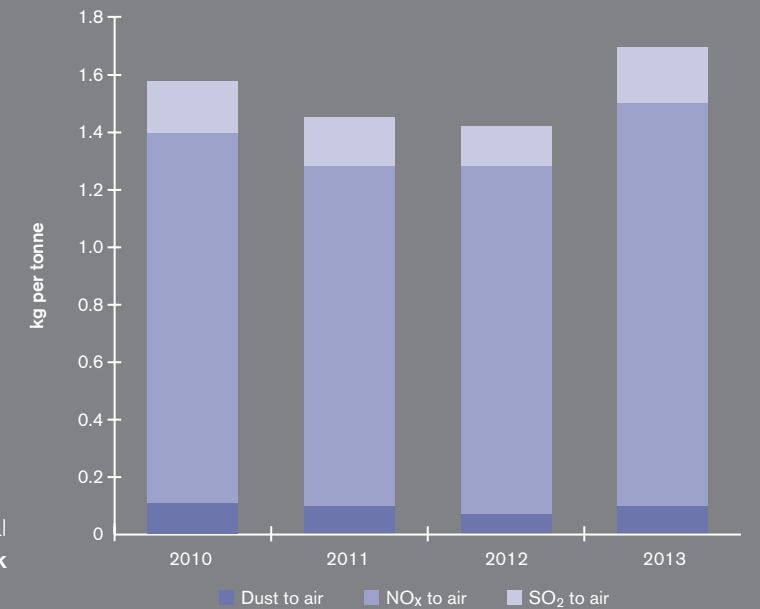
TARGET
10 per cent year-on-year reduction in complaints based on 2010 figures

Emissions from cement production

Emissions from the UK cement industry as a whole have reduced significantly over the last 15 years. Dust emissions have fallen from 0.33 to 0.10 kg/tonne of Portland cement (PCe). NO_x emissions have halved from 3.34 to 1.63 kg/tonne PCe while SO₂ emissions, which are related to the presence of volatile sulphur compounds found in the raw materials, are down from 2.56 to 0.64 kg/tonne PCe. (Source: Mineral Products Association). These reductions have been achieved in the main through major investment in new plant and equipment.

All three of our cement plants operate at levels at or below these industry averages and below EU best available technique reference document levels. Our emissions have risen as a result of raw material variations and plant performance. We are investing in new equipment in 2014 that should reduce emissions and we continue to publish annual reports on our website. Go to www.hanson.com/uk

Cement emissions to air



Cement emissions to air - kilograms per tonne				
	2010	2011	2012	2013
Dust to air	0.11	0.10	0.08	0.10
NO _x to air	1.29	1.18	1.20	1.40
SO ₂ to air	0.17	0.17	0.14	0.19

TARGET
Reduce NO_x emissions by 20 per cent and dust by 10 per cent by 2020 based on 2010 data and maintain 2010 SO₂ level

Carbon

Climate change and energy



Our vision:
To be recognised as a leading force in the delivery of a low carbon built environment.

Objectives:

Maximise energy and carbon efficiencies; deliver products with lower embodied carbon; support national and European carbon reduction policies.

Action plan:

Improve energy efficiency of production plants; increase the use of renewable energy specifically solar energy, and waste as fuel; reduce CO₂ emissions from transport by extending our in-house fleet to gain greater control.

2020 targets:

Reduce carbon emissions by 10 per cent and energy use by 5 per cent, both per tonne of product based on 2010 baseline; 35 per cent use of biofuel in cement by 2020; reduce transport CO₂ emissions by 5 per cent per tonne by 2020 based on 2010 baseline.



Energy efficiency programmes have been introduced at all our brick works.



Energy efficiency

Energy use per tonne falls

Overall energy use rose during the year, reflecting higher production levels. This in turn played a part in a 2.6 per cent reduction in energy use per tonne because of improved plant efficiency. We recognise that maintaining sustained energy reduction per tonne of product remains a key challenge for the business.

We also made savings by implementing energy-saving ideas through our opportunities database, which are reducing carbon emissions and saving in energy costs. We continue to invest in new technology and to embed energy awareness into the business by promoting the message 'switch it off'.

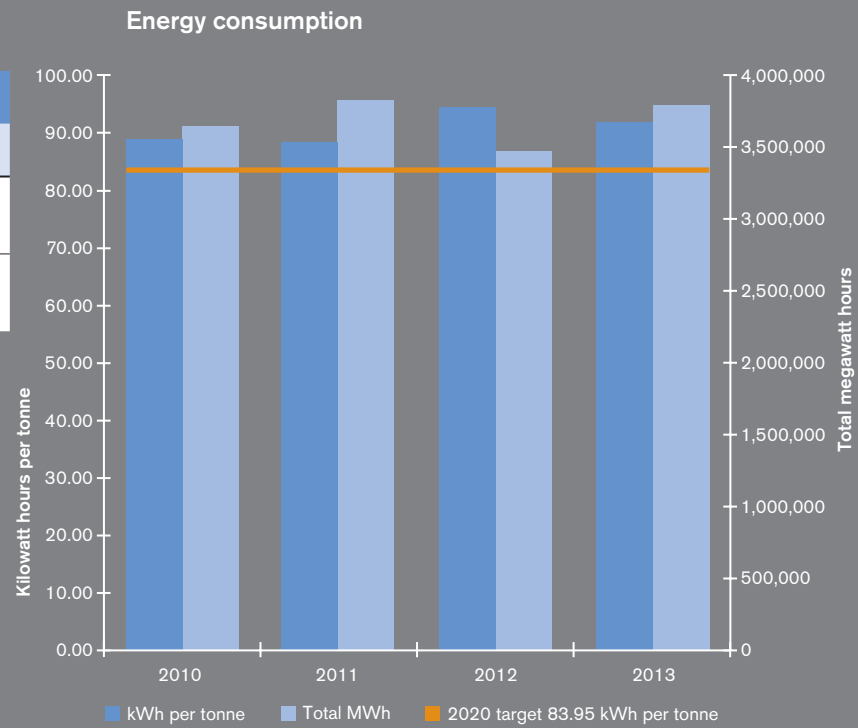


Senior asphalt plant operator Josh Farrell at Cliffe Hill quarry in Leicestershire. Advanced plant controls help improve efficiency and reduce energy use.

Energy use per tonne down by **↓2.6%**

Energy consumption				
	2010	2011	2012	2013
Kilowatt hours (kWh) per tonne	88.37	87.98	93.86	91.45
Total megawatt hours (MWh)	3,625,045	3,805,539	3,456,777	3,769,717

Note: Figures adjusted to include biomass.



TARGET
Reduce energy use by 5 per cent per tonne of product by 2020 based on 2010 baseline

Scanner software reduces energy costs

Kiln shell scanner software at Ketton cement works in Rutland has been upgraded to improve efficiency and help reduce energy costs.

Systems engineer Chris Monk said: "The scanner allows us to monitor the performance of the kiln refractory and alerts us to any problems. The software upgrade has given us a 3D display and the ability to monitor and measure heat loss in both energy and monetary values. Kiln inputs have to be carefully managed to promote coating on the refractory to protect the bricks and reduce heat loss, so this upgrade is helping us meet our energy targets per tonne of clinker."

The new package measures a number of variables to calculate kiln shell heat loss, including wind speed and ambient temperatures.

It is linked to the scanner, which continuously monitors the kiln for potentially critical system failures, and produces detailed thermal images in both two and three-dimensional displays on wall-mounted screens in the control room.

The new software calculates and applies a megawatt value to the heat lost from the kiln shell. It also calculates the power consumption from cooling fans, including variable energy costs. The heat lost from the kiln shell can be converted to a financial cost by entering an energy price and the cost is displayed on the main screen and can be plotted as a trend. The kiln cooling fan energy costs can also be displayed and trended, allowing engineers to run the kiln at optimum efficiency.



The main kiln at Ketton cement works in Rutland.



Waste as fuel

Waste fuel use increases

We continue to invest in new facilities at our three cement works to enable greater use of alternative fuels. These include profuel – a solid kiln fuel manufactured from paper, plastic and fibrous wastes that are either uneconomic or impossible to recycle, and solid recovered fuel (SRF), which is made from domestic waste and biomass.

Overall use of waste as a fuel in our cement kilns continues to rise, although the use of biomass fell due to difficulty in sourcing material of suitable quality.

Cement fuel from waste up to **58%**

New post puts the focus on fuels

A new post of alternative fuels and raw materials manager has been created to boost the energy efficiency and competitiveness of the business. A key objective is to increase the use of alternative fuels for cement and to draw up a wider strategy that will maximise opportunities across all divisions.

In cement the target is to substitute more than 65 per cent of fossil fuels with sustainable alternatives in the three plants at Ketton, Padeswood and Ribblesdale. At present the average is around 58 per cent.

The plants use a mix of alternatives including meat and bone meal, recycled local authority refuse known as Solid Recovered Fuel (SRF), liquid chemical waste and chipped tyres.

However, we are developing a strategy on fuel use and seeking greater consistency and quality from our suppliers. One of the first priorities has been to develop the supplier base to improve quality. The role also involves looking at the commercial benefits of using alternative fuel sources.



The profuel plant at Ketton cement works in Rutland.

Cement fuel derived from waste – tonnes

	2010	2011	2012	2013
All waste	158,704 (53%)	153,640 (55%)	140,096 (54%)	181,738 (58%)
Biomass	72,727 (23%)	69,547 (24%)	57,081 (16%)	57,128 (13%)

TARGET
35 per cent use of biofuel by 2020

CO₂ emissions from production

Product mix affects results

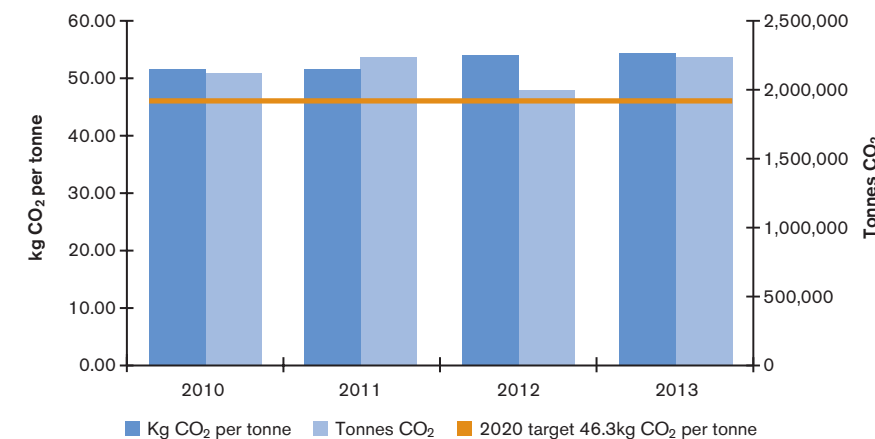
Although production volumes increased during the year, many of our sites are still working well below full capacity, reducing their energy efficiency. There was a slight rise in kilograms of CO₂ per tonne of production due to using less biofuel and a change in the product mix. In response to market requirements we produced proportionately more cement than Regen, with a subsequent increase in emissions.

Our renewable energy programme is continuing and we are looking at sites with potential for both solar and wind turbine generators.

CO ₂ emissions from production				
	2010	2011	2012	2013
Kilograms of CO₂ per tonne of product	51.54	51.57	53.90	54.20
Tonnes of CO₂ from production	2,114,303	2,230,690	1,985,057	2,234,156

Note: Data adjusted in line with 2013 DEFRA guidance.

CO₂ emissions from production



TARGET
10 per cent reduction in carbon emissions per tonne of product by 2020 based on 2010 baseline



Power flows from solar farm at cement works

An eight megawatt solar farm at Ketton cement works in Rutland is up and running. The installation was built by Lark Energy, working in partnership with Armstrong Energy, and is the first phase of a 12 megawatt scheme.

The solar farm has been built on 20 hectares (55 acres) of land adjoining the limestone quarry which supplies raw material to the cement works. The 38,544 modules will generate enough energy to cover around 10 per cent of the plant's annual consumption. The site is generating low carbon energy for the grid and will contribute to improving the per capita carbon emissions of Rutland, the smallest county in the UK.

The project was jointly developed by Hanson and Lark with Armstrong Energy providing funding partly through an innovative PPA (power purchase agreement) with Hanson which gives the company a proportion of the energy free, with the remainder being provided at a preferential rate. "It has been very rewarding for everyone involved to see this project come to fruition," said Mark Cox, who heads Hanson's renewable energy team. "This is the first of what we hope will be many such projects over the coming years as we strive to reduce our carbon emissions and energy costs."



CO₂ emissions from transport

Twin-track approach to improving efficiency

CO₂ emissions from transport fell during the year per tonne delivered as a result of more efficient engines and improved vehicle scheduling. The average CO₂ emissions for the 96 fleet cars we purchased for employee use in 2013 was 110.85 g/km compared to a fleet market average of 137g/km and a total market average of 140g/km.

Two projects to improve the efficiency of our road haulage fleet were implemented during the year.

The first was to combine the cement and building products distribution and scheduling functions. The second was to centralise, standardise and optimise order handling and vehicle

scheduling in the aggregates, asphalt and concrete business lines. Both are aimed at improving vehicle use and reducing fuel costs.

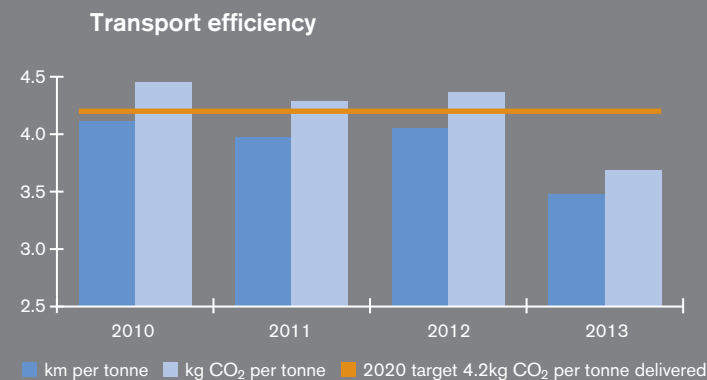
All our brick, block and packed products deliveries are now scheduled through a variant of the vehicle optimisation software used by the cement fleet. The target is to achieve annual savings of £2 million by increasing load count and distance for our own fleet and reducing fuel and sub-contractor costs. The building products systems were old, unsupported and manually intensive, which meant the delivery fleet was not being used at the optimum level.

We are also increasing driver availability on the cement fleet by introducing night deliveries of Regen and cement to our own ready-mixed concrete plants.

The aggregates, concrete and asphalt project is focused on the effective and efficient use of our delivery fleet through the introduction of vehicle optimisation software and a material resource planner (MRP) to schedule internal deliveries. We have also split the core functions of sales and orders and distribution within our customer service centres. All aspects of distribution are now managed by the logistics team reporting to a UK supply chain director.

CO ₂ emissions from transport				
	2010	2011	2012	2013
Tonnes delivered	31,503,169	32,982,512	26,570,201	33,969,249
Kilograms CO₂ per tonne delivered	4.42	4.31	4.36	3.71
Distance travelled kilometres per tonne delivered	4.11	3.97	4.06	3.46
Tonnes CO₂ per year	139,380	142,156	115,956	126,002

Mode of transport per cent				
	2010	2011	2012	2013
Road	91.36	89.52	89.50	90.92
Rail	7.42	9.53	9.19	8.04
Water	1.23	0.96	1.31	1.03



Transport CO₂ per tonne delivered down by **↓15%**



Driver training improves overall fuel economy.

Driving style aids fuel economy

A critical element in the efficient performance of the cement distribution fleet is fuel economy. Distribution training supervisor Neil Callaghan monitors the efficiency of every truck using the Triscan system, which records all fuel usage. The Daimler Fleetboard system monitors individual driving styles and flags up where improvements can be made.

Last year, the cement division moved to the new Mercedes-Benz Actros trucks, which offer a seven per cent fuel improvement over previous models.

“The Actros has also allowed us to identify areas of driving style that can improve overall fuel economy,” said Neil, who is responsible for testing new products and services. Cement division achieved the FORS (freight operator recognition scheme) gold standard from Transport for London for operational excellence. A key factor was its fuel efficiency programme and efforts to reduce empty running and achieve optimal performance.



The new Mercedes-Benz Actros.

Project extends rail cement deliveries

A new rail terminal at Avonmouth has been opened as part of a £5.6 million initiative to bring cement from Ribblesdale works in Lancashire to the south west. The Bristol site, originally built to offload ships, has been adapted at a cost of £2.2 million to handle freight cars. As well as the investment at the port, which included extending the rail line to make room for long trains, the project involved a £3.4 million leasing

deal for a further 19 120-tonne rail wagons to add to the fleet.

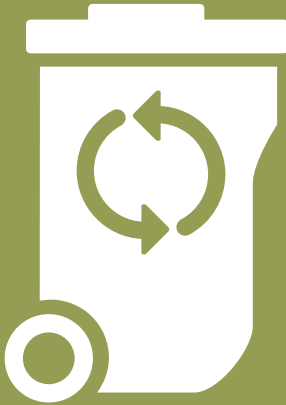
The move secures the supply of cement to our own concrete plants in the south west and at the same time reduces our carbon footprint.

The Ribblesdale plant already supplied cement into Glasgow, while regular rail services run from Ketton works to London.

TARGET
Reduce CO₂ emissions by five per cent per tonne by 2020 based on 2010 baseline

Waste and raw materials

■ Sustainable consumption and production



Our vision:

A responsible business, which uses both raw materials and waste beneficially and has a minimal impact on the environment.

■ Objectives:

Conserve natural resources by avoiding or reusing waste; develop products that have low embodied impacts.

■ Action plan:

Minimise waste and increase recycling; improve quality and customer service through the *Right first time* initiative.

■ 2020 targets:

Reduce waste to landfill by 85 per cent per tonne of product; increase use of recycled materials in products.



Midland Quarry Products' asphalt production and recycling manager Jason Fairbrother in front of the recycled asphalt planings store at Cliffe Hill quarry in Leicestershire.

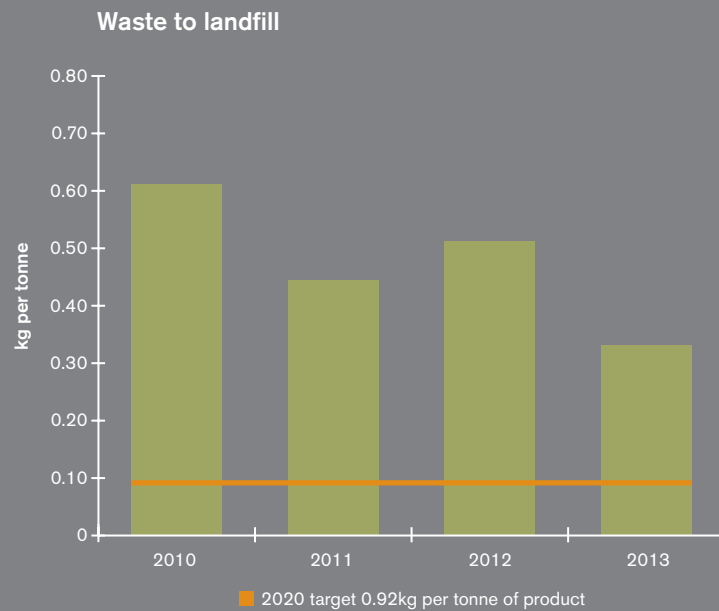


Waste minimisation

Waste to landfill down by 35.5 per cent

We reduced waste to landfill by over 4,000 tonnes or 35.5 per cent during the year. This was despite the demolition of two factories in the building products division which creates some non-production waste that cannot be recycled.

The majority of our sites are included within a single contract with Biffa, a national waste disposal company, which enables us to control the process more effectively and provide further data on the quality and types of waste being produced. Dry mixed waste bins have been provided at all our sites to collect recyclables including plastic, paper and cardboard. The waste is taken to a network of depots for recycling with any residue used for energy recovery. The use of cement bypass dust as an agricultural land improver has gradually increased over the last two to three years due to its high lime and potassium content.



Waste to landfill				
	2010	2011	2012	2013
Total tonnes	21,950	16,896	16,693	12,401
Kilograms per tonne of product	0.61	0.44	0.51	0.33

Note: Historic data has been adjusted to exclude SRM, which was sold in 2011.

Cement specific waste - bypass dust - tonnes				
	2010	2011	2012	2013
Produced	5,619	9,409	11,597	5,782
Landfilled	2,979	930	0	0
Diverted from landfill per cent	47	90	100	100

Cement bypass dust diverted from landfill 100%



Ketton cement works in Rutland.

Packaging changes reduce waste

Changes made to packaging material for Formpave block paving products have saved money and reduced waste. The project has reduced plastic film thickness and the number of designs used, and at the same time allowed new corporate branding to be introduced.

"We were using 10 different packaging designs with a minimum order quantity of 3,000 units, resulting in an outlay of close to £50,000 just to have all the different packaging in stock," said production manager Paul Bidgway. "We agreed on a new harmonised brand and were able to reduce our inventory dramatically by using it for all our products."

"We also reduced the film thickness of the plastic, giving a 44 per cent increase in yield, so although we are purchasing more volume we have significantly reduced the weight. This helps us meet the government's 2009 Packaging Regulations which seek to reduce the use of packaging material."



TARGET

Reduce waste to landfill by 85 per cent per tonne of product by 2020 based on 2010 baseline



Materials efficiency and recycling

Regen boosts cement replacement

The cement replacement Regen (ground granulated blastfurnace slag) reduces embodied CO₂ in concrete and provides a number of other benefits. Its use in ready-mixed concrete means we have one of the highest cement replacement rates in the UK market, although this dropped slightly to 37.5 per cent. We are striving towards our target of 45 per cent cement replacement by 2020 and are developing mixes with higher Regen content as well as improving communication of the CO₂ benefits of these products to customers.

An indicator introduced by our parent company HeidelbergCement in 2010 quantifies the percentage of sites which recover more than half of any surplus concrete generated. This rose to 99 per cent.

Over half of our asphalt plants can use recycled asphalt planings (RAP) in base course mixes at rates of up to 25 per cent. Historically we have reported recycled content including filler dust (a by-product) but we have adjusted our data to report just the recycling aggregate.



Our target for 2020 is 10 per cent, excluding filler dust and in 2013 we improved from 2.6 to 7.2 per cent.

Midland Quarry Products, which we took full control of during the year, has a particularly good track record in the use of RAP and we plan to introduce techniques developed at MQP throughout the business to improve overall performance.

Recycling project provides education and work experience

Kirton brickworks in Nottinghamshire is participating in a community recycling project which is saving money and at the same time helping to provide work-based training opportunities for young adults with learning difficulties. Works operative Chris Lowe is the driving force behind the partnership with the community-based charity Recycling Ollerton and Boughton (ROB).

"ROB is a community recycling project supported by the county, district and parish councils, which recycles glass, paper, cardboard, textiles, aluminium and some plastics." said Chris. "Young adults who would benefit from education and a work placement are referred to ROB by social services."

"One of its key objectives is to prepare them for the world of work by developing their skills as well as providing a first rate recycling facility."

The Kirton works donates all its cardboard, paper, polythene and some engineering plastics to ROB for recycling, avoiding the cost of collection and disposal by Biffa, our national waste contractor, who fully support the project. Weekly collections are made by ROB students, who also take part in classroom-based further education lessons covering numeracy, food safety and hygiene and basic computing.

The ROB team makes a collection at Kirton watched by Chris Lowe, right.



Plane sailing for top rate business

Midland Quarry Products has one of the best replacement rates for recycled asphalt planings (RAP) in the industry.

The Leicestershire-based business, which became a wholly-owned subsidiary of Hanson UK in April 2013, uses up to 40 per cent of RAP in its asphalt base course mixes.

The raw material, effectively a worn-out road surface, is planed off the road and delivered to MQP's production plants. At the flagship Cliffe Hill quarry site in Ellistown a mobile screening plant grades the RAP into sizes and it is then fed directly into the two on-site asphalt plants.

New covered storage bays have been constructed to ensure the RAP stays dry while in store, providing a considerable saving in energy costs in the production process.

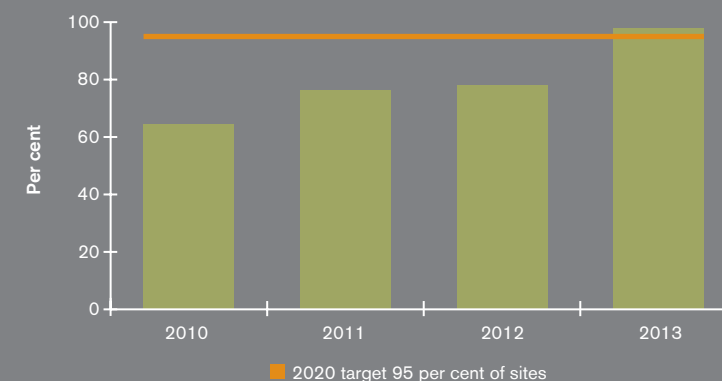
A rigorous on-site testing regime analyses binder content and stone quality and ensures that the final product conforms to the highest standards.

Recycled and secondary materials used – per cent

	2010	2011	2012	2013	Definition
By-products or waste used as raw material in cement¹	5.31	5.65	6.21	6.43	Alternative material as a % of total cement production
Recycled aggregates used in precast concrete and concrete blocks	55.51	54.34	50.73	62.08	Recycled aggregate as a % of total aggregates used
Cement replacements used in precast concrete and concrete blocks	11.19	11.05	9.48	9.21	Cement substitutes as a % of total cement use
Clay replacements in bricks	1.99	3.01	4.48	4.98	Recycled materials used as a clay replacement
Aggregates recycled and sold	1.63	1.17	1.38	1.31	Sales
Recycled aggregates in asphalt²	2.88	2.96	2.60	4.54	% of recycled aggregate used in asphalt
Recycled aggregates in concrete	0.08	0.02	0.20	0.62	% of recycled aggregate used in ready-mixed concrete
Sites which recover surplus concrete	65	77	79	99	Sites recovering over 50% of process waste (inc third party recycling)
Cement replacements in concrete (Regen, PFA)	38.43	40.01	39.92	37.47	% of cement substitutes in ready-mixed concrete

¹ Figures restated to exclude Regen. ² Figures restated to exclude filler dust.

Concrete sites recovering surplus



TARGETS

Increase cement replacements in concrete to 45 per cent; recycled aggregate in asphalt (excluding filler dust) to 10 per cent and concrete plants recycling surplus concrete to 95 per cent – all by 2020



Product quality and performance

Right first time drives quality improvements

Product quality and customer service are critical to our business and we are devoting an increasing amount of resources to these areas to improve performance. In 2012 we introduced a new initiative in the concrete division called *Right first time* aimed at the people who produce and deliver the product and designed to improve quality. This was a big success and was rolled out to the rest of the business during 2013 with impressive results. Product quality, measured by the volume of customer complaints, has improved and our employees now understand what is required of them to ensure mistakes are eradicated.

Our production staff have pledged not to take short cuts with quality, ensure we do not despatch non-conforming products and to take full responsibility for their actions.



Orders team leader Chris Jefferson in the quarry products customer service centre at Shepshed, Leicestershire.

Training programmes emphasise the link between quality control and avoiding wasted product – particularly as product includes embodied carbon, water and materials, as well as utilising labour resource.

We have also made improvements within our customer service centres to ensure our customers receive the right products at the right time and are invoiced correctly. Our aim is to grow a loyal customer base, generate repeat business, and eliminate complaints by delivering the highest levels of product quality and service.

Specialist team sees through technical pour

Two concrete plants in Dorset combined to supply a specialist concrete for one of the country's largest industrial radiographic cells. The x-ray cells, which are nearly eight metres high and feature concrete walls over one metre thick, have been built in a new £58 million Heatic manufacturing warehouse in Poole, and will be used to test industrial heat exchangers for imperfections in their welding.

There were a number of technical issues to overcome in construction of the cells. Crack widths in the concrete had to be limited to 0.1mm to create an effective barrier for the radioactive particles, while the initial heat gain of

We achieved our July 2013 deadline for CE marking for all our products.

We continue to invest in development of new products, either working with external partners or the HeidelbergCement Technology Centre in Germany. These include Colourcrete – a range of coloured concretes made using a new pigment system, and Shotcrete (sprayed concrete), a specialist mix used to strengthen earthworks during tunnelling. Shotcrete has been used extensively on the London Crossrail project.

the material had to be controlled by using a mix design with 70 per cent Regen and a limestone aggregate with low shrinkage characteristics.

Hanson's team worked closely with sub-contractors Woodmace Civil Engineering to schedule the production and delivery of 600 cubic metres of concrete in a single day from the Bournemouth and Weymouth plants. On site, a constant temperature of 20 degrees was maintained inside a specially-erected tent to prevent the concrete from drying and rupturing. The material was pumped into formwork using three concrete pumps, two to service the pour with a third on standby in case of breakdown.



Senior materials technician Nadeem Saeed and technician Stuart Rowe test asphalt samples at Cliffe Hill quarry in Leicestershire.

Aircrete blocks help lift development to code level 5

Thermalite aircrete blocks were used by Derwent Living in the development of four flats and three houses in Mickleover, Derby, to help the housing association achieve the Code for Sustainable Homes level 5 and meet Part L of the Building Regulations.

Thin joint block work construction was specified to achieve highly insulated, airtight properties. Hanson's Thermalite Trenchblock 255mm blocks were used for the outside walls as a single block solution and 100mm Hi-Strength 7 blocks for the internal partition block work. This helped the buildings achieve low U-values and high thermal mass.



Thermalite blocks provide high thermal mass.

TARGET

Reduce production waste by getting it right first time

Water and biodiversity

■ Natural resources and enhancing the environment



Our vision:
Our sites are recognised as a valuable natural resource in the local environment.

■ **Objectives:**

Ensure sustainable use of land, maximising the benefits for biodiversity and eco-system services and minimising impacts on the availability of water in the natural environment.

■ **Action plan:**

Use the water hierarchy of reduce, reuse, recover, abstract to reduce our mains water consumption; improve water metering; roll out the Cement Sustainability Initiative water monitoring system; establish, publish and monitor biodiversity action plans for all quarries.

■ **2020 targets:**

Reduce mains water consumption by 25 per cent per tonne of product; all quarries to implement published biodiversity action plans.



We have groundwater recirculation systems at many of our sites. Mechanical engineer Rodger Lowther takes a sample at Ketton cement works in Rutland.



Water

Mains water use per tonne falls by 12.6 per cent

We use water as an essential raw material in a number of our products, particularly clay bricks and concrete. It is also used to provide steam for curing aircrete blocks, to wash sand and gravel, to suppress dust, and to operate lorry wheel washes, which are required on many sites.

Wherever possible, we use ground water from boreholes, lakes or rivers for our manufacturing processes. All our mains water bills are monitored by Waterscan, who run checks on actual in relation to expected consumption, which has helped identify a number of leaks.

Site managers also record monthly water consumption on our database, Entropy.

Mains water consumption increased slightly during the year, reflecting higher production volumes, but we achieved a 12.6 per cent reduction in terms of litres per tonne. This has been driven by a greater awareness of the need to conserve mains water, and by better metering. Total water consumption fell slightly, while total water use per tonne of product was down by 16.3 per cent.

In 2013 we started a project led by HeidelbergCement to revise our reporting of water use in line with definitions developed by the Cement Sustainability Initiative (CSI). Over the next few years we will be rolling out the methodology to all our activities – we have already started recording data for cement production. The method involves measuring all water taken out of the supply systems including mains, groundwater and rainfall and all discharges back to natural systems. Consumption is recorded as the difference between the two.



Pump feed change boosts water savings

A significant reduction in mains water consumption has been achieved at Tapwood quarry near Reigate in Surrey. The quarry produces high quality silica sand for glass making. The raw material is extracted at Tapwood then turned into a slurry and pumped through a pipeline under the A25 to the processing plant at the nearby Park pit.

One of the pumps within the processing plant moves material between two banks of floatation cells. It can handle high pulp densities and has an acid resistant lining, but has a wet gland and requires a clean

pressurised water supply to prevent sand leakage from around the drive shaft.

Water extracted from the restored lake at Park pit has not been used in the past because of fears it might damage the pump. However, by increasing clearance around the extraction pump and raising the water level in the lake, the water feed was made considerably cleaner. Trials were carried out to feed the gland from the lake supply and proved successful, giving a 60 to 70 per cent reduction in mains water use.

The fresh water lagoon at Ketton cement works in Rutland.



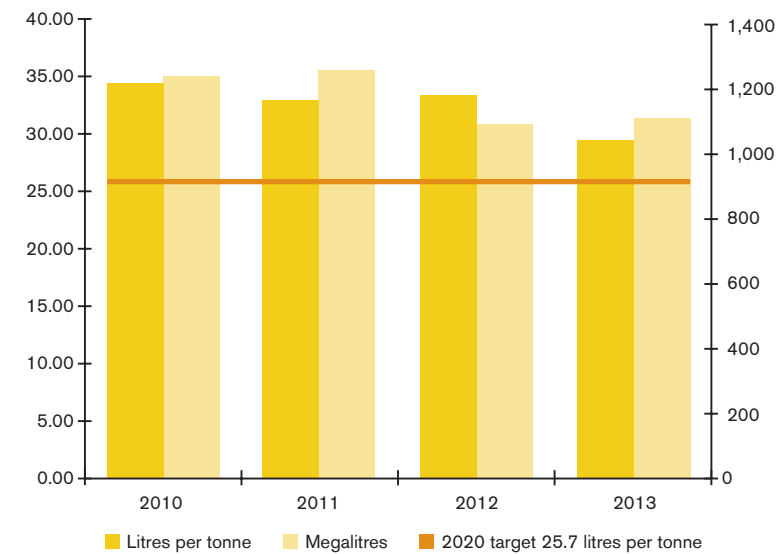
Silvertown concrete plant in London.

Water consumption				
	2010	2011	2012	2013
Mains water consumption – litres per tonne	34.27	32.80	33.38	29.17
Mains water consumption – megalitres	1,238.16	1,255.82	1,095.67	1,102.29
Total water consumption – cubic metres	9,000.06	9,868.39	9,265.64	8,929.42
Total water consumption – litres per tonne	283.40	290.54	282.27	236.33

Business line water consumption				
	2010	2011	2012	2013
Concrete – litres per tonne	85.99	83.43	84.43	77.57
Building products – litres per tonne	251.30	273.15	268.25	241.68

Note: Historic data has been adjusted to exclude SRM, which was sold in 2011.

Mains water consumption



TARGETS

Reduce mains water consumption by 25 per cent per tonne of product across the business by 2020 based on 2010 baseline; reduce the sum of mains and abstracted water for concrete and building products by 10 per cent per tonne of product by 2020 based on 2010 baseline



Site stewardship

Action plans top 100

We now have biodiversity and geodiversity action plans (BAPs and GAPs) in place at 87 per cent of quarries that have been active in the last three years. Of sites that were active in 2013, only six do not have biodiversity action plans, and of these two contain quarries owned by third parties. Last year the focus was on updating the 65 existing BAPs in preparation for their publication online during 2014 and to enable tracking of progress using our Entropy software.

In 2010 we introduced a new indicator looking at quarries with high biodiversity value. These are defined as those located within 500 metres of a Site of Special Scientific Interest (SSSI). All sites now have BAPs in place. We have set up a database to manage actions contained within all our BAPs.

Following the success of the inaugural contest, our parent company HeidelbergCement launched a second round of its international research and education competition, the Quarry Life Award. Five academic research projects have been selected to compete in the UK section of the competition.

The projects are being carried out at Needingworth, Cambridgeshire, Whatley, Somerset, and Barton-under-Needwood in Staffordshire by students and academics from six universities and research groups.

The competition focuses on biodiversity protection and management and raised strong interest from students and researchers. Final reports will be submitted at the end of September 2014 with the best three awarded cash prizes of up to €5,000.

In December, the international jury, which will include experts from conservation and environmental groups, will reward the best projects with prizes of up to €30,000. For further information visit www.quarrylifeaward.com

During the year we became patrons of the Freshwater Habitats Trust (formerly Pond Conservation).

Site stewardship				
	2010	2011	2012	2013
Quarries	102	84	80	76
Quarries with BAPs	53	58	65	66
Quarries including or within 500m of a SSSI	46	40	40	40
Quarries including or within 500m of a SSSI with BAPs	31	33	38	40
Marine BAPs	3	3	3	3
Number of BAPs and GAPs combined	81	92	102	104

Note: Quarries are those that have been operational in the last three years.

New river channel will improve biodiversity

A project is under way at the worked-out Farnham quarry in Surrey to create a new 300 metre channel for the River Blackwater which runs through the site. The new channel being cut to the south of the river's current line, will help reduce the potential for flooding and enhance the river's value for fish and other wildlife.

The Blackwater River Restoration Project is being carried out by the Environment Agency (EA), and has involved several

years of detailed planning and consultation involving the EA, Hanson and local conservation groups.

Access for local residents will be maintained via crossing points leading to the new river channel and the restored quarry area. When the quarry restoration is completed, public footpaths will be opened to provide walks around the wetland complex, which will become a local nature reserve.

Quarries with BAPs **87%**



Needingworth reed bed restoration.

Award-winning research team wins three year project

A team of researchers from the University of Hull who won the UK section of the inaugural Quarry Life Awards have begun work on a three year follow-up to the project aimed at improving the biodiversity value of quarry silt lagoons for wading birds.

The winning project was carried out at Wykeham sand and gravel quarry near Scarborough in North Yorkshire and

named as one of the top three in the international competition. It identified that one likely barrier to the greater use of restored silt ponds by wading birds was the highly anoxic conditions due to the silt density below the surface which prevents establishment of sediment-living invertebrates.

The follow on project will use expertise in the ecology of wading

birds, freshwater invertebrates and restoration of sites to assess and improve the value of silt lagoons for declining bird populations in the eastern Atlantic flyway.



Ancient face is star museum exhibit

A Roman face that once looked out onto a busy Fenland barge port is now a star exhibit in Cambridge University's Museum of Archaeology and Anthropology.

The 1,700 year old image of Jupiter has been donated by Hanson as one of the most significant archaeological discoveries to be made at Earith quarry

near Colne in Cambridgeshire. The 42.5 centimetre high head was thought to have been part of a grave marker at the site that was once a thriving inland port.

"It is one of the finest Roman statues to be found in eastern England," said Christopher Evans, director of the Cambridge Archaeological Unit that carried out the digs.

The head is one of more than 250,000 items recovered from 12 years of archaeological excavations at Earith which unearthed Iron and Bronze Age remains and two vast Roman settlements. Two pamphlets, written by Christopher and funded by Hanson, have been published.

TARGET

All quarries to implement published biodiversity action plans

Systems

Management systems for continual improvement



Our vision:

A robust integrated management system (IMS) firmly established at the core of our drive to deliver improvements in compliance, competency and sustainable performance.

Objectives:

Establish the IMS management programme as the umbrella for all our sustainability objectives and develop the system to link with other corporate functions (eg finance and HR). Achieve and maintain certification to OHSAS 18001, ISO 14001, ISO 9001 and BES 6001.

Action plan:

Embed the IMS into all operations and provide a consistent framework of system, corporate and operational procedures; complete and maintain training records on the learning management system (LMS); extend the use of Entropy to all business line activities.

2020 target:

Maintain and improve performance in all areas.

Certification

Accreditation is a five-star success

We continue to develop our integrated management system (IMS), which encompasses health and safety, quality and environment and provides a consistent set of procedures which are regularly reviewed and updated. Training has been given to more than 500 responsible managers and the system is in use at every operational site. As part of a wider efficiency programme, we began a review of the IMS in 2013 to identify ways in which it can be made more effective. This is an ongoing process.

A key tool which supports the IMS is a reporting system called Entropy which we use to record and monitor data and information from energy and water use through to environmental incidents and complaints.

Entropy allows us to record actions and improvements and track them to ensure they are carried out. Our sustainability department, which was launched at the beginning of the year, includes a dedicated audit team which further strengthens the link between systems and operations.

Hanson UK's five business lines are part of the national BuildingConfidence supplier pre-qualification and accreditation service for the UK construction industry. The service has been developed by Achilles Limited to reduce the costs associated with pre-qualification for clients, major contractors and their suppliers and is quickly becoming recognised as the standard for supplier excellence within the industry.

An update audit carried out by Achilles in 2013 showed zero non-conformities and recommended Hanson for the top five-star rating. The audit team was impressed by our 'organised and committed' approach to management systems.

The BES 6001 Responsible Sourcing of Materials (RSM) standard is in place at over 99 per cent of our production sites, as is the ISO 9001 quality standard. All our business lines operate comprehensive quality management systems to ensure products are made to the highest standards.



Contracting division achieves prestigious collaboration standard

Hanson Contracting has become the first national road surfacing contractor to achieve the BS 11000 standard for Collaborative Business Relationships.

The standard acknowledges organisations' initiatives to create sustainable relationships, company competitiveness and enhanced performance. It also recognises the importance of getting the best out of business relationships by sharing resources and opportunities.

To be fully accredited, organisations have to demonstrate that they can accurately assess both themselves

and potential partners on cultural suitability, as well as on more traditional, technical and commercial attributes.

Major projects director Denis Curran said: "Our involvement in pioneering partnering contracts, such as the Dorset Highways Partnership, the Highways Agency's Construction Management and the A19 DBFO for Autolink, means that BS 11000 was a natural fit for our business."

"To have achieved certification just six months after we began the application process demonstrates that the standard's principles

of creating partnerships and adding value were already firmly embedded within our business."



■ Corporate governance and group strategy



Hanson UK is part of the HeidelbergCement Group. The UK operations are managed within HeidelbergCement's Western and Northern Europe Group area. The managing board member responsible for this area is Daniel Gauthier. Hanson UK's chief executive officer Patrick O'Shea reports to Daniel Gauthier. You can find more details about our UK management structure and further information on our range of products and services on our website www.hanson.com/uk

For further information about corporate governance and investor relations visit www.heidelbergcement.com

HeidelbergCement Group sustainability strategy

As a company that makes intensive use of raw materials, HeidelbergCement regards climate protection and the securing of resources as the principal foundation for future development. Efficient production processes and the increasing use of alternative fuels and raw materials make an important contribution to this vision. Group-wide standards for environmental protection and occupational health and safety help ensure ambitious goals are implemented worldwide.

Quarries from which raw materials are extracted are returned to a natural state or put to agricultural use. We are increasingly opting for restoration to nature conservation, thus helping to preserve biological and species diversity.

The central parts of our sustainability strategy are derived from our core business and its effects on the environment and society. For us, sustainable development means ensuring a balance between making profit and securing future viability through good corporate governance. We therefore strive to act in a socially and ecologically responsible way, considering the needs of society as a whole. Our publication 'Sustainability Ambitions 2020' clearly defines the long-term nature of our commitment. We have integrated sustainability and social responsibility into our corporate strategy as a vital pillar. Responsible economic activity is the basis of our long-term success.

You can read more about HeidelbergCement's sustainability strategy and ambitions for 2020 on the Group website at www.heidelbergcement.com

■ Working together for sustainability

We recognise the need to work together with partners, stakeholders and competitors to maximise our sustainability credentials.

We work closely with many organisations to ensure we understand and influence the industry in developing robust sustainability policies across all our business lines.

We are members of the Mineral Products Association (MPA), the trade body which represents the aggregates, asphalt, cement, concrete, lime, mortar and silica sand industries, which together contribute £5 billion of value to the UK economy. We provide information and data for all MPA sustainability reports.

We are also founding members of the UK Green Building Council (UKGBC), whose mission is to improve the sustainability of the built environment, and we are members of the Construction Products Association (CPA), which represents UK manufacturers and suppliers of construction products.

We are members of the Corporate Forum for National Parks, which provides a platform for discussion and debate with the Campaign for National Parks and with other businesses which operate within the parks.

www.mineralproducts.org
www.ukgbc.org
www.constructionproducts.org.uk
www.cnp.org.uk

Further information

Visit our website at www.hanson.com/uk for more information about the company, our products and our commitment to sustainability. You can also download copies of this sustainability report, sustainability policy and environmental and responsible sourcing certificates.

Your feedback

Each year we look to improve the content and quality of our report. Feedback from stakeholders is essential to this process. Please let us know your thoughts by ringing the marketing department on **01628 774 100** or email us at enquiries@hanson.com

Other useful sources of information

HeidelbergCement AG
www.heidelbergcement.com

Freshwater Habitats Trust
www.freshwaterhabitats.org.uk

BirdLife International
www.birdlife.org

The Royal Society for the Protection of Birds
www.rspb.org.uk



Summary of KPI performance against 2020 targets

	KPI	2020 target	2013 position	Status
People	Health and safety	Zero harm	Two fatalities occurred during 2013 despite the number of LTIs reducing from 20 to 14 during the year	Adverse to target
	Employment and skills	Meet the targets in the MPA 'Safer by Competence' programme	We are on target to meet the requirements by 2017	On target
	Stakeholder engagement	Organise an annual stakeholder event for customers, suppliers, community leaders and NGOs	Events were held in May and October	On target
	Local community	Hold at least five community liaison actions a year at every quarry	66 per cent of our sites held at least two community events during the year	Just off target
	Environmental incidents and emissions	10 per cent year-on-year reduction in complaints based on 2010 figures	Complaints have dropped by 55 per cent since 2010	On target
Reduce NO _x emissions by 20 per cent and dust by 10 per cent by 2020 based on 2010 data and maintain 2010 SO ₂ level		The cement specific emissions to air have increased in the last year but are still well below industry averages	Just off target	
Carbon	Energy efficiency	Reduce energy use by 5 per cent per tonne of product by 2020 based on 2010 baseline	Reduced by 2.6 per cent since last year but still 3.5 per cent up on 2010	Adverse to target
	Waste as fuel	35 per cent use of biofuel by 2020	Our use of biofuel dropped last year to 13 per cent	Adverse to target
	CO ₂ emissions from production	10 per cent reduction in carbon emissions per tonne by 2020 based on 2010 baseline	Our carbon emissions have risen by 5 per cent per tonne since 2010	Adverse to target
	CO ₂ emissions from transport	Reduce transport CO ₂ emissions by 5 per cent per tonne delivered by 2020 based on 2010 baseline	Our transport emissions have dropped by 16 per cent since 2010	On target
Waste and raw materials	Waste minimisation	Reduce waste to landfill by 85 per cent per tonne of product by the end of 2020 based on 2010 figures	We have reduced our waste to landfill by 46 per cent since 2010	On target
	Materials efficiency and recycling	Increase recycled materials in asphalt to 10 per cent by 2020 (excluding filler)	We have increased the amount of recycled aggregates by almost 2 per cent in the last year to 4.54 per cent (up 1.66 per cent since 2010)	On target
		Increase the use of cement replacement materials in concrete to 45 per cent by 2020	We have dropped to 37.5 per cent	Just off target
		Increase the number of concrete plants recycling surplus concrete to 95 per cent by 2020	99 per cent of our concrete plants recycle surplus concrete	On target
	Product quality and performance	Reduce production waste by getting it right first time	Customer complaints reduced	On target
	Water and biodiversity	Water	Reduce mains water consumption by 25 per cent per tonne of product across the business by 2020 based on 2010	15 per cent reduction in mains water since 2010
Reduce the sum of mains and abstracted water for concrete and building products by 10 per cent per tonne of product by 2020 based on 2010			Concrete 10 per cent reduction, building products 4 per cent reduction since 2010	On target
Site stewardship		All quarries to implement published biodiversity action plans	87 per cent of quarries have published BAPS	On target

■ = On target
■ = Just off target
■ = Adverse to target

Our products

Division	Business/activity	Product/service	ISO 14001	ISO 9001	OHSAS 18001	BES 6001
Cement	Bulk cement products	Grey, white, blends and Regen	✓	✓	✓	✓
	Packed products	Cement, ready-to-use mortar, concrete, asphalt, aggregate and sand	✓	✓	✓	✓
	Smiths Concrete	Aggregate and concrete	✓	✓	✓	✓
Concrete	Ready-mixed concrete	Concrete, mortars, dry silo mortar, screed and EcoPlus	✓	✓	✓	✓
Aggregates	Aggregates	Sand, gravel, crushed rock, recycled aggregate and silica sand	✓	✓	✓	✓
	Marine aggregates	Sand and gravel	✓	✓	✗	✓
	Natural stone	Bath stone masonry and Portland stone	✓	✓	✓	
Asphalt and contracting	Asphalt	Hot rolled asphalt, stonemastic asphalt and asphalt macadams	✓	✓	✓	✓
	Contracting	Highway maintenance, road surfacing and MoD works	✓	✓	✓	N/A
Building products	Bricks	Clay bricks and brick specials, clay pavers, bespoke clay products, Red Bank chimneys and roofing	✓	✓	✓	✓
	Aggregate blocks	Dense concrete blocks	✓	✓	✓	✓
	Aircrete blocks	Thermalite aircrete products	✓	✓	✓	✓
	Precast concrete and flooring	Retaining walls, culverts barriers, floors, stairs, structural walls and basements	✓	✓	✓	✓
	Cladding and render systems	Structherm external wall insulation, structural EWI and Fastbrick	✓	✓	✓	
	Block paving	Formpave paving products, SUDS and geothermal	✓	✓	✓	✓
	Brick and block laying	Irvine Whitlock walling contractors	✗	✓	✗	N/A

✓ = Certificate available online
✗ = System in place – not yet certified
 = Not certified
N/A = Not applicable

Hanson – providing solutions for sustainable construction

Brick



Ecostock – low embodied energy and 13 per cent recycled content, high thermal mass.

Aggregate block

Fenlite – over 60 per cent recycled content, high thermal mass.

Aircrete block



Thermalite – 80 per cent recycled content, high insulation, good thermal mass.

Aggregate

Recycled blends available.

Asphalt



ERA – low embodied energy, high recycled content.

Concrete



EcoPlus – low embodied carbon due to high Regen content. Mixes also available with recycled aggregate.

Cement



A range of reduced carbon cements due to use of alternative fuels and raw materials.



Regen – cement alternative, low embodied carbon, 100 per cent by-product source.

Concrete paving



Aquaflow paving systems – Sustainable Urban Drainage Systems.

EcoGranite paving – minimum 66 per cent recycled content.

Precast concrete products



Offsite manufacture of stairs, floors, culverts, barriers, bridge decking and retaining walls.

Cladding and render systems

Structherm

Fastbuild | Cladding | Render

Structherm – insulation and render systems manufactured offsite.



SMARTPHONE SCAN CODE

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