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The magazine of the Mineral Products Association

# mineral

products today



Action on  
cycle safety  
campaign gathers pace



Uniquely placed  
big on biodiversity

Craft meets tech  
versatile precast

Action speaks loudest  
delivering sustainability

## WELCOME



**ANYONE** who attended our Health & Safety Awards in November will have been impressed by the sheer level of commitment that was so evident amongst members of all sizes. But our mission to achieve a competent workforce to enable us to meet our overarching objective of zero harm still remains a major challenge.

While we inevitably devote great effort to safety within our own operations, we are very aware that we have responsibilities when it comes to our vehicles on the roads. Cyclists are at particular risk when they interface with lorries. I very much hope that our own *Cycle Safe* campaign, coupled with the powerful new initiative from *The Times*, will make real inroads into the worrying statistics.

Biodiversity is another public arena where we are "uniquely placed" to take action. Many of us inside the industry were heartened by the good things said about our work by Natural England and others at our joint awards event in October. There is much more to come in that direction.

All this comes in a year when our industry's essential materials will be making a dynamic and essential contribution to the London Olympics and to a string of projects that will have a dramatic effect on the UK's energy and transport infrastructure.

These and other subjects are all featured in this issue, which I hope you find interesting.

**Dyfrig James, Chairman, MPA**

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## Key decisions

**THE mineral products industry is anxiously awaiting crucial Government decisions on the new planning policy framework for England which it believes are vital if it is to continue to supply the nation.**

With the final details of the Localism Act now dropping into place, MPA welcomes the exclusion of minerals from neighbourhood plans and hopes for a positive response to its call for retention of some form of managed aggregate supply system. It believes such a system is vital to balance the needs of the economy with localism principles.

MPA has been pressing the Department for Communities & Local Government to recognise that "bottom-up" planning could be dominated by nimbysm to an

extent that could make strategic decisions impossible. MPA has, therefore, made proposals that could maintain the benefits of a managed aggregate supply system within the new localism agenda.

The industry's uncertainty over investment has been further dented by figures showing that less than 40 per cent of mineral planning authorities in England have adopted a core strategy.

Says MPA director of mineral planning Ken Hobden: "We have raised our fundamental concerns and have been given opportunities to input our ideas. We should know very shortly whether the new system will deliver the aggregates and aggregate-based products that we all need."

## Tax argument

**MPA is continuing to press the case for a new grant scheme to replace the Aggregates Levy Sustainability Fund which was ditched by Government a year ago amidst strong criticism from industry, communities and environmental groups.**

"To date, we are not seeing the buy-in we would like from DEFRA," admits chief executive Nigel Jackson. "We think that is short-sighted given David Cameron's vision

of a *Big Society* because the fund we have in mind would back communities working in partnership with operators on locally-beneficial projects."

MPA's alternative would cost about £10m annually from the Government's £300m-plus tax haul on aggregates. In the three years to 2011, the £65 million dispensed by the old fund also leveraged over £47 million in third-party funding.

The views expressed in Mineral Products Today are not necessarily those of the Mineral Products Association.

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Cover pic: The launch of MPA's *Cycle Safe* campaign in London

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## TAKING ON timber

**LATEST sustainability claims from the timber lobby have come under a critical eye at MPA The Concrete Centre.**

Suggestions that timber is naturally renewable, easily recyclable and a simple way to reduce emissions only tell half the story, say the concrete team who insist that sourcing and in-use performance must be considered. TCC points out that not all imported timber is responsibly sourced and that deforestation is responsible for 18 per cent of global greenhouse gas emissions.

It also says that the whole-life performance of timber must be considered. According to the timber industry's own data, greenhouse gas emissions are typically around 690 kg CO<sub>2</sub> per tonne over life when taking account of emissions when it is burnt or goes to landfill. This contrasts with a figure for concrete ranging from 40 to 240 kg CO<sub>2</sub> per tonne.

Holding warmth in winter and remaining cool in summer is a further issue where concrete scores strongly, says TCC. Even if the thermal mass of a timber home is enhanced with an extra layer of plasterboard, it will still be three

times lower than the lightest concrete home. Recognised in building regulations, thermal mass is a benefit over and above insulation and is a vital part of resilience to future climate change.



Masonry house – less embodied CO<sub>2</sub> over its life

## Metal madness

**MPA is working with its members to fight back against the scourge of metal theft, which is currently costing the UK economy a total of £700 million a year and endangering lives.**

Demand for metal has rocketed from 2.5 million tonnes to 20 million tonnes over the past 11 years, driven by rapid development in China and India. With the price of copper



## All-round progress

**MEMBER commitment to the MPA cause has never been stronger after a series of high profile stakeholder events over recent months.**

In October, the Natural England Biodiversity Awards (run in partnership with MPA) produced a string of glowing testimonials for the industry's work. Guests watched a series of video case studies which demonstrated action on a massive scale to deliver new priority habitats and, in doing so, help to protect endangered species. The event and the wider biodiversity initiative are reported in detail on pages 5 – 7 of this issue.

The long-standing MPA Restoration Awards shared the stage at the Royal Society in London and rewarded sites right across the country where planning commitments have not just been met but substantially exceeded. More detail on page 20.

A month later, MPA celebrated its Health & Safety Awards at BAFTA in London. With 126 entries from 28 companies, the extent of shared best practice was substantial. Judges noted in particular the greater engagement and enthusiastic input from smaller and medium-sized members and there were rewards too for individuals who had 'gone the extra mile' to make their workplaces safer. More on pages 14 and 15.

Meanwhile, throughout last year, MPA and its members have been working to raise the profile of the issue of cyclist safety in relation to lorries. The launch a few weeks ago of *The Times* campaign comes as a great fillip for MPA's *Cycle Safe* initiative. The issue is covered in detail on pages 14 and 15.

*Photographed above – They went the extra mile: individuals recognised at the MPA Health & Safety Awards*

[www.safequarry.com](http://www.safequarry.com). It is also urging members to minimise storage of scrap metal, fit vehicles and machinery with tracking devices and keep valuables in secure compounds. 'Just in time' ordering of parts and machinery is also suggested, as are regular checks on CCTV systems and fencing.

"The problem is a serious one," says MPA regional director Brian James, who sits on the police-coordinated National Metal Theft Group. "We believe the alert system will help and hope our members will be diligent in sending us incident reports as quickly as possible."

# Compromised by cumulative impacts

MPA chief executive Nigel Jackson believes Government needs to restore a spirit of enterprise to British industry



**IT is nearly two years since the Coalition Government was elected; a reasonable landmark at which to assess the general direction of its policies - not least in relation to the economy.**

Inevitably, it is easier to challenge and advocate in opposition than it is to apply political theory in practice. Change management on a national scale is more difficult, takes longer and yields less than expected, especially when markets are diminished and significant events seem to emerge continuously. Reducing the deficit is clearly imperative, but it is now very clear that it gets harder still if you fail to generate growth at levels budgeted.

While the more bureaucratic and anaemic Western economies seem to wallow in uncertainty, the more dynamic economies led by Brazil, Russia, India and China look fleet of foot by comparison. Now more than ever, we need our Government to focus on being the most 'enterprising ever'. Do that and it may yet be the 'greenest ever' - whatever that really means.

## Growth agenda

We need to be careful that recent debates about 'performance and reward' do not become counterproductive and deter or inhibit innovators and investors who create wealth and jobs. Government must, as a matter of priority, make the UK the place to invest and one that encourages enterprise in practice and not just in intent. We cannot progress with the growth agenda - and

implicitly with deficit reduction and better public services - if industry continually feels it is on the back foot. If it does, it simply won't have the confidence or motivation to invest.

Despite four desperately tough years and with little light in the tunnel, our members have proved resilient and their business acumen and determination to survive is undiminished; but surviving is not growth. As the biggest material producer in the UK economy and the biggest supplier to the construction industry, we have much to offer if we are given the right support and encouragement. Right now, the majority of operators in our industry just feel exhausted and bemused that they are continually on the wrong end of so much 'red tape and tax'.

Raw materials are not just the source of our particular business; they are the lifeblood of the economy. To harness them, we need a reasonable and proportionate 'licence to operate' based on planning and permitting systems that are fit for purpose.

## Planning system stalled

At the moment, our planning system is stalled and behind schedule, with only 40 per cent of the mineral plans that should have been completed in 2007 in place across the country. More detailed plans are even more sparse.

Investment is discouraged by spiralling fees on all fronts - from pre-application consultations fees and planning fees through to the spiralling cost of archaeology. On top of that, a proliferation of carbon and energy taxes and increasing waste and water-related permitting fees makes the UK look a daunting and increasingly uncertain and expensive place in which to do business.

There needs to be a fresh debate about

*Mineral products operations: resilient in tough times*



both the level and number of taxes to which this industry is subjected - and the extent of UK and EU regulation. Take off some of those brakes and companies of all sizes - and in particular the smaller and medium-size businesses that are so important to our economy - will grow and multiply. Meanwhile, larger international companies will feel more encouraged to invest in the UK rather than elsewhere.

## Cumulative impacts

We also need to look at genuinely joining up the thinking (and actions) of Government departments and regulators who operate in bureaucratic silos and simply do not seem to look sideways and recognise the cumulative impact of what they do. They need to come around the table and see how things look from where a typical CEO of one of our member companies sits.

MPA has always taken the view that it should support whatever Government of the day and help to achieve its objectives. At the end of the day, we are in the solutions business and we can do much to help make the UK the most enterprising country in Western Europe in which to do business. If the Coalition Government delivers on some of the fundamental issues we have identified, then our members can play their part in helping the UK recover and play its key role in local, national and European markets.

**we need our Government to focus on being the most enterprising ever**

# Uniquely placed

**Everyone in the know is starting to say it. The mineral products industry really is doing a great job for biodiversity and is uniquely placed to help the Government achieve its targets in creating new habitats and protecting threatened species. This feature looks at some of the priority habitats where industry action is ensuring that goals can be achieved.**



**THE Government-commissioned review of England's wildlife sites *Making Space For Nature* managed to summarise what is needed in just four words: "more, bigger, better and joined".**

Those who attended the Natural England Biodiversity Awards (run in partnership with MPA) in October were left in no doubt that mineral products companies are fulfilling all four of those objectives - and that they will do a lot more yet.

Dr Helen Phillips, then chief executive of Natural England, put it like this: "You have been such good partners and there are such wonderful examples of what you have done at the forefront of protecting and enhancing our natural environment.

She added: "There are few other industries where we see the same degree of inspiring commitment coupled with deep knowledge

and a real enthusiasm for wildlife and for nature. You take corporate social responsibility to new heights."

With a long tradition of restoring land to high standards, the industry has a huge legacy of habitat creation. But the nature of its work also means that it is uniquely placed to do more and is now looking beyond what might simply be a 'good local fit' to think how it can contribute to delivery of priority habitats and species (under the UK and local Biodiversity Action Plans) and wider ecosystems.

MPA has already identified two national nature reserves, 22 local reserves, 15 field study and education centres and 13 nature trails created by its members. It has also established that they manage or control an area of land equivalent to a national park like the Norfolk Broads. On the next pages we look at some of the key habitats where the industry is delivering.

Uniquely placed > continued from page 5

LOWLAND HEATHLAND

BAP target: 151ha | more than 100% can be met by minerals sites

Characterised by plants such as heather and gorse. A priority for nature conservation because it is a rare and threatened habitat and is important for species such as nightjar and woodlark.



RUGELEY QUARRY, STAFFORDSHIRE

Action: Lies within the Cannock Chase Special Area of Conservation, which is one of the most extensive stretches of lowland

heathland in the Midlands. The quality of CEMEX UK's restoration is such that it is already difficult to see the join between the two. It will, by 2032, have added over 200 hectares of this priority habitat.

LOWLAND DRY ACID GRASSLAND

BAP target: 276ha | more than 100% can be met by minerals sites

Typically occurs on nutrient-poor, generally free-draining soils and is important for priority species such as tower mustard, Deptford pink, field cricket, woodlark, nightjar and stone curlew. Has undergone substantial decline mostly due to agricultural intensification and forestry.



CAVENHAM QUARRY, SUFFOLK

Action: Allen Newport has created 50 hectares of lowland dry acid grassland over the past 15 years and attracted breeding pairs of the threatened stone

curlew. The stone curlew was found in 23 English counties in the 19th century but the number of breeding pairs has fallen alarmingly. More than 50 have used the site as a roosting colony prior to their migration south in the autumn.

MPA ACTION ON PRIORITY HABITATS

UPLAND HAY MEADOWS

BAP target: 72ha | more than 100% can be met by minerals sites

Characterised by a dense growth of grasses and herbaceous plants. No single grass species is consistently dominant and the most striking feature of the vegetation is generally the variety and abundance of plants such as wood crane's-bill, pignut, great burnet, and lady's mantles. Meadows of this kind have much reduced through agricultural intensification. Recent estimates indicate that there are less than 1,000 ha in northern England. Scotland is believed to have less than 100 ha.



HOPE CEMENT WORKS, DERBYSHIRE

Action: Lafarge Cement has created valuable hay meadows which have achieved national SSSI recognition for their habitat value. Species found include marsh orchids, ragged robin and marsh valerian. The site has been carefully managed by the National Park Authority.

WET REEDBEDS

BAP target 1,715ha | more than 100% can be met by minerals sites

Wetland habitat has been lost through water extraction, land drainage and conversion to intensive agriculture. Amongst the most important habitats for birds in the UK, supporting distinctive breeding birds like the bittern, marsh harrier, crane and warblers.



KINGS DYKE NATURE RESERVE, CAMBRIDGESHIRE

Action: Created by Hanson from 50 hectares of disused brick pits with high quality reedbeds linked to the wider Great Fen Project. Inhabited by species like marsh

harrier, reed warbler and willow warbler. There are also over 30 ponds, several of which hold translocated populations of the rare bearded stonecrop. The wetlands and grasslands support a range of important and vulnerable plant and animal species.

LOWLAND MEADOWS

BAP target: 256ha | more than 100% can be met by minerals sites

Unimproved neutral grassland habitat has undergone a remarkable decline in the 20th century, due to changing agricultural practice. The habitat has a specialist group of scarce and declining plant species such as the fritillary, the green-winged orchid and greater butterfly orchid. It is also important for skylark and corncrake.

WOODBIDGE QUARRY, NORTHUMBERLAND

Action: A Tarmac sand and gravel quarry that includes 12 hectares of lowland meadow with permanent and ephemeral wetland. The project has included planting of 1,200 metres of hedgerow and over 5,000 trees, plus the creation of swamp and ponds.



OTHER PRIORITIES

COASTAL & FLOODPLAIN GRAZING MARSH

BAP target: 1,250ha | more than 100% can be met by minerals sites

Periodically flooded pasture, or meadow with ditches which maintain the water levels. Threatened by agricultural intensification and neglect of traditional management.

Action: **Middleton Lakes** in Staffordshire is a Hanson site now run as a nature reserve by the RSPB with a mosaic of dry and wet habitats created following quarrying.

AWARDS

The MPA-supported Natural England Biodiversity Awards provided ample evidence of industry commitment to the cause.

WINNER

CEMEX UK  
Rugeley Quarry, Staffordshire (see page 6)

RUNNER-UP

Hanson UK  
Kings Dyke, Whittlesey, Cambridgeshire (see left)

HIGHLY COMMENDED

Aggregate Industries, Blackhill Quarry, Devon; Aggregate Industries, Little Paxton Quarry, St Neots, Cambridgeshire; Tarmac, Woodbridge Quarry, Northumberland; Brett Group, Villa Quarry, Essex.

COMMENDED

Aggregate Industries, Eskett Quarry, Cumbria; CEMEX UK, Southam Quarry, Warwickshire; Aggregate Industries, Croft Quarry, Leicestershire; Marshalls, Stainton Quarry, South Yorkshire; Hanson UK, Ripon Quarry, North Yorkshire; Lafarge Aggregates, Marfield Quarry, North Yorkshire; Smiths Bletchington, Rushy Common, Oxfordshire; Aggregate Industries, Bardon Hill Quarry, Leicestershire; Sibelco, Messingham Nature Reserve, North Lincolnshire.

MPA SPECIAL AWARDS FOR SME COMMITMENT

Marshalls; Smiths Bletchington; Brett Group; Sibelco.

MPA INDIVIDUAL ACHIEVEMENT AWARD

The late Brian Butterfield, Lafarge Aggregates.

LOWLAND WOODLAND PASTURE & PARKLAND

BAP target: 120ha | more than 100% can be met by minerals sites

Affected by lack of forestry management, disease, changes to ground water levels, pollution and agricultural improvement.

Action: At **Bardon Hill quarry** in Leicestershire, Aggregate Industries has greatly improved the extent and habitat potential of broad-leaved woodland while creating further heath-grassland.

# Action speaks loudest



AGAINST a backdrop of economic uncertainty and a stagnant construction sector, the mineral products industry remains committed to operating responsibly and delivering a sustainable built environment.

**Sustainability reports – all published within the last few months – from MPA, MPA Cement, BMAPA and the concrete industry all demonstrate solid action and achievements on issues ranging from health and safety to biodiversity. But, just as importantly, they recognise the challenges ahead, and set out ever more ambitious plans and hard targets.**

## Milestones

Across four priorities, mineral products companies have demonstrated dramatic advances in their sustainability credentials:

- In **health and safety**, highlights include a drop of 83 per cent in reportable injuries
- **Sustainable products** are going from strength to strength, with certified environmental managements systems operating in the vast majority of member sites, including all cement works
- The cement industry has also made some important strides forward on **climate change** with direct CO<sub>2</sub> emissions reduced to 725kg/tonne in 2010
- MPA and its members have been equally busy on the **biodiversity** front, with a biodiversity strategy and industry award scheme (in partnership with Natural England) launched this year.

The industry is now planning for a safer and more sustainable 2012. The target of *Zero Harm* is taken very seriously, including a new MPA *Safer by Competence* policy and improving awareness, control and measurement of respirable crystalline silica. Reducing CO<sub>2</sub> emissions at aggregates and associated sites is a real priority. To this end, a new website, developed with the Carbon Trust, gives open access to resources and information to help companies reduce energy use and carbon emissions. The industry is also working hard to better understand its biodiversity 'footprint' and relationship with the valuation of ecosystems services and biodiversity offsetting.

- MPA is committed to **halving** Lost Time Injury rates by 2014
- MPA members have planted a **million** trees over the past five years
- Cement industry direct carbon emissions **fell** in 2010 but aggregates sector emissions **increased**
- Recycled and secondary materials accounted for **28%** of the GB aggregates market in 2010
- **9.3%** of aggregates sold were moved by rail
- The ratio of the area of aggregates sites restored to the area of land prepared for quarrying was **1:0.8**
- **20,569** visitors were recorded at aggregates and cement sites in 2010.

## Strength to strength



IN its sustainability performance report, the concrete industry (covering 78 per cent of UK production) reaffirms its vision: 'by 2012, the UK concrete industry will be recognised as the leader in sustainable construction, by taking a dynamic role in delivering a sustainable built environment in a manner that is profitable, socially responsible and functions within environmental limits.'

Serious progress has certainly been made. In line with the Government targets, 88 per cent of concrete production in the UK is responsibly sourced and CO<sub>2</sub> emissions have been slashed. The concrete industry is now

a net consumer of waste, using almost 47 times more than it produces.

Building upon the success, new objectives and performance goals have now been set

for the period to 2020. This ranges from better sharing of good practice to playing an active role in the delivery of a zero-carbon built environment, and developing a low carbon freight initiative.

Achievements (2008-2012)	New targets (2008-2020)
<b>60%</b> less waste is sent to landfill	<b>90%</b> less waste to landfill
CO <sub>2</sub> emissions for a standardised concrete mix has reduced by <b>16.3%</b> compared to the 1990 baseline	<b>30%</b> reduction in CO <sub>2</sub> emissions from concrete production
<b>88%</b> of concrete production is responsibly sourced to BES 6001	<b>95%</b> of production certified to BES 6001
<b>99.5%</b> of relevant production sites have site stewardship and biodiversity action plans	<b>100%</b> of sites with action plans

## Cementing the commitment



IN 2005, MPA Cement members entered into an historic environmental performance programme with the Environment Agency, setting demanding targets to be met by 2010 against a 1998 baseline.

The figures are in, and the industry has not only met but, in many cases, considerably surpassed the targets. Highlights include an 87 per cent drop in some greenhouse gas emissions, and a significant rise in the use of waste as fuels and raw materials.

The step change has taken multi-million pound investments against a backdrop of changing environmental legislation and ever-more challenging EU and UK climate change policies. The industry now looks forward to setting and achieving targets for 2015.

Objectives	Outcomes
<b>1.</b> To increase the use of waste as raw materials or fuel in cement works	Alternative raw materials have replaced <b>7.2%</b> of Portland cement's natural raw material requirement, and alternative waste derived fuels have replaced <b>38%</b> of the energy requirement from fossil fuels
<b>2.</b> To reduce waste disposal from cement manufacturing	Against <b>14,021 tonnes</b> of waste disposed of, the industry used <b>1.32 million tonnes</b> as fuels and raw materials
<b>3.</b> To reduce air pollution from cement manufacturing	Dust emissions from all sources are down <b>83%</b>
<b>4.</b> To reduce emissions of greenhouse gases per tonne of cement	Oxides of Nitrogen emissions are down <b>59%</b> ; Sulphur Dioxide emissions <b>87%</b> and Carbon Dioxide emissions <b>22%</b>
<b>5.</b> To improve regulatory compliance and stakeholder perception of sites	Each cement manufacturing operation holds regular community liaison meetings. Members produce newsletters and hold exhibitions and open days

## Deep sea driver



THE context of the report from the British Marine Aggregate Producers Association is a drop in production of 20 per cent, due mainly to fewer one-off beach replenishment projects. Highlights include a drop in CO<sub>2</sub> emissions and some important progress on biodiversity.

Marine aggregate operators have played an active role in providing information for the development of a network of Marine Protected Areas. They have further bolstered the process by producing a biodiversity action plan strategy. With input and support

from Natural England and the Countryside Council for Wales, the strategy aims not just to protect and enhance marine biodiversity, but to put in place a structure to ensure that issues are dealt with robustly and consistently.

A new planning regime in English waters is now very much underway, which provides an opportunity to ensure that activity is properly accounted for in the long term at a regional sea scale.

■ Area of seabed dredged decreased from <b>123.63km<sup>2</sup></b> to <b>105.37km<sup>2</sup></b>
■ Total tonnage landed in England and Wales reduced from <b>10.03mt</b> to <b>9.94mt</b>
■ CO <sub>2</sub> emissions dropped by <b>5.9%</b>
■ BMAPA launched a new biodiversity action plan for the industry
■ Specific safety measures have been developed to cover major works, dry-docking and refits of vessels

All our reports can be viewed in full at [www.mineralproducts.org/sustainability](http://www.mineralproducts.org/sustainability)



Image courtesy London 2012

# WINNING IN 2012

**THE London 2012 Olympics look set to be a defining moment for Britain on the world stage. But the Games should also be a significant landmark for concrete as it affirms its right to be recognised as the leader in sustainable construction – and to be recognised aesthetically as well as for its strength and durability.**

**The Olympic Delivery Authority (ODA) set out its stall from the outset. This wasn't going to be just another "green" project; the sustainability mission had to be embedded in every structure – from the main stadium to the sewage plants. It also had to be enshrined in the legacy that it would leave in what was previously one of the nation's most depressed areas.**

Perhaps the greatest challenge of all was to

transform one of the most contaminated of all brownfield sites into an urban park with world class sporting facilities and an inspirational place to live for generations to come.

Significantly, concrete has been chosen for the structures seen as part of the legacy as opposed to lightweight materials for those that are temporary. The adaptability that goes with concrete has been another argument in its favour where new uses will follow as with the Athletes' Village (above). The accommodation is also notable because it is the first large-scale, high-density, high-rise scheme to be developed to the code for sustainable homes level 4.

The ODA knew that it would need a great deal of concrete for the Olympic Park and Village, much of which would stay behind the scenes, putting strength into every structure. With an anticipated peak demand of 1,000 cubic metres-a-day, concrete could do more for the sustainability of the project than any other material. The ODA decided that it needed the concrete to be of a low-



Photo © Adam Kerfoot-Roberts, Wikimedia Commons

carbon variety and that it had to be supplied universally across the main development by one supplier from one plant.

The chosen ready-mixed concrete supplier, Aggregate Industries, duly provided the plant but also did a lot of work to maximise the use

## DELIVERING ON PRIORITIES

THE Olympics may take this year's gold medal on the construction front. But it is one of a raft of current and planned major projects where the mineral products industry is delivering on key Government objectives. They are especially vital to infrastructure, which is in turn much needed by the economy – and by the population.

**Crossrail** – Due to be operational in 2017, Crossrail is the biggest engineering project in Europe with promises of slashing journey times and reducing congestion by tunnelling across London. MPA members to have been awarded a series of recent contracts include Hanson which will supply over half a million tonnes of aggregates needed for new stations and part of the 22km tunnelling. Sand and gravel will come from marine reserves delivered direct into the heart of London by dredgers. Stone and cement will travel by rail from Somerset and Rutland respectively.

of secondary and recycled materials while maintaining structural integrity and achieving a high quality finish. Its mixes included pulverised fuel ash, a by-product from coal-fired power stations, ground granulated blastfurnace slag from steel making and china clay waste from Cornwall. Other MPA members to have contributed along the supply chain include recycling specialists Day Aggregates.

Targets were set demanding that at least 25 per cent of aggregate used for the development had to be recycled. At least half of all materials brought to site had to travel by rail or water. Meanwhile, some 90 per cent of construction waste generated from the derelict site has been diverted from landfill

**Nuclear** – main works get underway in the coming months at Hinkley Point in Somerset, the first of the plants making up the £40 billion new-generation nuclear programme. Two more plants will follow in 2014-15 and then five others in the second half of the decade. Nuclear undoubtedly needs concrete.

**Wind** – Offshore wind represents a massive area for growth and will demand large quantities of concrete and aggregate. Around half of the EU's current offshore wind capacity of 1.5GW is off the UK and is expected to rise to 5GW by the end of 2014. Concrete suppliers are looking at a growing market for massive gravity foundations for the turbines which can be built at coastal facilities and floated into position.

Concrete is, however, needed whatever construction method is used. Tarmac, for example, is supplying a total of 280,000 tonnes of filter and armour stone from

and been reused or recycled. All but three per cent of demolition waste was reclaimed – from bricks and paving stones to sleepers and manhole covers.

The Aquatics Centre has a high recycled content in its foundations and the Handball Arena has 100 per cent recycled aggregate for piling.

As Andrew Minson, executive director of MPA The Concrete Centre, puts it: "The Olympics is a massive triumph for the British construction industry – it has been delivered on budget and with all its key targets achieved. The concrete and wider mineral products sector can be proud of our contribution in making it a world class example of sustainability."

**"The Olympics is a massive triumph for the British construction industry – it has been delivered on budget and with all its key targets achieved."**



Wind energy needs concrete

Cumbria for monopiles at an offshore farm in the North Sea.

While onshore wind undoubtedly has a key role to play in the renewable solution (and is more cost-effective because of simpler construction and closeness to the grid) opportunities for new farms are being limited by planning issues and local community resistance.

## CLASSIC CONCRETE

CONCRETE will show its elegant and interesting architectural side right across the Olympic portfolio of structures. One of the highlights promises to be the cladding of one of the housing blocks in the athletes' village, which employs concrete to create a frieze cast from the iconic Elgin Marbles.

Designed by Niall McLaughlin Architects the frieze uses the famous theme of the Greek Parthenon because of its association with a great festival which included sporting games.

The athletes' village will provide more than 17,000 beds for competitors and officials across 60 buildings. Post games, the buildings will be converted to 2,800 flats, half of them affordable homes.



# Craft meets tech

A COUPLE of shovels of sand, a few more of gravel, one of cement and a good slug of water and you've got it – concrete. Well maybe that's true for your garden path but it won't do if you want to create a piece of classic architecture, a water feature to impress the world at the Olympics or decorative detail on a country house.

**Your recipe may then need to include plasticiser, pigment to introduce colour, a waterproofing agent, finely graded specialised aggregates, and white cement. You will also be talking about using complex moulds to create special shapes. The concrete will be cured as carefully as any cake is baked and will then be lovingly tended by a team of craftsmen as it emerges from the moulds.**

But don't ask any precast concrete manufacturer for his own specific recipes because he almost certainly won't tell you. Knowing how to do amazing things with concrete is of necessity a closely guarded commercial secret.

However, ask Garry McBride of Derbyshire-based Evans Concrete Products how his company created a 20-metre high sculpture in white concrete that now looks out majestically over the Lancashire town of St Helens and he will tell you enthusiastically about the outcome. Likewise, Simon Tibble from near-neighbour Amber Precast will gladly show you how his team uses concrete to create beautiful classical architecture where once only natural stone would do.

Talk, on the other hand to Barry Cooper, chief executive at Stanton Bonna's extensive

works near Nottingham and you will find computer-controlled production on a large scale. His company's specialities are pipes, manholes and railway sleepers – 170,000 tonnes in a typical year. We might see little of them but the precision applied keeps the nation's wheels turning and its water (and yes, sewage) flowing.

It is this blend of craft and technology when applied to one of the most basic of all products in a factory environment that makes the precast concrete industry so unusual. It also means that it has much to offer in helping the Government deliver its construction priorities, whether they are high profile like the Olympics, or low profile in maintaining and developing essential infrastructure.

While waiting to enjoy a warm glow from Evans' involvement in the Olympics, Garry McBride points instead to the 20-metre high Dream sculpture at St Helens as a fine example of changing outdated perceptions about concrete. Constructed on an old colliery spoil heap overlooking the M62, the sculpture depicts a nine-year-old girl in a dream-like state and is seen as a powerful symbol of a brighter future for a depressed area.

For Evans, it was a huge challenge involving 54 precast sections each weighing 10 tonnes and made using sparkling white Spanish dolomite. Such was the excitement of designer Jaume Plensa that he walked reverently on the first panel in his bare feet when he came to inspect the work. Moulding was particularly complex and involved polystyrene that was cut by computer.

## Eye for detail

Adding fine detail to classic architectural design is an everyday occurrence at Amber Precast, another producer making its mark in



the Olympic Village. Its customers cover the whole span from big developers who want to make small homes more ornate through to massively expensive country homes.

The picture above shows a new library extension at the St School of St Helen and St Katharine at Abingdon in Oxfordshire. Significant here is the fact that the ornate detail uses both wet-cast stone where strength is needed for larger reinforced components, but semi-dry cast stone using finer aggregate for detail. The economics make blinding sense when you consider that just one mould produced 208 brackets that would have taken many weeks to carve.

Says director Simon Tibble: "There is a growing demand for stone decoration at reasonable cost and architects now accept that there are no limits to the geometric shapes you can create with precast concrete provided it is done by experts. If you add to that the fact that we can achieve the most subtle colours, and you have a product with enormous versatility as well as strength."



## Staying on track

With the Government planning to invest £8bn in Britain's railways and talking seriously about a major renaissance in light rail, companies like Stanton Bonna that provide vital infrastructure look well placed.

When its high tech machinery isn't turning out sleepers or bearers, it will be geared for an assortment of drainage products that also look well placed when the nation finally goes into growth mode. The arguments for concrete in this as in other specialist sectors are strong,

especially when you consider that its cradle-to-grave greenhouse gas emissions are up to 35% lower than plastic as the main alternative.

As part of Consolis, Europe's biggest precaster, Stanton Bonna enjoys the benefits of investment in new products like complete precast manhole bases offering reduced cost and greater safety. But it is also driving forward safety within its own workforce. It picked up the top gold award under the British Precast Concrete Targets scheme for the past four years, and in 2011 won the British Precast Health & Safety project award.





# Leading on safety

## ... for workers

**ONE-BY-ONE they stood to take their applause; twenty one individuals who have made a real difference when it comes to safety in their own workplace. Employers large and small got their rewards too as the MPA Health and Safety Awards shared best practice across the industry.**

The long-standing awards moved venue this year to BAFTA's prestigious London headquarters, and richly deserved the red carpet treatment in representing real action taken by operators to minimise risk and keep workers safe.

Participation was at its highest level ever with a total of 126 entries from 28 companies. Also significant was the fact that an increasing proportion of submissions came

from companies with less than 1,000 direct employees. The overall momentum right across the industry has never been greater.

There was a new dimension this year, in that a morning conference preceded the awards ceremony. Its focus was on the key issue of competence in which mineral products is an acknowledged leader. As MPA Health & safety Committee Chairman Chris Leese put it: "If we are to achieve zero harm, it is essential that we are all competent for the work we are required to do ... that we recognise the level beyond which we are not competent."



Outstanding excellence: J Wainwright & Co

Recognition for individual achievement represents new territory for the awards. Those rewarded this year have all 'gone the extra mile' to make the workplace safer for everyone.

### AND THE WINNER IS ...

*John Crabbe Memorial Trophy* for outstanding excellence – **J Wainwright & Co**

*Sir Frank Davies Trophy* for SMEs – **Singleton Birch**

Special award for companies with less than 100 employees - **Francis Flower**



Top SME award: Singleton Birch



Special award for companies with between 100 and 1,000 employees - **Steeley Dolomite**

- Bitumen; asphalt; contract surfacing; promoting safer behaviour – Aggregate Industries
- Contractors safety – Tarmac Marine Dredging
- Engineering initiatives – Singleton Birch
- Leadership; training and management systems initiative – CEMEX UK
- Occupational good health – Lafarge Aggregates and Concrete UK
- Worker involvement – Sibelco



## ... for cyclists

**THE MPA drive to make the roads safer for cyclists has received a major boost with the launch in February of a new campaign by *The Times* which is attracting massive support around the UK.**

Growing concern across the industry over cyclist deaths in accidents involving lorries prompted the MPA *Cycle Safe* initiative, which began in Oxford early last year followed by a London launch in June in partnership with the Metropolitan Police. The momentum grew in a year which was to record 16 cyclist deaths in the capital – 13 of them involving a lorry, van or bus.

One of the casualties from an accident involving a lorry was *Times* journalist Mary Bowers who suffered severe injuries and remains unconscious. Since the launch of the newspaper campaign in February,

thousands have pledged their support and hundreds have written to their MPs demanding greater investment in cyclist safety.

MPA chief executive Nigel Jackson is delighted by the growing momentum. "We are committed to playing our part in tackling one of the most worrying safety issues of our time," he said. "We welcome the initiative that has now been taken by *The Times* and will continue to encourage our members to press the cause at local level. There is no doubt that what we are all doing can and will save lives."

MPA *Cycle Safe* is focused on a six-point plan designed to raise awareness amongst both cyclists and lorry drivers of the hazards when they are in close proximity on the roads. Most worrying of all situations is one that arises when cyclists move up the nearside of lorries that are about to turn left.

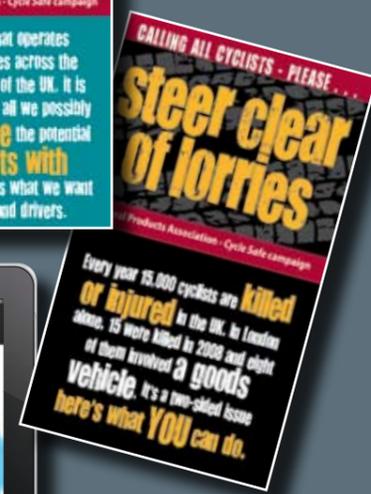
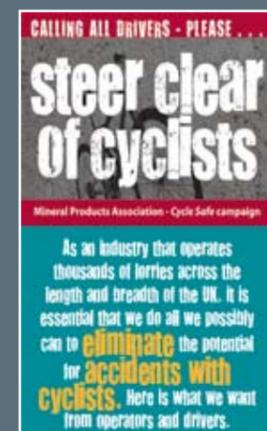
To date, over 27,500 drivers have attended the MPA's mandatory *Driverskills* course which has included cyclist safety. In addition, MPA is now developing a

specific course for industry drivers to raise awareness of vulnerable road users.

MPA has produced a package of campaign resources for use by both members and cycling groups. More detail is available at [www.mineralproducts.org](http://www.mineralproducts.org). During March it will hold a *Cycle Safe* exchange for members to explore what more can be done.

### OUR SIX-POINT PLAN

- Promote driver and industry awareness
- Promote cyclist and public awareness
- Improve driver training
- Encourage members to use appropriate technological adaptations to minimise risks to cyclists and exchange experience
- Liaise with schools
- Work in partnership



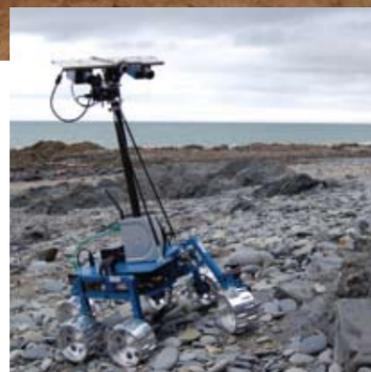
## QUARRYING



## Here today Mars tomorrow

**AN Oxfordshire quarry has been the focus for extra-terrestrial activity as scientists from the European Space Agency tested robot technology to explore the surface of Mars.**

The Seeker project, led by RAL Space from Harwell, aims to demonstrate the ability of a variety of robots and vehicles to travel 6km over a three-day period, avoiding obstacles and hazards whilst detecting and recording information about objects



encountered along the way. The geology at Hills Quarry Products' Tubney Wood quarry was ideal to test the terrain.

Among the vehicles tested has been a six-wheeled robotic platform to explore volcanoes, a modified 4x4 capable of unmanned operation and a robotic test platform packed with sensors, software and processors.

## AGRICULTURAL LIME

## Soil sense

**"LOOK to the land" is the message from the Agricultural Lime Association ([www.aglime.org.uk](http://www.aglime.org.uk)) following warnings from the Professional Agricultural Analysis Group that soil fertility levels in Britain are dropping. The 2009/10 survey showed that all-important pH**

**(acidity/alkalinity) was in many cases substantially below recommended levels for both arable and grassland.**

Says ALA secretary Stephen Hill: "The world population is now expected to hit 20 billion by 2050 and experts are saying that current world grain reserves equate to just 76 days. Add to that the problem created by climate change and greater weather extremes, and

## HEALTH &amp; SAFETY

## Shared approach

**THE chair of the Health and Safety Executive, Judith Hackitt, had a first-hand look at how the mineral products industry is tackling its health and safety challenges when she visited Midland Quarry Products' Cliffe Hill quarry in Leicestershire.**

Pictured below with MQP chief executive Simon Willis (left) and MPA chief executive Nigel Jackson, Ms Hackitt said her tour with industrialists and regulators showed how those right across the sector were working together to share innovative approaches and lessons learned.

"The industry must be congratulated for reducing injuries by more than three-quarters in the past decade," she said. "However, reaching the Quarries National Joint Advisory Committee goal of another 15 per cent reduction by 2015 will require even more hard work, determination and the development of new approaches."



## LANDFILL



Photo: © BAA Airports Ltd

## Terminal transformation

**A FORMER sand and gravel quarry near Heathrow has been re-opened to accommodate engineering material from the redevelopment of Terminal 2. The new terminal will service 20 million passengers a year and will use 20% less carbon than its predecessor.**

Brett Aggregates' Hithermoor site was

used for landfill then closed, but is once again a hive of activity with up to 400 loads delivered daily. The material taken from Terminal 2 is placed and compacted to create a sealed cap.

Care is being taken to monitor noise levels, keep dust down in dry weather and to wash the wheels of vehicles before

leaving the site. Gas levels are constantly monitored.

Once complete, the site will be restored to a mixture of woodland and open areas for public use in accordance with plans agreed with local councils and community groups.

## RAIL

## Smoothing the way



**THE smooth running of Britain's trains in the years to come will have much to do with a special ballast from Lafarge's Mountsorrel Quarry in Leicestershire.**

Network Rail has awarded a framework contract potentially worth £35 million over the next five years to Lafarge who are hoping to supply more than a million tonnes a year. The ballast – a 50mm crushed rock – forms the bed on which railway sleepers are laid. It keeps the track stable and level which prolongs the life of the track and enables trains to run smoothly.

The material is laid by a specialist machine which automatically lifts the sleepers then blows and packs the ballast beneath.

## PLANNING

## 2 into 1

**PLANNING permission has been given for a vital extension to two of Scotland's most strategically important quarries at Monifieth to the east of Dundee.**

Breedon Aggregates and the Geddes Group submitted a joint application for their adjoining quarries, to avoid sterilising significant mineral reserves. They can now produce rock (500,000 tpa), asphalt, recycled aggregate and ready-mixed concrete for the next 30 years. "It will sustain 50 local jobs and reduce long-distance haulage by supplying local projects using local materials," says Alan MacKenzie, chief executive of Breedon Aggregates Scotland.

## BIODIVERSITY

## What's the buzz?

**SOME 150,000 honey bees have a new home at the CEMEX UK's Taffs Well quarry in South Wales.**

The 60-hectare site, which has Special Area of Conservation status, is a perfect location for the six hives, with its extensive woodland and varied flora. The bees will make a valuable contribution to the site's biodiversity strategy.

"Pollinating insects are vital for our natural environment," says Elaine Spence, who owns and manages the bees. It is estimated that they pollinate up to a third of our food crops which is worth £430 million per year to British agriculture.



## SEA DEFENCES

## Time and tide

**BLACKPOOL now boasts an impressive new sea defence scheme providing enhanced protection against flooding and coastal erosion between its famous North and South piers. The development required 65,000m<sup>3</sup> of in situ and 44,000m<sup>3</sup> of precast concrete supplied by Tarmac and was the biggest ever civil engineering project in the town.**

Working within six-hour tidal windows was a major challenge for the construction team, but by maximising the use of precast units and using macro-fibre concrete, the project was completed with minimum disruption to local businesses.

Blackpool's new seafront not only protects the town but looks good with its innovative design and pigmented concrete blending with the beach.



## ASPHALT

## Groovy asphalt

**PEOPLE in the north of Scotland have a greater choice of holiday destinations as a result of a runway extension allowing larger aircraft to fly from Aberdeen airport.**

The project was a testing one for asphalt supplier Leiths in that the runway had to take traffic a few hours after being laid and had to incorporate grooves in order to improve skid resistance in wet conditions. Trial mixes using carefully specified aggregate ensured that durability was not affected by early use, and the grooves were added several days later.



## LIME

## Time for lime

**HYDRATED lime has a key environmental role to play as Britain reacts to the imperative to reduce landfill by using waste as a means to generate energy.**

Delegates at the recent British Lime Association's Energy from Waste (EfW) seminar were told that acidic flue gases produced from the thermal treatment process in EfW plants can be removed using hydrated lime which is the most cost effective alkali available for this type of treatment. This process ensures compliance with local environmental legislation for air emissions.

## ALSF WALES

## Fund going strong

**THE much valued Aggregates Levy Sustainability Fund may have been killed off in England, but it is alive and well in Wales – and doing a good job for communities.**

The Welsh Government continues to administer the Aggregates Levy Fund Wales (ALFW), which allocates more than 80 per cent of its annual budget of £1.6 million to support projects in communities affected by aggregate extraction. Such is the enthusiasm that it is seeking help from the industry to encourage more communities to apply for grants.

"Continuing the fund is a brave decision given the current economic climate," says MPA Wales secretary David Harding. "The Government is keen that its continued support is backed by a healthy supply of good applications from quarrying communities."

Fund manager Russell Dobbins adds: "Our focus is very much on supporting projects in communities affected by land or marine extraction. But it's surprising how many communities are either unaware of the scheme or unwilling to apply. One of the issues is the mistaken perception that the application process is time consuming."

Minister for Environment and Sustainable Development John Griffiths recognised

successes to date by making three awards at the MPA Wales lunch in Cardiff.

The heritage award was won by Nant Gwtheryrn (pictured below), formerly a coastal quarry village owned by Amey Roadstone Corporation (ARC) on the spectacular Llyn Peninsula in north west Wales. It has since been redeveloped as a visitor centre, principally for learning Welsh as a second language. The ALFW provided £45,000 which was used for telling the story of the rich history of quarrying in the valley.

The community award was shared by two small-scale projects. Llanelwedd is a small rural community in mid-Wales which sits in the shadow of Hanson's Builth Wells Quarry. The ALFW provided £97,000 to enable much needed improvements to the ageing community hall and for a new community space for local children and young people.

At Pontardawe near Swansea, an £18,000 grant paid for gala tents, a mobile dance floor and other equipment to promote seasonal street festivals and boost business. The town is close to Aggregate Industries' Cwm Nant Lleici Quarry.

More information from [russell.dobbins@wales.gsi.gov.uk](mailto:russell.dobbins@wales.gsi.gov.uk).



## CARBON

## Sticks and carrots



**MPA has called for urgent reform of UK carbon and energy taxation in order to control the administrative and cost burden on an industry which it says is "paying heavily for the privilege of supplying essential materials to keep the nation's built environment and economy going".**

The industry is subject to a range of 'green sticks and carrots', including the European Emissions Trading Scheme and the new Carbon Price Floor.

An 11-point plan from MPA includes a series of adjustments to taxation protocol. It also includes a plea that any new taxation measures should be coupled with an incentive scheme for energy efficiency, plus encouragement for energy from waste as well as biomass energy.

Another suggestion is that the burden of carbon taxation should be rebalanced by making the domestic sector take its share of costs associated with emissions. With industry having already taken early action to cut carbon, it feels the focus should now switch from products and processes to judging "whole life" energy performance – notably involving buildings.

# Returned with interest

**THE original plan for restoring Tarmac's Bellmoor and Lound quarries in Nottinghamshire was to fill them with ash from a nearby power station. The fact that the source of ash then dried up was, in the end, a plus – for wildlife and for local people.**



**What has emerged after more than 60 years of quarrying is 600-hectares of picturesque countryside that is much loved by all who inhabit it. It was appreciated too by the MPA Restoration Awards judges who selected it without hesitation to receive the coveted Cooper-Heyman Cup for the top achievement of 2011.**

Tarmac's operations have moved progressively along the Idle Valley north of Retford. At the heart of the site lies a 300-hectare area that was designated as a Site of Special Scientific Interest (SSSI) in 1992 and has been the focus for a long-running restoration partnership with the Nottinghamshire Wildlife Trust.

One of the great achievements is the lottery-funded Idle Valley Rural Learning Centre which is operated by North Nottinghamshire College and is the base from which the trust runs numerous community programmes.

Amongst the other valued facilities is the 70-acre Lingham Lakes parish park (pictured above) at Lound. Thousands of trees have been planted, wildflower areas created and grass paths defined.

Runner-up in the latest awards was a former

Derbyshire quarry that has been restored by Lafarge Cement in partnership with local farmers Joe Dalton and son Joe junior to become a valued feature of the Peak District landscape.

Ironically, it was not Lafarge that previously quarried the majority of the site and its responsibility for restoration was limited. The Daltons faced a big headache when the company that had been quarrying there defaulted on its obligations. Limited material remained to landscape a huge remaining void.

Fortunately, the Daltons had Lafarge Cement as a neighbour. First, the company organised a huge re-contouring exercise to shift waste material that had been left around the site while preserving a fascinating rock exposure. Then, it transferred topsoil and seeded it to finish the job.



*Partnership success: Dirtlow Rake*

## ALSO COMMENDED

### CEMEX UK

**in partnership with Eversley Sports Association**

Eversley Quarry, Hampshire  
5 ha of sports pitches achieved in partnership with the community

### Lafarge Aggregates

**in partnership with Michael and Charles Sayer**

Leech Pit Wood, Lyng, Norfolk  
28 ha of nature-rich lakes and woodland

### Hanson UK

**in partnership with Aston Villa FC**

Middleton Hall Quarry, Tamworth, Staffordshire  
13 ha of top quality training surface for footballers

### Brett Group

**Park Lodge Quarry, Buckinghamshire**

progressive restoration of 8 ha to agriculture

### Hanson UK

**West Knighton Quarry, Dorchester, Dorset**

recontouring 50 ha of farmland and translocating protected hedgerows