



Performance and sustainability report 2013

Hanson UK

Performance and sustainability report 2013

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Cover: Deliveries from Ketton cement works in Rutland.

2012 highlights...

- ✓ OHSAS 18001 certification achieved across main business lines
- ✓ Employee lost time injuries fall by a third
- ✓ Waste to landfill target exceeded
- ✓ Mains water use falls
- ✓ More than 100 biodiversity and geodiversity action plans now in place
- ✓ Energy use per tonne down 11.5 per cent since 2005
- ✓ Stakeholder engagement programme broadened
- ✓ New sustainability department provides increased focus

Top left: An access hatch for safe entry into a concrete mixer truck won the Blue Circle Trophy in the LGV category at the MPA Health and Safety Awards. Pictured (from left) are transport manager Tim Sage, Brinsley McFarlane from McPhee Mixers and safety, health and environment advisor Gary Dowell.

Top right: Kings Dyke nature reserve at Whittlesey in Cambridgeshire won the Sustain magazine biodiversity award.



...and awards

- ✓ **Mineral Products Association Health and Safety Awards** – an access hatch for safe entry into mixer trucks won the Blue Circle Trophy in the LGV and Company Vehicle category; a low level refuelling system at Shap Beck quarry in Cumbria was runner-up in the Engineering Initiatives category; Swindon concrete plant, the Thermalite block works at Newbury and Ketton cement works received certificates of merit and four individual employees were recognised.
- ✓ **Insulated Render and Cladding Association Awards** – Hanson Structherm won the Domestic Refurbishment High Rise category for Manton and Reynolds Towers in Birmingham, and the Low Rise (five houses or less) category for Eco House, also in Birmingham.
- ✓ **Royal Society for the Prevention of Accidents** – Hanson Contracting received the Order of Distinction to mark 21 consecutive years of achieving the gold standard.
- ✓ **MPT Suppliers Awards** – sustainability prize for supply of aggregates to Manchester Metrolink project.
- ✓ **Brick Development Association Brick Awards** – Horsted Park in Chatham, Medway, Kent, using Chelsea Smoked Red and Dark Moroccan Smooth bricks won the Best Housing Development six to 25 units category.
- ✓ **Highways Agency Sustainability Awards** – Hanson Contracting and Balfour Beatty shared the Delivering Sustainable Value and Solutions award.
- ✓ **British Archaeological Awards** – Best Archaeological Project and Best Archaeological Discovery for the Must Farm clay quarry excavations at Whittlesey near Peterborough carried out by Cambridgeshire Archaeological Unit.
- ✓ **Sustain Magazine Awards** – Kings Dyke nature reserve at Whittlesey in Cambridgeshire won the Biodiversity category.

Foreword

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

The last five years have been the toughest for our business – and for the industry – for a generation or more. Our workforce has reduced by more than half, we have seen production levels decline by a similar amount in many areas, and we have closed or mothballed more than 60 sites.

This continuing lack of growth in the UK economy and the resultant downturn in construction output has inevitably had a significant impact on our performance. Our 2012 sales volumes and profit were the lowest we have ever experienced and we had to implement a restructuring plan in October which entailed a number of plant closures or mothballing, reduced overtime, lay-offs and some redundancies. Looking ahead, the Construction Products Association is forecasting a further fall in activity this year, but sees potential for growth in 2014, fuelled principally by an upturn in house building.

Against this background, it would have been easy to have side-lined our mission to embed sustainability into the business. In fact, the opposite was true.

We continued our awareness training at all levels, introduced new and challenging targets, and at the end of the year merged our safety, health, environment and marketing functions into a single sustainability department to provide increased focus both internally and externally.

We are also looking ahead – a clear vision of the future is critical to any organisation and we are working on a performance plan to take us towards 2020 and beyond.

The strategy is centred around our parent company HeidelbergCement's leadership principles which focus on performance, competence, customer service, employee development and partnerships. This filters through into what we do and how we do it – from producing high quality products through to minimising waste and saving energy and water. Underpinned, of course, by an excellent safety record.

I am confident we will ride out this recession and emerge as the sustainable market leader and the best managed company in our sector with a committed and engaged workforce.



“A tough year, but we remain focused on sustainability”

Towards 2020 – our strategy and targets

Our five sustainability themes, which are summarised in the diagram on the right, are closely aligned to the UK concrete industry's Sustainable Construction Strategy, the government's four sustainable development priorities and the Green Construction Board's call for action on water, waste, carbon, materials and biodiversity. We have identified a number of long-term targets to take us towards 2020 and beyond. We have also developed 18 key performance indicators for reporting which complement our overarching sustainability strategy.

Baseline for 2020 targets is 2010.



A significant year for sustainability performance

by Paul Lacey, head of sustainability, Hanson UK



2012 was an important year in terms of measuring our sustainability performance. Many of the targets we set when our business became fully integrated in 2008 had December 2012 as the end-point. As a result, we have been able to review and monitor our performance over the last four years and set new and challenging targets to take us towards 2020, supported by detailed business line action plans.

The clear message to emerge is that we have done well despite the impact of falling production volumes which has inevitably led to less efficient production.

Lost time injuries have fallen significantly, the amount of waste being sent to landfill is down by 35 per cent since 2009 and our target to divert from landfill at least half the by-pass dust generated by cement production has also been met. Mains water use has fallen and we now have 102 biodiversity and geodiversity action plans (BAPs and GAPs) in place at over 80 per cent of our relevant sites. The introduction of hundreds of energy-saving ideas through our opportunities database has seen energy use per tonne of product fall by 11.5 per cent from a 2005 baseline.

Some key targets were missed. As forecast in last year's report, we were unable to derive 70 per cent of fuels for our cement kilns from waste. The percentage of alternative fuels we can use in the three kilns varies and the production balance changed last year. Our target of reducing carbon emissions by five per cent per tonne based on 2008 figures was hampered by the continuing fall in production volumes which meant many of our sites were working below full capacity, reducing their efficiency. We also fell short of our target of 12 per cent recycled planings in asphalt because fewer new roads requiring base course materials are being constructed.

A highlight of the year was receiving accreditation to the occupational health and safety standard BS OHSAS 18001 for our aggregates, asphalt, concrete and building products business lines. The cement division already held the standard. It means we now have full coverage of safety, environmental and quality standards across our core business and the BES 6001 Responsible Sourcing of Materials standard at all our production sites.

Good communication is critical to operating sustainably and we broadened our scope of stakeholder engagement during the year by running four sessions with customers, suppliers, community leaders and NGOs. Thirty-five people from a wide range of organisations in the public and private sectors attended the meetings, which were facilitated by an independent consultant.

The sessions all provided valuable information to improve our reporting and communication processes. They confirmed that the areas we are focusing on are the right ones and that third party verification schemes such as BES 6001 and the national Building Confidence programme are essential. They will help us to develop and maintain relationships with our major customers by demonstrating that we operate a robust and sustainable business. You can find the accreditation certificates on our website www.hanson.com/uk

The stakeholder groups also highlighted areas where further development is required. We need to create a clearer connection between our strategy and our performance, have our data externally verified and explain the means by which we intend to meet our targets – the 'how' rather than the 'why'. In addition, we need to extend our network of sustainability contacts, hold open days at key sites and create a platform for product innovation. All these issues are being addressed and have influenced the structure of this report.

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.

Managing sustainability

Our safety, health, environment and marketing functions are now managed within a single sustainability department to provide increased focus both internally and externally. The department provides 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 coordination 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 of our business and products to employees and stakeholders.

Scope of the report

Hanson UK is a leading 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. We are part of the HeidelbergCement Group, which has leading global positions in aggregates, cement, concrete and heavy building products. Our business is managed in five divisions – aggregates, concrete, asphalt and contracting, cement and building products.

This report covers all five divisions 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 Structerm and Irvine-Whitlock. Our civil engineering business, which was part of the asphalt and contracting division, was closed at the end of 2012.

We have a controlling interest in two joint ventures, Smiths Concrete and Humber Sand & Gravel, and their active operations are included in the data. Midland Quarry Products (MQP), a quarrying and asphalt business based in Leicestershire, is not included as during 2012 it was controlled by our joint venture partner Tarmac. We took full ownership of MQP early in 2013 and its operations will be included in next year's report.



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

We are committed to reporting annually and this report covers the calendar year to the end of 2012. Any changes in measurement methods are indicated alongside the relevant table. The report is available on our website at www.hanson-sustainability.co.uk

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 as above.

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 as above.

“Good communication is critical to operating sustainably”

People

■ Creating sustainable communities



“Zero harm is something we all understand and can all play a part in achieving.”

Dave Morgan

Fitter and union safety rep – Whatley quarry

Our vision:

Zero harm in the workplace and a positive impact on communities around our sites.

■ 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.

■ Action plan:

Continue to focus on training and competence, control of contractors, hazard and risk assessments, safety conversations and near hit reporting; identify and engage with stakeholders.

■ 2020 targets:

Zero harm; five community events a year at every quarry; meet the targets set in the Mineral Products Association's 'Safer by Competence' programme.



Ready-mixed concrete plant supervisor Stephen Fiddler in the batch cabin at the Tile Hill plant in Coventry.

Health and safety

Employee lost time injuries reduced by a third

Employee lost time injuries (LTIs) were reduced by 33 per cent in 2012 from 30 to 20, marking another important step in our quest for zero harm.

The 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.

We also report an LTI severity rate for our own employees, derived from the total number of days lost. This also fell, due to injuries being managed better and generally less severe.

Non-employee (contractor) LTIs on our sites continue to cause concern even though the total fell by four during the year from 19 to 15. A decision has been taken to employ a specialist company to help us lift standards by setting up a national database of approved contractors which will be rolled out in 2013.

Lost time injuries			
	2010	2011	2012
Employees	36	30	20
Contractors	27	19	15
Employee severity rate	84.28	95.16	58.59
Employee frequency rate	3.23	2.79	2.08

We continued to invest in health surveillance to detect existing or underlying issues, and we provided comprehensive health and safety training for our staff, provided by in-house specialists and through external consultants. We also used external training specialists to deliver courses for overseeing entry into, and working within, confined spaces including emergency rescue and recovery.

We remain on target to achieve the MPA's interim target to halve the lost time injury frequency rate for direct employees and halve the cumulative number of contractor lost time injuries by 2014 based on 2009 figures.

Employee LTI frequency rate since 2011 down
↓ 25%

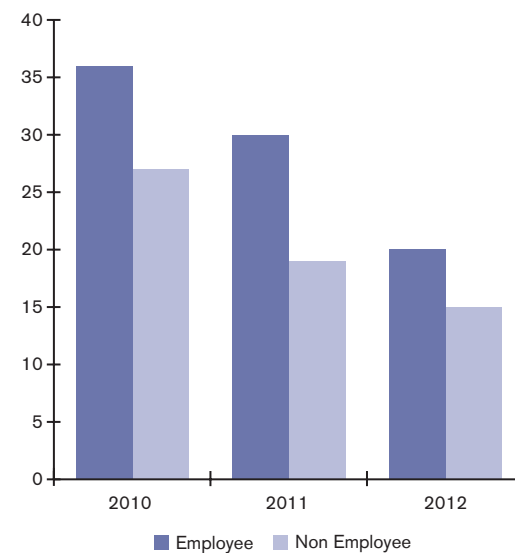
A number of accredited on-site training courses for working at height and in confined spaces were delivered during the year.



Pacific Industrial Contractor Screening Limited (PICS) provides a bespoke contractor pre-qualification procedure and a web-based access platform aimed at delivering a consistent competency approval process right down to individual employees. It allows managers to review and report on contractor performance and gives full visibility of all registered contractors on an industry-wide database provided by the Mineral Products Association (MPA).

A proportion of non-employee LTIs were incurred by hauliers, prompting a renewed focus on driver safety, underpinned by a poster campaign.

Number of lost time injuries



Drum mixer hatch wins top award

An access hatch for safe entry into concrete mixer truck drums won a top prize at the Mineral Products Association's health and safety awards in London. The Maxi hatch and integral access platform, which was developed by Hanson's in-house team and drum manufacturers McPhee, won the Blue Circle Trophy in the LGV and company vehicle category.

Cleaning a mixer drum is vital to maintain efficiency and keep the vehicle within its legal payload. One of the major obstacles to overcome is entry into the drum, either

through the 'pig's ear' at the back or, if fitted, through small manholes on either side. The Hanson team came up with the simple but inspired idea to fit a bigger hinged door to replace the manhole inspection hatch, along with a small platform to allow easy access.

The design is a first for the industry and is likely to be adopted by ready-mixed concrete producers nationally. It will form part of the standard specification for the company's truck mixers and be retrofitted to the existing fleet over the next 18 months.



Driver Csaba Jones shows off the new Maxi hatch.

TARGET
Zero harm

Stakeholder performance

Engagement meetings help shape reporting

We broadened our scope of stakeholder engagement during the year by running four sessions with customers, suppliers, community leaders and NGOs. The broad objective was to obtain feedback on how we communicate and whether the annual sustainability report meets their requirements.

Thirty-five people from a wide range of organisations in the public and private sector as well as community groups attended the meetings, which were facilitated by an independent consultant. Two groups were identified as important – communities around our sites and commercial stakeholders. The first was reached by attending established liaison committee meetings at three locations – Padeswood cement works in Flintshire, Kings Dyke brick works in Cambridgeshire and Batts Combe quarry in Somerset. The commercial group was covered by a day-long event in December and attended by some of our major customers.

The four sessions all provided valuable information to improve our reporting and engagement processes. At site level we were asked to provide more local information, which we intend to do through our website. The commercial group confirmed that many of the areas we are focusing on are important to them and that third party verification schemes such as Achilles and BES 6001 are essential. We were asked to progress full life-cycle analysis of all our products and demonstrate that our achievements go beyond mere compliance.

Employees remain one of our most important stakeholder groups and we continued to improve our internal communications through better use of the intranet platform, divisional employee forums and staff briefing meetings. In addition we produce a quarterly magazine for employees. In 2012 a group of managers carried out a staff survey as part of a management training programme looking at sustainability. They asked a cross-section of employees 'What does sustainability mean to you?' The majority (53 per cent) thought it covered environmental matters, 29 per cent had limited or no understanding, while only 18 per cent grasped the concept of sustainability embracing a range of topics and values. More senior staff had a greater understanding but there was a general lack of awareness about how individuals can make a difference. We plan to appoint sustainability representatives and set up *sustainability matters* working groups during 2013 to improve communications and comprehension and share best practice.

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 Campaign for National Parks, 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 five public exhibitions during 2012 to present proposals for mineral extraction.

Training day for industry regulators

Sixteen environmental health officers attended a training day at Wykeham quarry in North Yorkshire organised by the Hanson regional team. The local authority regulators were shown around the working quarry and restored lakes as well as the adjoining concrete batching plant.

The focus was clearly on partnership and Scarborough EHO. Training coordinator for North Yorkshire environmental protection, Bryden Simpson, was delighted with the visit. "We normally visit with our enforcement hat on to ensure places comply with pollution legislation, rather than in this more relaxed atmosphere. It was very worthwhile training," he said.

"We learned about the technicalities and use of equipment and it broke down some barriers between enforcement officers and the industry in a positive way. As professional enforcement officers we have to keep our training up to date and relevant so it was great to do this day and reassuring to see Hanson takes the environmental and protection side of things so seriously."



Concrete operations manager Peter Darlow (left) briefs Ryedale EHO Paul Hunt (right).

TARGET

Organise annual stakeholder events for customers, suppliers, community leaders, NGOs and employees

Employment and skills

System tracks employee training records

The average number of staff employed during 2012 was 4,200. Spending per head on training and skills increased during the year with a focus on health, safety and leadership. A database called the Learning Management System (LMS) records and tracks training needs and provision including employee training records.

Management training is delivered through our *leading the way to excellence* programme, which covers a range of topics from general management through to development of future leaders. The training focuses on real business issues and encourages managers and supervisors to look at behaviours rather than task-orientated approaches.

A number of projects related to sustainability were carried out as part of the training, from community involvement to saving energy. In addition, we have a programme for managers and staff with high potential talent to aid succession planning.

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.



Our staff receive regular training to keep pace with changing technology. Pictured is team leader Paul Knighton in the control room at Ketton quarry in Rutland.

Six recruited for new higher apprentice scheme

Six higher apprentices were recruited during 2012 as part of our *succession planning* programme. The school leavers are taking part in a pioneering apprenticeship in mineral product technology, aimed at potential first line managers and developed in partnership with the University of Derby.

The programme, which is predominantly via e-learning, includes an academic as well as a vocational qualification with all the 'earning while learning' carried out at Hanson sites. It is designed to bring enthusiastic young people into the business and give them the training and skills they need to become the next generation of supervisors, managers and business leaders.

The industry-leading apprentice scheme was named as a finalist in the Open Collaboration category of the Lord Stafford Awards, which champion innovation through partnerships between businesses and universities. It was showcased at the awards dinner in Coventry in November and highly commended.



The six apprentices (from left) David Potter, Thomas Emerson, James Kidd, Ben Strickland, Elliott Wellbelove and Daniel James.

TARGET

Meet the targets set in the Mineral Products Association's 'Safer by Competence' programme

Local community

Site liaison activities increase

We recognise that our operations are part of the local community and 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 increased but we missed our target to ensure all relevant sites are proactive in liaising with their communities by the end of 2012. Visitor numbers were up, with the Coldstones Cut viewing platform – a major piece of structural art at Pateley Bridge quarry in North Yorkshire – again a big draw attracting more than 26,000 visitors.

We help charities and voluntary groups in communities close to our sites and offices through the *Hanson in the community* scheme. In 2012 we provided cash or materials to support over 100 organisations to the value of £34,785. Our employee charity matching scheme contributed more than £28,000 to 47 charities during 2012 and has helped raise more than a million pounds since its introduction in 1994. The scheme encourages employees to raise money for charity by matching their fund-raising up to £500.

We are corporate patrons of CRASH, the construction industry charity which provides accommodation for the homeless, and Conservation Area Champions at the Royal Botanic Gardens at Kew. We are also involved in other smaller sponsorship projects with environmental and community-based voluntary organisations and charities.

Newsletter keeps communities in touch

Open Door is a community newsletter produced at our three cement plants – Padeswood in Flintshire, Ketton in Rutland and Ribblesdale in Lancashire.

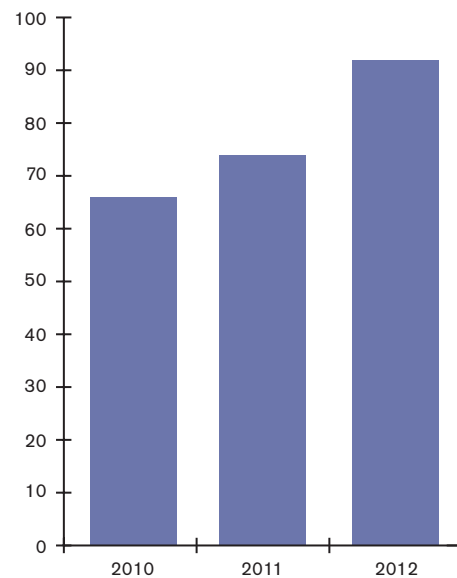
The newsletters are published bi-annually and contain a range of news and information for local residents. This includes an update from the plant manager, articles on site developments and investments and features on the people who work at the sites. They also provide contact details for site staff who are briefed to deal with any issues that may arise. The newsletters are delivered to homes and businesses within a set radius of the plants and have been very well received.



Visitors increase to over **↑33,400**

Community relations			
	2010	2011	2012
Relevant sites	77	73	62
Sites with liaison activity	51	54	57
Percentage of sites with liaison activity	66	74	92
Visitor numbers	8,843	33,160	33,447

Sites with liaison activity (%)



TARGET

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



Staff at Ketton cement works have received an award from the National Blood Service for contributing more than 5,000 pints of blood since collections were started at the works seven years ago. Electrical supervisor Alan Crow (left), who set up the visits, is pictured with driver Gerald Tyler, who required multiple transfusions while being treated for leukaemia in 2005.

Carbon

■ Climate change and energy



“Safety and reliability are a given these days so the top three priorities when ordering new trucks are fuel, fuel and fuel.”

Andrew Bridge

Distribution director – Hanson Cement

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 targets.

■ Action plan:

Improve energy efficiency of production plants, increase the use of renewable energy including waste as fuel, reduce CO₂ emissions from production and transport.

■ 2020 targets:

Reduce production CO₂ by 10 per cent per tonne of product based on 2010.



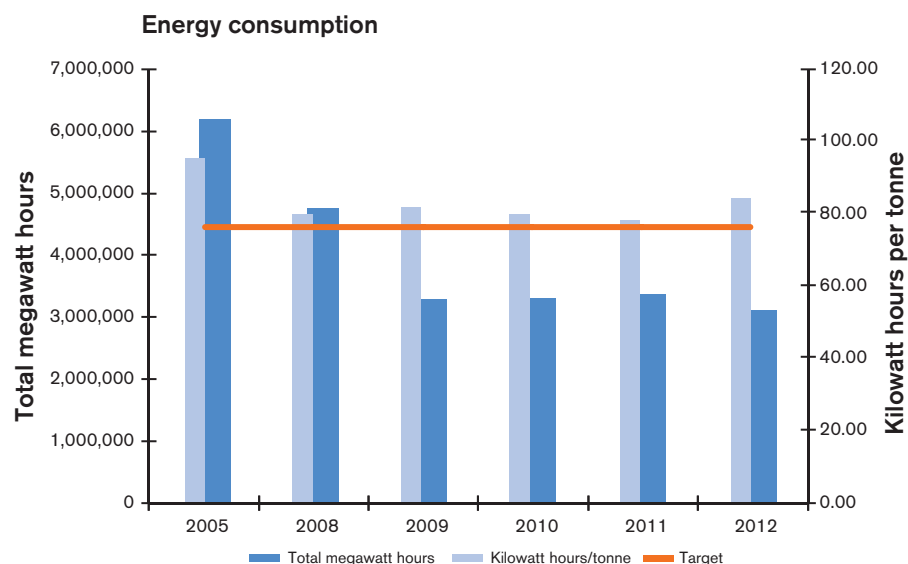
Giant dump trucks at Whatley quarry in Somerset carry up to 80 tonnes of rock to the primary crusher.

Energy efficiency

Energy use per tonne increases

Energy use per tonne rose after three successive years of decline, leaving us 8.5 percentage points short of our target of a 20 per cent reduction from a baseline established in 2005. This shortfall can, in some part, be attributed to more accurate and inclusive data collection systems, but is mainly due to inefficiencies caused by low production levels in 2012.

Lower production volumes also impacted on absolute energy consumption, but we made additional savings by the implementation of over 130 energy-saving ideas through our opportunities database, which have reduced carbon emissions and saved around £400,000 a year 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'.



Energy consumption							
	2005	2008	2009	2010	2011	2012	Change since 2005
Kilowatt hours /tonne	95.33	80.02	81.80	79.91	78.21	84.35	-11.51%
Total megawatt hours	6,197,786	4,758,594	3,290,003	3,299,711	3,384,494	3,108,543	-49.85%

Energy use per tonne since 2005 down by
↓11.51%

Variable drive halves energy use

An energy-saving idea implemented at our Whittlesey aggregate block plant near Peterborough in Cambridgeshire has potential for big savings across the business. Site staff working with external specialists found that with a relatively small investment, the energy consumption of a large air movement fan on the block curing line could be reduced by around 50 per cent.

The simple process of installing a variable speed drive to a fixed speed fan has allowed the speed to be reduced, cutting its electrical load and providing significant reductions in energy use and costs, with no impact on product quality or curing times.

The employee-led project is saving over 200,000 kWh of energy and has provided valuable information which can help the approach be replicated across Hanson.

Waste as fuel

Waste fuel target proves tough

Overall use of waste as a fuel in our cement kilns has remained constant for the last three years but has fallen short of our target of 70 per cent by 2012. The amount of alternative fuels we can use in the three kilns varies and because the production balance changed last year, the use of waste fuel fell slightly. In addition, our supplier of meat and bone meal (MBM) was unable to meet our full requirements.

We continue to invest in new facilities at our three works to enable greater use of alternatives. 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. We received a new permit to burn SRF at our Ribblesdale works near Clitheroe.

Use of recovered fuel oil in our asphalt plants accounted for over half the fuel used.

Cement fuel derived from waste – tonnes			
	2010	2011	2012
All waste	158,704 (53%)	153,640 (55%)	140,096 (54%)
Biomass	72,727 (23%)	69,547 (24%)	57,081 (16%)

New feed system has got it taped

Significant investments have been made at our cement plants to optimise the use of solid recovered fuel (SRF). SRF is produced by shredding and dehydrating non-hazardous waste. It is used for energy recovery in incineration and co-incineration plants and is burned in our cement kilns at very high temperatures (around 1,400°C) allowing for total thermal destruction of the waste. Its use reduces reliance on fossil fuels, preserves natural resources and cuts greenhouse gases.

At Ribblesdale works near Clitheroe in Lancashire a £1.2 million project to install a feed system to deliver SRF from a trailer docking station to the kiln and calciner was completed during the year.

An unexpected problem arose from blockages in the screw conveyors which was caused by video and audio tape – much of which in the digital age finds its way into the waste stream. The conveyors have been replaced with shaftless spirals, and the feed system is now working well.



The trailer docking station at Ribblesdale cement works.

Fuel derived from waste

54%

TARGET

35 per cent use of biofuel by 2020

CO₂ emissions from production

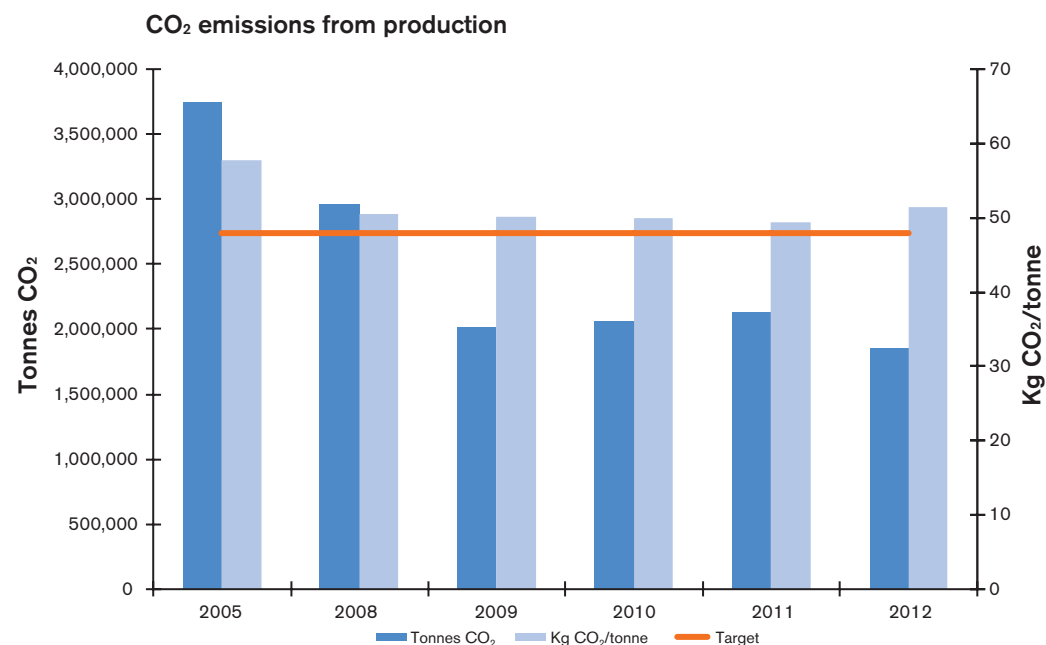
Tough target hampered by lower production

Our target of reducing carbon emissions by five per cent per tonne by 2012, based on 2008 figures, was hampered by a big fall in production volumes. It meant that many of our sites were working well below full capacity, reducing their energy efficiency. By the end of 2011 we had achieved a 2.2 per cent overall reduction, but over the next 12 months this had changed to a 2.1 per cent rise.

Our renewable energy programme gathered pace during the year. We investigated three sites with potential to generate up to 10 megawatts of electricity from solar panels and plan to move two of them – Ketton in Rutland and Chipping Sodbury in South Gloucestershire – to the planning stage during 2013. We are also looking at sites with potential for wind turbine generators.



The main kiln at Ketton cement works in Rutland.



CO ₂ emissions from production							
	2005	2008	2009	2010	2011	2012	Change since 2008
Kilogrammes of CO₂ per tonne of product	57.66	50.45	50.09	49.94	49.35	51.51	2.09%
Tonnes of CO₂ from production	3,748,686	2,962,068	2,014,555	2,062,098	2,135,523	1,855,658	-37%

TARGET

Reduce production CO₂ by 10 per cent per tonne of product based on 2010.

CO₂ emissions from transport

Efficiency improvements drive emissions reduction

Emissions per tonne increased and delivery distances rose as a direct result of site closures and lower production volumes. We met our target to reduce empty mileage by 10 per cent in the cement and building products fleet by the end of 2012, based on end 2009 figures, with an overall improvement of 10.6 per cent. Average payloads of the cement fleet rose by four per cent against a 2012 target of 2.5 per cent.

We continue to focus on Euro 5 engine installations for the cement and building products fleet with subsequent particulate and NO_x emissions reduction and later this year will be evaluating Euro 6 engines. Our objective to increase the use of articulated vehicles has resulted in their introduction on sites where there is a stable, level surface for the vehicle to tip and we are working closely with a customer to expand the use of artics. We also completed our evaluation of the use of moving bed (non-tipping) articulated vehicles and purchased three trucks during the year.

A project to improve distribution efficiency across the HeidelbergCement Group was launched in 2012. In the UK, Project LEO (Logistics Efficiency Optimisation) is split into two parts. The first will be rolled out in the aggregates, concrete and asphalt business lines and focus on the effective and efficient use of our delivery fleet by introducing vehicle optimisation software and a material resource planner (MRP) to schedule internal deliveries. The second involves combining the cement and building products distribution scheduling

functions to secure greater efficiencies by increasing load count and distance for the fleet. Average fuel consumption in the building products division remained at 7.4 mpg against a target of 7.6, despite driver training and the phasing out of older vehicles.

One of our 2012 targets was to develop a rail strategy with at least one project identified for progression. The strategy includes increasing the proportion of cement and aggregates transported into London and south-east England where we have the majority of our depots. This is under way and we are also building an off-loading rail facility adjacent to our existing silo at Avonmouth docks near Bristol which will allow us to take cement by rail from Ketton and Ribblesdale works to supply our concrete plants in south-west England.

The average CO₂ emissions for the 112 fleet cars we purchased for employee use in 2012 was 117.7 g/km compared to a fleet market average of 137g/km and a total market average of 140g/km.

CO ₂ emissions from transport			
	2010	2011	2012
Tonnes delivered	32,929,885	34,195,216	27,434,779
Kilogrammes CO₂/tonne	4.38	4.25	4.31
Kilometres travelled per tonne	4.11	3.96	4.04
Tonnes CO₂/year	144,339	145,420	118,342

Cement division leads drive for fuel economy

There is a constant drive towards fuel efficiency throughout the business. Last year the cement division's entire new truck order – 54 new vehicles – went to a single manufacturer for the first time. The new Mercedes-Benz Actros trucks (pictured below) have returned a 10 per cent improvement in fuel economy over the rest of the fleet, regardless of the route or the driver.

Rail freight is an increasing part of the equation with trains moving cement from Ribblesdale works in Lancashire to Glasgow and Ketton, near Stamford, to London. Each site sends around three trains a week and the volume of cement transported by rail is increasing.



Mode of transport per cent			
	2010	2011	2012
Road	91.73	89.89	89.83
Rail	7.09	9.19	8.90
Water	1.17	0.92	1.27

TARGET

Reduce transport CO₂ emissions by 5 per cent per tonne by 2020 based on 2010 baseline

Waste and raw materials

■ Sustainable consumption and production



“All surplus materials from manufacturing are reused or recycled.”

Pete Turner

Production manager – Hanson Thermalite

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; report and act upon environmental incidents.

■ Action plan:

Minimise waste and improve material efficiency and recycling; maximise production efficiency; reduce environmental incidents and emissions.

■ 2020 targets:

Reduce non-process waste to landfill by 85 per cent, based on 2010; increase use of recycled materials in products; reduce valid neighbour complaints year on year.



Concrete operations manager Alan Shilton uses one of the dry mixed waste bins which have been provided at all our sites to collect recyclables.

Environmental incidents and emissions

Incident reporting increases

As part of our environmental 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). Reports are generated monthly and systems are in place for recording and tracking any required actions.

All three of our cement plants operate at levels significantly below these industry averages and below EU best available technique reference document levels. We continue to invest in new equipment to reduce emissions from our cement plants and publish regular reports on our website at www.hanson.com/uk

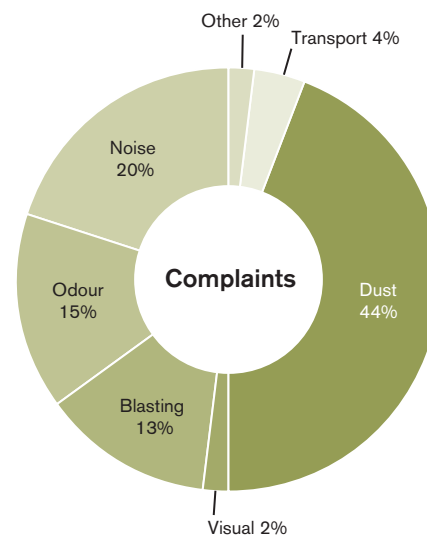
Incident reporting again increased, which reflects our strategy of encouraging employees to report incidents and near hits so that we are able to deal with them before they have any external impact. Complaints arising from external sources increased, largely due to an incident in the cement business in March when dust emissions from a kiln stack generated 58 complaints. All other business lines saw the number of complaints drop during the year, despite a very dry early spring when dust complaints were unusually high. 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.

Emissions from cement production

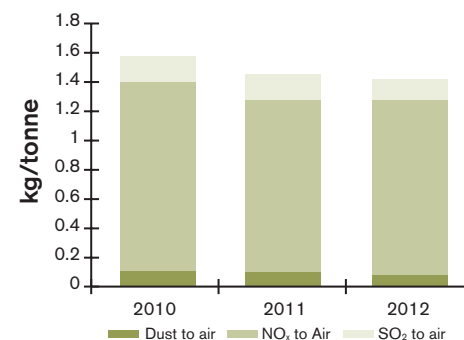
Emissions from the UK cement industry as a whole have reduced significantly over the last 15 years. Dust emissions have fallen from 0.33 to 0.10 kilogrammes per tonne of Ordinary Portland Cement (OPC). NO_x emissions have halved from 3.34 to 1.63 kg/tonne OPC while SO₂ emissions, which are related to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

Environmental incidents, complaints and prosecutions			
	2010	2011	2012
Incidents	192	519	561
Complaints	297	225	263
Prosecutions	1	0	0

Cement specific emissions – kilogrammes per tonne			
	2010	2011	2012
Dust to air	0.11	0.10	0.08
NO _x to air	1.29	1.18	1.20
SO ₂ to air	0.17	0.17	0.14



Cement emissions to air



TARGETS

1. 10 per cent year on year reduction in complaints based on 2010 figures
2. 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

Waste minimisation

Waste reduction targets exceeded

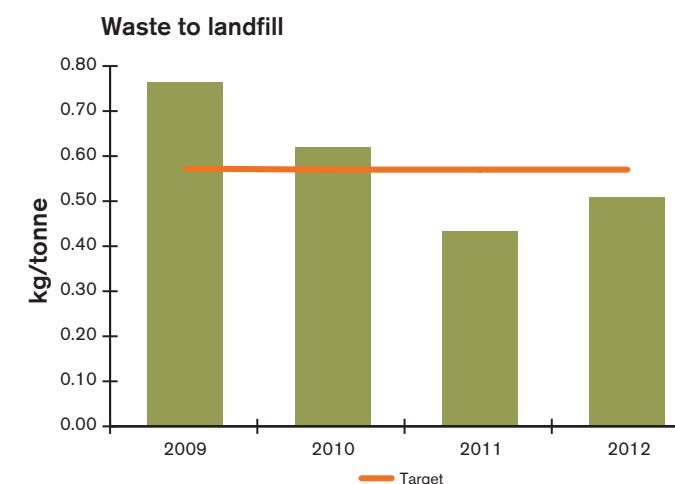
We have reduced overall waste to landfill by 33.5 per cent since 2009 against a target of 25 per cent. This target was originally set at 10 per cent, but was stretched in 2010. Our target to divert from landfill 50 per cent of by-pass dust generated by cement production by 2012 was also met. The amount of waste being sent to landfill rose slightly during 2012 due to an increase in the volume of asphalt filler dust which we are unable to reuse. Solutions to this are being developed.

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 the residue used as fuel.

Some of the by-pass dust diverted from landfill has been stock-piled at sites in anticipation of potential reuse in agriculture in the appropriate season in 2013.

Waste to landfill since 2009

↓ 33.5%



Waste to landfill				
	2009	2010	2011	2012
Total tonnes	24,739	22,502	16,461	16,693
Kilogrammes/tonne product	0.76	0.62	0.43	0.51

Cement specific waste – by-pass dust – tonnes				
	2009	2010	2011	2012
Produced	7,808	5,619	9,409	11,597
Landfilled	4,584	2,979	930	0
Diverted from landfill – per cent	41%	47%	90%	100%

Tar-bound planings recycled on site

Hanson Contracting completed a project on the A66 at Little Burdon near Darlington in which nearly 10,000 tonnes of tar-bound planings were recycled back into the carriageway in a foamix material, providing a cost-effective and environmentally sound solution to a potentially difficult problem and avoiding the need for specialist waste disposal. The foamix process expands bitumen by contact with small amounts of water under carefully controlled conditions. The foamed bitumen is then mixed with cold, moist aggregates and provides a strong adhesive binder system that enables the use of a wide range of recycled aggregates.

Materials containing tar are classed as hazardous/special wastes and there are strict restrictions on their disposal and use. They cannot generally be recycled, but in some situations tar-bound planings can be reused through in situ cold processes in agreement with the Environment Agency. On the A66 project, the hazardous material was stockpiled separately at a recycling facility adjacent to the site, crushed, screened and incorporated into the foamix.

TARGET

Reduce waste to landfill by 85 per cent by 2020 based on 2010 figures

Materials efficiency and recycling

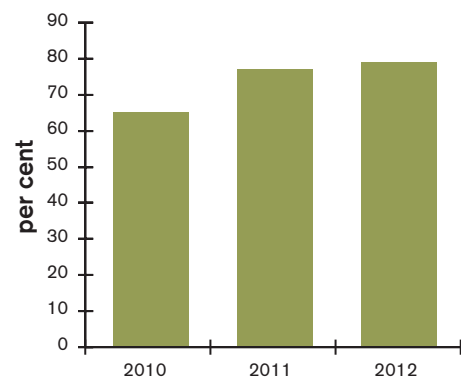
Cement replacement target achieved

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 enabled us to hit our target of 40 per cent cement replacement in 2011 and we remained close to this mark during 2012.

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 79 per cent.

Our asphalt plants can use up to 25 per cent recycled material in base course mixes. The national average is around nine per cent (including the use of filler dust, a by-product). Our target for 2012 was 12 per cent, but we fell short because in the current economic climate fewer new roads requiring base course materials are being constructed. Over half our plants can use recycled asphalt plantings in asphalt and we are seeking to increase this number.

Concrete sites recovering surplus



Waste from production of Thermalite aircrete blocks is collected and used to make aggregate blocks.



Recycled and secondary materials used – per cent				
	2010	2011	2012	Definition
By-products or waste used as raw material in cement	45.28	46.56	46.09	Regen and any alternative material as a % of total cement and Regen production
Recycled aggregates used in precast concrete and concrete blocks	55.51	54.34	50.73	Recycled aggregate as a % of total aggregates used
Cement replacements used in precast concrete and concrete blocks	11.19	11.05	9.48	Cement substitutes as a % of total cement use
Clay replacements in bricks	1.99	3.01	4.48	Recycled materials used as a clay replacement
Aggregates recycled and sold	1.63	1.17	1.38	Sales
Recycled aggregates in asphalt	9.74	9.36	8.75	Per cent of recycled aggregate and filler used in asphalt
Recycled aggregates in concrete	0.08	0.02	0.2	Per cent of recycled aggregate used in ready-mixed concrete
Sites which recover surplus concrete	65	77	79	Sites recovering over 50% of process waste (inc third party recycling)
Cement replacements in concrete (Regen, PFA)	38.43	40.01	39.92	Per cent of cement substitutes in ready-mixed concrete

Recycled aggregates in concrete

The use of recycled and secondary aggregates in concrete is increasing. Last year we designed and placed a bespoke piling concrete mix for contractors Skanska for the new Bloomberg UK headquarters in London, using 42,250 tonnes of secondary aggregates and over 10,000 tonnes of Regen, which reduces the embodied CO₂ by around 850kg for every tonne used. The concrete achieved a strength grade of C32/40.

Regen is also being used in a new range of concretes launched in 2013 designed to help reduce the CO₂ emissions associated with construction projects. The EcoPlus range contains up to 70 per cent Regen, which can also improve the durability of structures.



Ready-mixed concrete being delivered to the new Bloomberg headquarters building close to Mansion House tube station.



Cement replacement in concrete
40%

TARGET

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 – by 2020

Product quality and performance

Customer service centres consolidated

We carried out our biennial customer satisfaction survey in 2012 across our core business lines and used the results to shape our objectives for 2013. The survey covers a random selection of large, medium and small customers and helps us to define our customer service strategy and targets.

In October we announced plans to reduce our aggregates, asphalt and concrete customer service centres from three into two. This will enable us to centralise customer service and distribution functions and standardise systems and processes. Staff have been trained to service multiple product lines, making us easier to do business with.

We continue to invest in development of new products, either working with external partners or the HeidelbergCement Technology Centre in Germany. These include EcoPlus, a ready-mixed concrete with low embodied CO₂, a concrete carbon calculator and QuickBuild, a range of precast products which includes bridge decks, retaining walls and box culverts.

We introduced a new initiative in the concrete business called 'Right first time' aimed at the people who produce and deliver the product and designed to improve quality performance. We are making good progress towards our July 2013 deadline for CE marking for all our products.



QuickBuild moves into new markets

Hanson's flooring and precast concrete business is moving into new markets with its QuickBuild brand, which includes box culverts, barriers and bridge decking. The latest addition to the range is QuickBuild retaining walls, which are designed to save time and money on installation and improve site safety. The precast reinforced concrete units are made at our Somercotes factory in Derbyshire and used principally for storage bays or for retaining soil and rocks on steep slopes or uneven ground. They can be cast with a textured finish or enhanced by a brick facing panel.

The units come with a quick lifting system, which eliminates expensive lifting gear, reduces installation time and improves safety. They also have a built-in alignment and jointing system, which makes them easy to fit. The QuickBuild product range is supported by a technical brochure and handling guide, and a new website, which includes a quantity calculator.



■ TARGET

Reduce production waste by getting it right first time

Stock control clerk Elaine Akehurst does a quality check at the Thermalite aircrete works at Hams Hall near Birmingham.



Water and biodiversity

Natural resources and enhancing the environment



“Biodiversity is a strength for us, with great benefits for the environment and local communities.”

Martin Crow

Senior sustainability manager

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 ecosystem services and minimising impacts on the availability of water in the natural environment.

■ Action plan:

Identify areas where water use can be reduced and introduce the water hierarchy of 'reuse, recover, abstract' before using mains water. Establish, publish and monitor biodiversity action plans for all quarries.

■ 2020 targets:

Reduce mains water consumption by 25 per cent based on 2010. All quarries to implement published biodiversity action plans.



Water for use in the production process at Ketton cement works is stored in a lake which has developed into a flourishing and diverse habitat for plants and animals.

Water

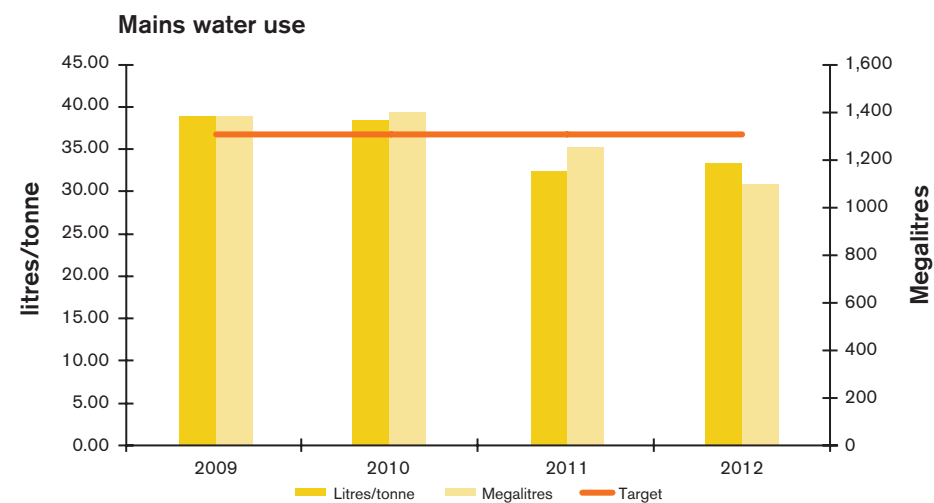
Mains water reduction target exceeded

We comfortably exceeded our 2012 target of a five per cent reduction in mains water use in litres per tonne based on 2009 figures, although the figure increased slightly from 2011. There were notable improvements in the cement division following the discovery and repair of a major leak at Ketton works, and in aggregates through better metering. Concrete also showed steady improvement. Overall water use per tonne fell by nearly two per cent during the year.

In 2009 we set business line targets for concrete and building products to reduce water consumption per tonne produced by two per cent by the end of 2012. The target was exceeded in concrete, which fell by seven per cent, but missed by building products, which rose by over 14 per cent. This was because we now make fewer aggregate blocks, which have a lower water intake.

We continue to employ specialist consultants to help reduce our water consumption and save money. The service includes water audit, leak detection and repair, bill validation and data logging.

Over the next two years we plan to revise our reporting of ground water usage in quarries in line with definitions being developed by the Mineral Products Association and the Sustainable Concrete Forum. This is expected to review ground water use in closed systems.



Water consumption				
	2009	2010	2011	2012
Mains water litres/tonne	38.97	38.42	32.36	33.36
Mains water consumption - megalitres	1,382.38	1,398.36	1,255.75	1,095.67
Total water litres/tonne	N/A	285.70	286.70	282.08
Total water consumption - megalitres	N/A	10,398.42	11,124.14	9,265.65

Mains water consumption per tonne down since 2009

↓ 14.4%



IMS coordinator Gemma Leavesley inspects the process and storm water recycling system at Tile Hill ready-mixed concrete plant in Coventry.

Rainwater harvesting has a double benefit

A rainwater harvesting system at the Thermalite aircrete block works at Hams Hall in the West Midlands has a double benefit in terms of reducing water use.

The system collects the rainwater from the factory's large expanse of pitched roofs and channels it into a large diameter pipe. The pipe is linked to a collection tank where steam from the autoclaves is condensed back into water for reuse.

By using the rainwater to cool the condensate steam, more process water can be used as the water in the reclaimed tank is closer to the required temperature for reuse in the production process. This also reduces the amount of mains water required to cool the condensate steam.



Maintenance chargehand Alan Hamilton checks water flow in the condensing tanks at Hams Hall block works.

TARGET

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

Site stewardship

Over 100 action plans in place

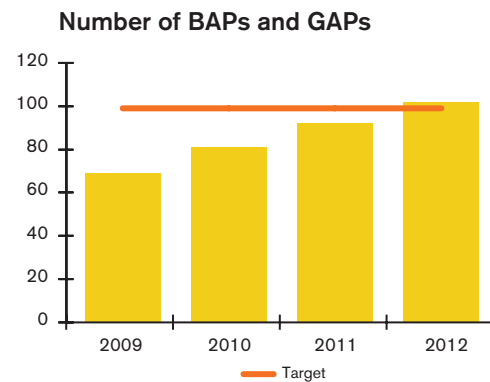
We achieved our target set in 2009 to increase biodiversity and geodiversity action plans (BAPs and GAPs) by 10 per year over the next three years.

The number increased to 102 and we now have action plans in place at over 80 per cent of quarries that have been active in the last three years. Of the 15 quarries that do not have BAPs, seven are still operational and will be targeted for 2013. The remaining eight are either sold or being sold. In 2010 we introduced a new indicator looking at quarries with high biodiversity value. These are defined as those located within 500 metres of an SSSI. The majority of these sites now have BAPs in place.

We are reviewing all our existing BAPs and plan to publish them on our website. We are also setting up a database to manage actions contained within the BAPs.

A new and updated Hanson UK biodiversity and geodiversity strategy was published during the year.

The document includes action plans and case studies and records progress made against targets set seven years ago, as well as setting new targets to take us towards 2020. The document was drafted with the support of Nature After Minerals, a partnership between the Royal Society for the Protection of Birds and Natural England. You can find a copy on our website.



Site stewardship				
	2009	2010	2011	2012
Quarries	102	102	84	80
Quarries with BAPs	43	53	58	65
Marine BAPs	3	3	3	3
Total BAPs and GAPs	69	81	92	102

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

Rare plant is successfully cultivated

The Cheddar Pink (*Dianthus Gratianopolitanus*), a nationally rare plant found in a few locations like Cheddar Gorge and the Mendip Hills in Somerset, is being successfully cultivated on old workings at Batts Combe quarry near Cheddar. The plant grows on thin, rocky limestone ledges and crags and was known to grow within a nearby company-owned Site of Special Scientific Interest (SSSI) called The Perch. Quarry foreman Dave Rodgers and landscape architect Alexandra Pick were keen to see if this rare, wild version of a British bouquet favourite could be cultivated and planted in other areas.

They obtained a licence from Natural England to collect, cultivate and transplant the plant. Cuttings were taken from the mother plant at The Perch and cultivated in Dave's greenhouse. Some have been planted on old quarry faces to see if they can be used as part of the restoration scheme. The rest have gone onto small, rocky exposures on The Perch. Dave said: "These are such rare plants and yet relatively easy to propagate. Our cuttings are beginning to spread and we are waiting to see if they flower next year, helping to increase the value and biodiversity of our restoration."



In 2011 HeidelbergCement launched an international research competition aimed at promoting biodiversity on its mineral extraction sites. The Quarry Life Award, which carried prizes of up to €30,000, was designed to find new ideas for the conservation and promotion of species diversity in quarries. A project carried out at Wykeham sand and gravel quarry

near Scarborough in North Yorkshire won the UK section of awards and was named as one of the top three in the international competition. The project, by a team from the University of Hull, looked at restoration of silt lagoons for wading birds. The award scheme is to be repeated in 2013/14. For further information visit www.quarrylifeaward.com



Quarry Life Award winners Philip Wheeler and Sue Hull from The University of Hull flank Hanson UK CEO Patrick O'Shea with (from left) landscape manager Georgina Watkins, senior sustainability manager Martin Crow and Wykeham quarry manager Tim Harvey.

Award-winning dig unearths flotilla of log boats

An archaeological dig at Must Farm clay quarry at Whittlesey near Peterborough swept the board at the 2012 British Archaeological Awards, winning the top two prizes. The Paleochannel excavation was named Best Archaeological Project and Best Archaeological Discovery and was the only short-listed entry to win two prizes.

The Must Farm quarry provides clay to the neighbouring Kings Dyke brick works. The excavations in an extension area have been carried out by Cambridgeshire Archaeological Unit (CAU) and uncovered some significant finds including a small flotilla of six log boats, two of which are decorated, along with Bronze and Iron Age artefacts within and alongside a former channel of the River Nene. The waterlogged silt deposits in the channel have helped to preserve items that would normally have rotted away and the log boats are the best preserved of their type ever to be unearthed.

CAU project manager David Gibson said: "The discoveries have huge public appeal as well as unparalleled research potential." A comprehensive website has been developed for the project www.mustfarm.com and a booklet is in production.



TARGET

Meet the targets set in the Hanson Biodiversity strategy and action plan

Systems

Management systems for continual improvement



“The IMS is helping us all to have joined up thinking in health and safety, environment and quality.”

Carl Cuthbert
Quality manager

Our vision:

A robust integrated management system (IMS) firmly established to drive and 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 targets:

Maintain and improve performance in all areas.

Core business lines accredited to OHSAS 18001

A highlight of the year was receiving certification to the occupational health and safety standard BS OHSAS 18001 for our aggregates, asphalt, concrete and building products business lines. The cement division and Hanson Contracting already held the standard. Three smaller parts of the business – Irvine-Whitlock, Structherm and marine aggregates – are planned to follow during 2013.

Structherm received certification to the environmental management standard ISO 14001 and Irvine-Whitlock will follow this year. The BES 6001 Responsible Sourcing of Materials (RSM) standard is in place at all 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.

We continue to develop our integrated management system (IMS), which encompasses health, 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.

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 new sustainability function, which was launched at the end of the year, includes a dedicated audit team which further strengthens the link between systems, operations and people.



IMS auditor Keith Jones and IMS coordinator Gemma Leavesley at the Tile Hill ready-mixed concrete plant in Coventry.

Accreditation service helps to build confidence

Hanson UK's five business lines were accepted for the national BuildingConfidence programme in June 2012. BuildingConfidence is a supplier pre-qualification and accreditation service for the UK construction industry. It 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.

It allows us to demonstrate publicly that we operate a robust and sustainable business.

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



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 2012 was £1,132 million. Capital investment for the year totalled £24 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 over 340 manufacturing sites and employ around 4,200 people. Jobs range from specialist and professional managers through to production operatives. Employee wages and benefits paid in 2012 totalled more than £120 million.

The location of our operations is determined by a number of factors, not least geology and planning constraints. Where practical, our production 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 closed or mothballed 34 production sites to reflect difficult market conditions. These included four quarries, six asphalt plants, 15 ready-mixed concrete plants, an aircrete block factory and a brick works. We also laid up two marine aggregate dredgers and closed our civil engineering division based in Penrith, Cumbria.

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.

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

Hanson Asphalt and Contracting brings together management of our asphalt production sites and a national road surfacing and infrastructure contracting business. It also includes Irvine-Whitlock, a specialist brick and block laying contractor.

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. Also managed within the cement division are four businesses which provide bespoke products to customers – Hanson Formpave, which specialises in paving and sustainable urban drainage systems (SUDS), Hanson Bath Stone, a leading supplier of natural stone masonry, Hanson Floors and Precast, which makes precast concrete products and Hanson Structerm, which manufactures and installs structural cladding systems, predominantly for refurbishment projects.

Hanson Building Products is one of the UK's largest producers of clay bricks and also makes aircrete and aggregate blocks.



Production operations 2012	
Aggregates depots and wharves	16
Asphalt plants	29
Bagged product plants	12
Block paving plants	1
Brick works	7
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	29
Quarries – crushed rock	25
Ready-mixed concrete plants	178
Recycling/landfill sites	17
TOTAL	341

Production volumes 2012 (million tonnes unless stated)	
Aggregates	17.19
Asphalt	2.39
Ready-mixed concrete (million cubic metres)	3.28
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)	406
Blocks	0.87



Hanson UK production sites

- Operation
- Marine licences

Above (from left to right): Dump truck at Whatley quarry, Somerset. Marine dredger Arco Axe discharging at Dagenham wharf on the Thames. Mixer trucks waiting to load at Kings Cross concrete plant in London.



Corporate governance

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 our 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 774100** or email us at enquiries@hanson.com

Other useful sources of information

HeidelbergCement AG
www.heidelbergcement.com



The Carbon Trust
www.carbontrust.co.uk

The British Trust for Ornithology
www.bto.org

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



Summary of KPI performance against targets				
	KPI	Target	Position	Status
People	Health and safety	Reduce LTIs by 13 per cent year on year (50 per cent in next 5 years based on 2008 figures)	Average of 20.5 per cent reduction year on year since 2008	Target achieved
	Stakeholder performance	Hold annual stakeholder event 2012 onwards	Events held in 2012	Progress made – target not achieved
	Employment and skills	100 per cent of production employees to be covered by ISO 14001/9001 training systems	All production employees in ISO 14001/9001 schemes	Target missed
		Establish training records in Learning Management System (LMS) in 2012 and meet the targets in the MPA 'Safer by Competence' programme	LMS records established with data entry ongoing. Programme developed for MPA scheme	Target missed
Local community	Ensure all relevant sites are proactive in liaising with their local communities by the end of 2012	92 per cent sites with liaison	Progress made – target not achieved	
Carbon	Energy efficiency	Reduce energy consumption per tonne by 20 per cent by the end of 2012 (2005 baseline)	11.51 per cent reduction (was 18 per cent reduction in 2011)	Progress made – target not achieved
	Waste as fuel	Increase the use of alternative fuels used in cement production to 70 per cent and in particular increase the use of biomass by 2012	Alternative fuels 54 per cent (up from 45 per cent in 2008)	Progress made – target not achieved
			Biomass 16 per cent (had increased to 24 per cent in 2011)	Progress made – target not achieved
	CO ₂ emissions from production	Reduce carbon emissions by five per cent per tonne by 2012 based on 2008 figures	Increased by two per cent	Progress made – target not achieved
CO ₂ emissions from transport	Reduce CO ₂ emissions per tonne delivered by a number of business line targets	Fluctuated since 2009	Progress made – target not achieved	
Waste and raw materials	Environmental incidents and emissions	100 per cent compliance with legislation	No convictions in 2012	Target achieved
	Waste minimisation	Divert from landfill 50 per cent of by-pass dust generated by cement production by 2012	100 per cent diverted	Target achieved
		Reduce waste to landfill by 25 per cent by the end of 2012 based on 2009 figures	Reduced by 33 per cent	Target achieved
	Materials efficiency and recycling	Increase recycled materials in asphalt to 12 per cent by 2012 (including filler)	8.75 per cent recycled content	Target missed
		Increase the use of cement replacement materials in concrete to 40 per cent by 2012	40 per cent replacement	Target missed
	Product quality and performance	Implement a customer satisfaction survey before the end of 2012	Survey held in 2012	Target achieved
Implement CE marking for all products manufactured or supplied under a harmonised European Standard before the end of June 2013		Programme being implemented on target	Target achieved	
Water and biodiversity	Water	All business lines to reduce mains water consumption per tonne produced by five per cent by the end of 2012 based on 2009 figures	14.4 per cent reduction overall (individual business lines all exceeded five per cent except building products)	Target achieved
		Concrete and building products to reduce total water consumption per tonne produced by two per cent by the end of 2012 based on 2009 figures	Concrete seven per cent reduction, building products 14 per cent increase	Target missed
	Site stewardship	Increase BAPs and/or GAPs by 10 per year from 2009 to the end of 2012	Average 11 per year	Target achieved
Systems	Number of sites with ISO 14001	100 per cent coverage all production sites	100 per cent	Target achieved
		Achieve ISO 14001 for all contracting services	Structherm achieved in 2012, Irvine-Whitlock outstanding	Target missed
	Number of sites with ISO 9001	100 per cent coverage at all sites	100 per cent of sites and contracting services	Target achieved
	Number of sites with OHSAS 18001	Accredit all health and safety systems to OHSAS 18001 by the end of 2012	Core business fully accredited. Bath stone, Irvine-Whitlock and Structherm ongoing	Target missed
Responsible sourcing (BES 6001)	Responsible sourcing for all production sites	Certification completed for all production sites	Target achieved	

 Target achieved
 Progress made – target not achieved
 Target missed

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

 certificate available online  system in place – not yet certified

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.

Structerm

Fastbuild | Cladding | Render

Structerm – insulation and render systems manufactured offsite.

PRECAST CONCRETE PRODUCTS



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



All products responsibly sourced to BES 6001



SMARTPHONE SCAN CODE

Hanson UK

14 Castle Hill, Maidenhead SL6 4JJ T: 01628 774 100 E: enquiries@hanson.com W: www.hanson.com/uk

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