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The magazine of the Mineral Products Association

# mineral

products today



Foundation for  
the economy  
making the link



Green supply chain  
tracking performance

Olympics legacy  
what comes next?

Safer by partnership  
calling contractors

## WELCOME



**WHO will ever forget the summer the Olympics and Paralympics came to London and the UK? It was not just a memorable spectacle but an incredible feat of organisation – and not least a great triumph for the construction industry and for all of us who supply it.**

In this issue, we look not so much at the event as at the legacy from some of the high profile venues that

filled our TV screens to such dramatic effect. Making the link between mineral products and the needs of the nation is the wider theme for this issue, based on a new analysis which has produced some thought-provoking figures. What is really interesting is not just the scale of our sector but the true extent to which we underpin other industries upstream and downstream. The turnover of those who rely on our products totals £400 billion, and we support more than 2.5 million jobs.

The report from Capital Economics which we feature on pages 10 and 11 highlights the fact that industries like ours that exist down in the engine room are often forgotten even though they actually drive the economy. We hope our new *Make the Link* campaign will open some eyes.

These are difficult times and it is good that the strength of MPA has been bolstered by affiliations with the British Association for Reinforcement. The Government has made clear that it welcomes working with organisations like MPA that have sectoral membership. It gives us a great advantage in our discussions and dealings.

**Dyfrig James, Chairman, MPA**

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## Gathering pace

**MPA's Cycle Safe campaign has moved up a gear with a decision to make vulnerable road-user training compulsory for drivers and to require that all new tippers, truckmixers and cement tankers are equipped with the latest monitoring and warning equipment.**

MPA has already responded to growing concern over accidents involving cyclists with its six-point *Cycle Safe* campaign designed to promote driver and cyclist awareness. Local initiatives have also been held in major cycling cities such as Oxford and Cambridge to help cyclists appreciate the truck driver's visibility problem, particularly when they undertake.

The plan now is for all delivery drivers to undertake specific approved training as a must. Some 30,000 have already undergone awareness training. The focus now moves to specific vulnerable road-user training.

## Vital enabler

**MPA has welcomed a new Government approach to industrial strategy that highlights sectors that can put Britain on the road to growth.**

Announcing a new vision for the future of industry, Business Innovation & Skills secretary Vince Cable made particular mention of "enabling" sectors like construction that have a broad impact on overall economic activity.

As the largest element of the construction supply chain, a supplier of key materials to many other industries and the largest material flow in the UK economy, the mineral products sector falls into the same

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Meanwhile, all new vehicles must be fitted with a range of special equipment by the end of this year. Reversing alarms, rear view cameras and flashing lights are already in wide use, but other approved equipment includes specialist mirrors, side under-run guards for tippers, side sensors/cameras and audible warnings. Existing vehicles must be fitted with such equipment over a rolling programme over the next five years.

There is emphasis also on rear warning signs and on vehicle visibility either light-coloured vehicles or reflective rear and side markings. Daytime running lights are similarly recommended.

**More information on this campaign is available from [www.mineralproducts.org](http://www.mineralproducts.org)**

category. The announcement came as his department published a new analysis of UK sectors as the basis for a long-term strategic partnership with Government. The report also applauds organisation of businesses into sector-specific trade bodies which act as a tool to facilitate interaction with Government.

"It is positive recognition for bodies like the MPA and our members," said MPA chief executive Nigel Jackson. "We have developed comprehensive sector membership and that puts us in an excellent position to discuss key strategic issues with Government, not least how we can support the recovery and how the cumulative impact of regulation can be managed."

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## Planning worry

**ADEQUATE reserves of minerals may not be available to fuel economic recovery if the Government fails to overcome inertia in the planning system, according to MPA.**

Its Annual Mineral Planning Survey (AMPS) shows that average rates at which production is being replaced with new permissions is continuing to decline. Less than 50 per cent of sand and gravel reserves and only 67 per cent of bard rock reserves have been replenished in the ten years to 2010. There has been a 40 per cent drop in the total tonnage of landbanks in England and Wales since 1997.

Meanwhile, most mineral plans are out of date and there has been no appreciable improvement in the time it takes to achieve planning permission since 1996 - typically 28 months for sand and gravel and 36 months for hard rock.

Says MPA chief executive Nigel Jackson: "It's not surprising that the applications aren't coming forward. Whilst the overall approval rate of applications is adequate, they take too long, they cost too much - between £100,000 and £800,000 - and lengthy pre-application discussions don't help.

"Some 80 per cent of sand and gravel appeals are successful which means that too many bad decisions are being made on sand and gravel applications. The costs of planning appeals are high and that's just money wasted for both quarry companies and planning authorities."

He added: "The performance of the plan-led system has been extremely disappointing in spite of recent changes. Costs are rising as charges are levied for services that were previously considered part of statutory duties in the past and the costs of new and often pointless additional regulation are being heaped on top of that. There is a continual drift towards increased planning fees and charges for discussions with no commensurate improvement in planning performance."

**"Planning applications take too long, cost too much; and lengthy pre-application discussions don't help."**

## Action needed



*Uphill struggle*

**NEW MPA data shows construction activity significantly lower than for 2011. Results for the third quarter of this year reveal that sales of all key products were down – crushed rock by four per cent, sand and gravel by 11 per cent, ready-mixed concrete by nine per cent and asphalt by 20 per cent.**

Following modest improvement in markets in 2011, the scale of reduction in demand means that aggregates, concrete and asphalt sales will all be lower than in the previous depths of the recession in 2009.

MPA chief executive Nigel Jackson said: "The figures are hugely disappointing and provide further evidence of the extent to which demand for mineral products and construction has fallen away.

"It is vital that Government in particular moves on from initiatives to urgent delivery if the gloomy prospects this year and next are to be reversed. Our members are currently focussed on surviving the lowest market levels since the 1960s."

## More recognition

**MPA has won a special trade association award for the quality of its work with members on the key issue of biodiversity. The recognition from the CBI Trade Association Forum was one of only two special awards in an event where MPA was also a finalist in three other categories.**

MPA's biodiversity work has many strands, including developing partnerships with NGOs and Government. It also reinforces and rewards positive action by its members through its popular restoration and biodiversity award schemes.

MPA chief executive Nigel Jackson said: "Continuing progress by our members in the quality of site management, restoration and after-use of minerals sites should contribute

significantly to the achievement of the UK Biodiversity Action Plan. Biodiversity is a core value for our members and winning this award will motivate us to do even more."



# At the limit

MPA chief executive Nigel Jackson believes the industry is at the limit of what it can stand on planning and environmental regulation costs, and insists that the real loser is the economy.



**THE cost of planning and environmental regulations on the mineral products sector could soar from the current £400 million to £750 million a year by 2020, according to a new analysis by MPA.**

The association has identified no fewer than 228 planning and environment laws and regulations that have to be managed by its members, and says there is evidence that the scope is widening – and the costs growing.

MPA chief executive Nigel Jackson puts it very simply: “We are now at the limit of what we can absorb. Government needs to take radical action to recognise, assess and better manage the cumulative impact of regulation and costs arising from various regulators. At present, economic impact assessments only consider individual regulations and not the cumulative impact.”

## SHEER SCALE

MPA has submitted its evidence to the Treasury and the Department for Business, Innovation and Skills (BIS), and hopes that its case will be recognised through action in the Chancellor’s Autumn Statement and in the current review of regulation.

The association’s frustration over the difficulty in getting its voice heard has already resulted in the launch earlier this year of a *Make the Link* campaign designed to achieve recognition for the sheer scale of the industry’s true contribution to the economy. As detailed on pages 10 and 11, research

by Capital Economics has revealed that the sector supports industries with combined turnover of £400 billion and creates employment for some 70,000 people directly and indirectly. Around 2.5 million people are directly employed by the industries it supports.

The *Make the Link* campaign highlights the fact that the industry’s products are essential not just to the construction industry but to everything from manufacture of plastics to casting of metals. The Capital Economics report puts the value of the construction sector at £120 billion and estimates that it spends nearly £6.4 billion each year on mineral products.

## INHIBITING INVESTMENT

“The regulatory costs imposed on the sector feed through into the cost of doing business and from there right through the economy,” says Nigel Jackson. “For mineral product businesses still operating at market levels 30 per cent below those in 2007, these costs and regulatory overload inhibit investment by SMEs and also raises questions amongst international minerals and mineral product businesses about the relative benefits of investing and operating in the UK.”

The MPA analysis shows that aggregates levy, landfill tax and energy and climate change taxes plus other planning and environmental measures currently carry an estimated cost burden of £400 million annually. It also estimates that the potential impact of both new and existing measures could increase these costs to £750 million annually by 2020. This is in addition to other regulatory and tax costs such as fuel duties, net VAT and

“The regulatory costs imposed on the sector feed through into the cost of doing business and from there right through the economy.”



The biggest supplier to the construction industry

employers’ National Insurance which currently cost the sector over £900 million pa.

The widening scope of lower level charges from regulators add significant sums to the planning and development process, including planning application costs, pre application and consultation charges and the costs of duplicated Environmental Impact Assessments.

## WORK WITH GOVERNMENT

“There are far too many examples of inconsistency, duplication and lack of proportionality in regulation,” says Nigel Jackson. “We want to work with Government to ensure that regulation is effective, proportionate and consistent.

“Regulation in Europe or the UK may be introduced with the best of motives, but achieving the desired environmental and sustainability outcomes can be compromised by inflexible and ‘awkward’ implementation.”

He adds: “There needs to be a complete re-think. In too many cases, costs have been imposed on our industry without sufficient consideration of economic or environmental outcomes. The cumulative impact of regulation from different and uncoordinated regulators on sectors such as mineral products needs to be recognised, assessed and managed better by Government.

“Currently there seems an assumption that industry can simply absorb any expansion of costs and burdens imposed by public agencies.”



# What comes next?

**As dusk falls on Britain’s amazing Olympics and Paralympics achievement, attention is turning to the future. The Government has promised that the legacy will be an enduring one. So what happens now for the great new sporting venues that owe their strength – and often their stunning architecture – to mineral products?**

**IT dominated our lives for little more than a month in total. London 2012 was in many ways a sprint. The big question now is whether the £9 billion outlay will extend into a marathon of long-term benefits across the nation as a whole.**

The issue is a particularly important one for the construction industry and its suppliers who are perhaps the uncrowned champions in delivering all that was demanded of them on time and to an exceptionally high standard. The vacuum that follows a project on that scale is a worrying one for companies that have often been flat out delivering concrete, asphalt, aggregates and a host of other mineral products.

The signs are promising in terms of new sporting facilities. Sport England has announced grants totalling £19.4m across the country involving 377 community sports projects.

“The legacy is what now matters,” says MPA chief executive Nigel Jackson. “We can obviously look forward to the adaptation of the Olympic venues themselves but we also need to see investment not just in new

sporting and leisure facilities but in other vital infrastructure and in housing.

“The Olympics gave us all a feel good factor and if we want that to persist, the Government has to get the wheels of the construction and mineral products industries turning again because we can deliver projects that make it happen.”

## OLYMPIC ACHIEVEMENTS

- Responsibly sourced concrete was a fundamental
- At least 25% of aggregate used for Olympics construction was recycled
- At least half of all materials brought to site travelled by rail or water
- 90% of construction waste generated from the derelict east London site had been diverted from landfill
- All but 3% of demolition waste was reclaimed

# The Olympic legacy

## OLYMPIC STADIUM

The "cup cake" Olympic Stadium was designed to be demountable so that its concrete seating can be re-used if necessary. It also has the flexibility to accommodate different sports and capacities in the future. The big question now is which ones? London 2012 chairman Lord Sebastian Coe has reaffirmed his belief that athletics should remain at its core, but legal wrangles have delayed any conclusion. It is likely that the stadium will have an anchor tenant, with Premiership football club West Ham United widely regarded as the favourites.



## OLYMPIC PARK

Concrete construction has been used throughout the Olympic park and athletes' village to help London 2012 achieve its sustainability and legacy objectives. The Olympic Delivery Authority (ODA) worked with the industry to develop a range of sustainable concrete mixes which resulted in the use of 170,000 tonnes of recycled and secondary aggregate and ground granulated blastfurnace slag as a cement replacement. The project also uses material-efficient post-tensioned concrete construction.

The stunning central complex of arenas and sporting venues at Stratford are now to be transformed into the newly-named Queen Elizabeth Olympic Park. The aim is for the park to become one of Europe's premier visitor destinations, incorporating a thriving new community with jobs, and sport and leisure activities. It includes the Olympic athletes village which will be adapted to become its own neighbourhood with nearly 3,000 new homes, the largest to achieve the coveted "level 4" rating for sustainable housing.

The Olympic and Paralympic Games involved construction of dozens of new venues and attractions – from the 80,000-seater main stadium to a BMX track and a SeaLife tower in Weymouth. The challenge now is to make them fit for the future. Concrete, asphalt, aggregates and a host of other mineral products play a key role in each one of them – and in their legacy.



## VELOPARK

The Lee Valley VeloPark is set to be one of the best cycling facilities in the world and will be run by Lee Valley Regional Park Authority. The park will include the Olympic Velodrome which was designed to be lightweight but has a lower tier of 3,000 seats in pre-cast concrete terracing. It will also include the BMX track, the two being linked by a new road cycle circuit and mountain bike course. The combination of four cycling disciplines in one venue will create a unique asset for London, with cafes, cycle hire and workshop facilities all included in the plans.

All photos courtesy London 2012



## AQUATICS CENTRE

With its dramatic swirling roof and high quality exposed concrete, the Aquatics Centre remains one of the architectural stars of the show and an impressive demonstration of the sheer versatility of concrete. Its dramatic diving boards have been built using a specialised self-placing and self-leveling concrete. The venue features a 50m competition pool, a 25m competition diving pool, a 50m warm-up pool and a 'dry' warm-up area for divers. It will now be transformed into a facility for the local community, clubs and schools as well as elite swimmers. Two temporary wings will be removed but there will be potential to increase venue capacity during major competitions.



## WHITE WATER CENTRE

Formed from 5,350 cubic metres of concrete (some of it sprayed as a lining), the two courses and facilities at the Lee Valley White Water Centre will remain, with the venue continuing to provide a world-class canoeing and kayaking facility for people of all levels of ability, and a major leisure attraction for white water rafting. It will also offer an extensive sports development programme and host the 2015 Canoe Slalom World Championships.

## AND ALSO...

- The media and press centre took the games to four billion people across the world. It consists of more than 30,000 tonnes of concrete and was designed to be flexible for a range of potential tenants.
- Also known as the Copper Box, the iconic handball arena has foundations formed by 200 concrete columns and a structure that features 30 ten-metre high precast concrete walls. It has retractable seating and can accommodate different activities post-Games.

## WESTFIELD

Westfield Stratford City is Europe's largest urban shopping centre and provided a gateway to the main Olympics site which more than 70 per cent of spectators passed through. Building it required enough concrete to fill 117 Olympic swimming pools. Now, it is a core component of the lasting benefits delivered for East London and part of one of the largest urban regeneration projects ever undertaken in England. Located just 20 minutes from central London's tourism attractions, it is perfectly placed to maximise the expanding tourism opportunity and provide a much needed new commercial, shopping and entertainment district for the area. From an economic point of view, the £1.4bn shopping centre has created some 9,000 job opportunities.



## WEYMOUTH

Weymouth and Portland already had world-class sailing facilities, but enhancements were needed to suit Olympic competition. The facilities at the Weymouth and Portland National Sailing Academy (WPNSA) now include a new permanent 250m slipway for launching and landing boats and 70 new moorings. It was built using 50,000 tonnes of local Portland stone. But perhaps the greatest long-term benefit for Weymouth as a resort was the fact that the Olympics brought with it the funding for a long-awaited relief road to speed traffic to and from the area. The £89 million scheme required over 200,000 tonnes of aggregate, 20,000 cubic metres of ready-mixed concrete and 80,000 tonnes of asphalt.



Park Hill, Sheffield

# Paved with gold

The dimension stone business takes the unique colours, hues and textures of the UK's most beautiful rocks and transports them into to the public realm. Its products transform street scenes but they also restore the splendour of some of our much loved historic buildings.

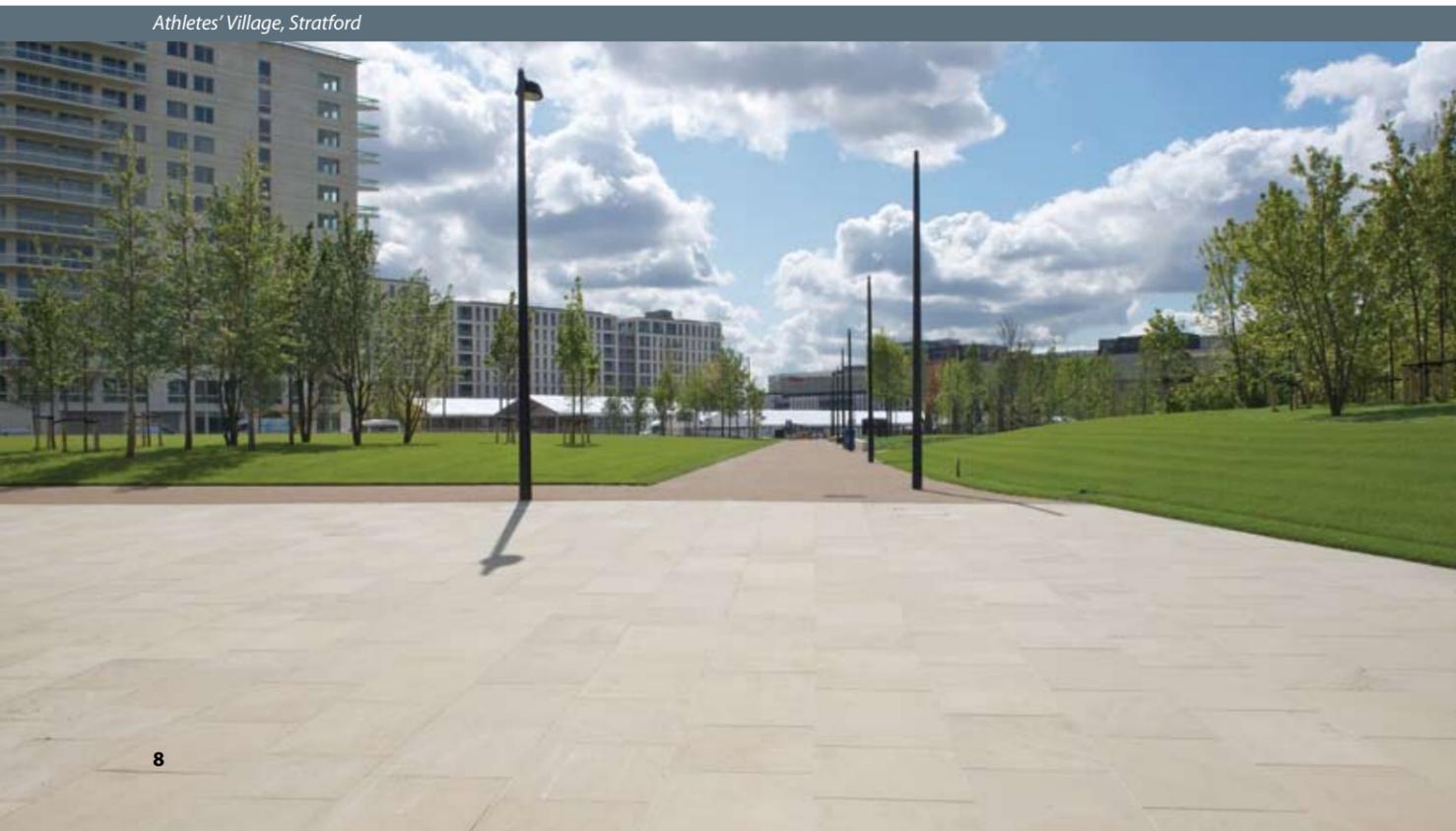
IT was in 1895 that Solomon Marshall first ventured into business, quarrying for stone high above the West Yorkshire town of Brighouse. Well over 100 years later, his descendants have supplied buff-coloured sandstone from the same hillside to help create the impressive setting for the Athletes' Village at the London Olympics and Paralympics.

The founder of the Marshalls family business would doubtless be amazed that the stone he and his little crew worked by hand is today



cut and shaped by an impressive range of hydraulic machinery and distributed not just nationwide but internationally.

As detailed in our feature on pages 5 – 7, the Olympic Village at Stratford in east London is now destined to become a new prestige community in its own right. At its heart will be 10 hectares of new parks which include large areas of natural sandstone paving from the company's Cromwell Quarry.



Athletes' Village, Stratford

Marshalls has achieved the unusual distinction of having paved every London stop on the Monopoly board – from the old Kent Road all the way to Mayfair. The gentle blues, browns and greys of Pennine sandstone cover miles of London landmarks including Piccadilly Circus and Trafalgar Square.

Therein lies the magic of Britain's dimension stone industry as it brings the unique appeal of a natural product to streets and buildings near you. The beauty and durability of natural stone may well be underfoot but it can also soar skywards with the architecture – and often it will facilitate repair of national treasures.

Few buildings are quite so public and high profile as the Park Hill flats development which has towered over Sheffield since 1961. It was built with an exposed concrete frame and what was at the time a revolutionary "streets in the sky" system of wide decks lined with front doors. Some called it San Quentin after the notorious American jail but others loved it, and in 1998 it controversially became Europe's largest listed structure.

While still structurally sound, it was by that time deteriorating from weathering and soot staining from passing trains. But then along came the investment that Sheffield City Council sought with a brave new approach from developer Urban Splash in partnership with English Heritage to turn the old flats into upmarket apartments, business units and social housing. It has become an iconic regeneration scheme and a monument to 60s architecture.

Landscaping the striking building with a parkland setting was a high priority and resulted in a major order for sandstone paving from Leeds-based Woodkirk Stone.

Woodkirk Stone has been quarried since 1841 and is a traditional Yorkstone renowned for its durability, beauty and long-term appeal. It has been likened to a good wine in that its warm buff colour is said to be enhanced by age.

The company supplied nearly 2,000 square metres of setts and all the masonry items for the landscaping at Park Hill. The first load was despatched within two weeks of the order.

# Passion for stone



The Old College Quadrangle, Edinburgh University

There aren't too many managing directors in the mineral products business who can turn their hand to anything that needs doing. But having started his dimension stone company with just a saw and some expert input from his father, Marcus Paine is one such boss.

He can quarry and cut stone and then fashion it to any of the shapes needed by customers who want products ranging from pillars to coats of arms. Since starting Hutton Stone near Berwick-upon-Tweed in the Scottish Borders 18 years ago, he has also passed on the skills handed down between four generations of his family to members of the 25-strong team who now work for him.

Given that the dimension stone industry had virtually died out in the Scottish Borders before the last world war, creating a team meant that Marcus had to develop the skilled craftsmen that he needed in an essentially farming community.

"For the first year, there was just me helped by my father (Stephen), and for quite some time there was no chance of paying myself," he recalls. "We used to buy raw block and slab from other people's quarries and work them to make our own products."

But success followed and five years later came the opportunity to lease the old and long since closed Swinton quarry (right). That gave them the great asset of a clean, greeny buff sandstone that is the face of many historic buildings in Scotland and northern England. The scene was then set for a business focused on crafting stone for

both restoration and new build. Two years ago, Marcus also re-opened Hazeldean quarry near Alnwick with its cream to white sandstone – an excellent match for the now unavailable Craigleith Sandstone, widely used not just in Edinburgh but across the UK for 300 years.



Recent restoration jobs from Hazeldean range from carving 37 pillars for the Old College Quadrangle at Edinburgh University (above) to a lighthouse on Shetland.

"The business is now built on bespoke products and on skilled people who are each given charge of their own machines," says Marcus. "Ownership works really well for us because it means machines are better maintained and the people work more safely."

He adds: "I am passionate about stone – but that's true right across the dimension stone industry."

# Foundation for the economy

Every working day, the mineral products industry delivers over one million tonnes of raw materials and manufactured goods to its supply chain. It is the nation's biggest materials producer. Yet its true value to the economy often goes unrecognised by Government. MPA's *Make the Link* campaign is aiming to put that right.

IT generates a massive £4 billion of gross value added each year, employs between 33,000 and 39,000 people directly and supports a similar number indirectly. The figures are new ones culled over recent months by Capital Economics as part of its assessment of what the mineral products industry contributes to the UK economy.

Its conclusion is that the industry "is a vibrant and valuable sector of British business and is key to the prosperity of numerous other industries and the economy at large". And at a time when the nation has been struggling with a double-dip recession Capital Economics says it is important that policy makers leave no stone unturned in the search for recovery and growth.

The report comes at a time when MPA itself, which commissioned the report, has been

calling on Government for positive steps to boost construction. It is also asking for some vital "fixes" – notably to the under-delivering planning system, to increasingly penal carbon and energy taxes, and to the cumulative morass of excessive regulation.

In a typical year around 250 million tonnes of aggregates and related minerals are extracted in the UK of which 60 million tonnes are recycled. Put it all together and you could fill the O2 Arena more than 80



times. Aggregates – together with around 12 million tonnes of cement – flow through into some 110 million tonnes of final products including read-mixed concrete, concrete products and asphalt.

## Upstream and downstream

LOOK upstream of mineral products and you have a supply chain of suppliers like hauliers and engineers who are paid around £5 billion a year and employ 37,000 people.

Look downstream and you have not just the massive bulk of the construction industry but everything from manufacture of plastics to casting of metals. Turnover in that direction totals over £400 billion and supports more than 2.5 million jobs.

The Capital Economics report estimates that the construction industry alone spends nearly £6.4 billion each year on mineral products, accounting for five per cent of the sector's turnover. More than £2 billion worth

of product flows into crucial infrastructure products while £2.2 billion goes to repair and maintenance and commercial property construction.

Construction activity is, says the report, crucial to the strength of the UK economy, comprising six per cent of total output. At the same time, the buildings and infrastructure it creates all add to the nation's productive capacity and efficiency. An increase in aggregates costs feeding into prices would lead to a fall in construction output and a reduction in overall long-term economic prosperity.

"The construction industry alone spends nearly £6.4 billion each year on mineral products"



In the upstream direction, the economy is stimulated by money spent on suppliers, but given that they in turn feed it on to others, there is a multiplier effect along the supply chain as a whole.

A total of £5.2bn is spent on suppliers to the industry, of which £1.5bn goes on transport and £540m on energy.

## What if?

CAPITAL Economics' approach to quantifying the role mineral products play in supporting the construction sector is to ask what would happen if there were no indigenous supply of aggregates so that demand had to be met by imports.

While the exercise is purely theoretical, its estimate is that importing rock, sand and gravel from a country such as Norway instead of sourcing it from local plants would almost double the price.

Of particular note is the fact that shipping alone would add around £11 per tonne. The doubling in overall cost would be likely to result in a fall in construction output of £1.5 billion which would result in the loss of over 7,000 construction jobs and mean that more than £600m of gross added value would be lost. Meanwhile, the knock-on effects along the supply chain would cost 10,000 jobs and around £600m of gross value-added.

Taken over 15 years, it is estimated that a reliance on imports – even if possible – would lead to GDP being £20bn lower.

## Greatest asset

THE industry has been saying it for years. But now it's official... people are definitely the sector's great asset.

The Capital Economics survey suggests that the industry generated £4 billion worth of gross value in 2011, accounting for 0.3 per cent of total UK output. At that level, it ranks alongside creative industries such as architecture, television and radio and hi-tech manufacturing. Interestingly, it is not significantly smaller than motor vehicle manufacturing (£6.6bn) and aerospace (£6.4bn) industries.

Where the industry excels is in the value-

added created by its employees. Each worker generates over £110,000 of value-added every year, which is more than two-and-a-half times the national average of £48,800 and significantly higher than the manufacture of motor vehicles (£37,200) and computers and electronics (£74,800).

Drilling into the employment data shows large clusters of direct jobs concentrated in the East Midlands (7,500) and others of significance in Yorkshire (4,400), Scotland (3,700) and the South West (4,000). The fact that many such jobs are in rural areas outside London and the South East supports the Government's

ambition to create a more balanced economy geographically.

Turnover for 2011 is estimated at around £9 billion, of which £1.5 billion was revenue from direct sales of aggregates outside the sector, £5.3 billion was accounted for by sales of construction products and £1.8 billion from contracting.

Tax is another area in which the industry is a big contributor, with an identified total of over £1bn a year including aggregates levy, VAT, business rates and employers' national insurance.



Twilight world: what if all our aggregates sites closed?



# Greening the supply chain

It is no longer enough for businesses simply to run their own operations in an environmentally responsible way. You now have to show that you are leading your own downstream supply chain in doing a great job, and are yourself part of a wider chain that goes all the way from design through to construction.

**WHEN it comes to addressing their own environmental impacts, mineral products companies have achieved much in recent years. But in the quest for true sustainability, operators now have to show that they are part of a supply chain in which everyone is performing to a consistent approach to sustainability.**

The theory is simple. If you require environmental responsibility from those you buy from and if you equally pass on your own performance to those you sell to, the world becomes a better place. In the case of a new home, for example, the householder gets a house built from materials that have come

from quarries where the land is restored to high standards. The quarry in turn buys engineering services from a company that takes the health and safety of its employees seriously.

Mineral products are many and varied and have a role in everything from your breakfast bowl to your toothpaste. Aggregates (crushed rock, sand and gravel) are an end-product in themselves, but they are also an essential constituent in concrete and asphalt upon which so much of our built environment depends. Cement is another major contributor as the second vital ingredient in concrete.

## Front line products

Given their role in everyday life; aggregates, concrete and asphalt are about as high profile as it gets. The benefits to society from ensuring that they are responsibly sourced are, therefore, substantial. To date, more than 80 per cent of production is certified to the BES 6001 framework standard for responsible sourcing of construction products. In the case of ready-mixed concrete the figure is 95 per cent.



The biggest single plus for mineral products is that they are usually local in their origin - produced by local people and delivered over relatively short distances. Also important, the operations concerned are locally accountable for their environmental performance. As end-products, both concrete and asphalt score from the green performance of aggregates and cement.

When it comes to product performance, concrete scores on several fronts. The ones that stand out are that it has a long life, resists fire, suppresses noise, and its thermal mass reduces the need for heating and cooling.

Asphalt's sustainability credentials are similarly impressive. Road pavements built from it use around 20 per cent less energy and when they do eventually wear out, they are 100 per cent recyclable. By reducing spray and the potential for skidding, asphalt also saves lives and helps to manage floods.

## Carbon

Local sourcing means that houses and roads built with aggregates, concrete and asphalt start with a carbon benefit before you add in their performance benefits. The vital bond provided by cement does, however, have a carbon cost because its manufacture is, by its nature, energy intensive.

The UK cement industry is a world leader in carbon reduction and has reduced absolute CO<sub>2</sub> by 57 per cent between 1990 and 2010 as a result of heavy investment and a progressive shift towards alternative waste-derived fuels. Meanwhile, the asphalt industry is standardising calculation of embodied carbon as a step towards systematically reducing it.

## Recycling and waste

Recycling and waste are other areas where the industry helps the sustainability of a wider supply chain. Once regarded as waste, recycled and secondary aggregates, now account for 28 per cent of the market - three times the European average. Secondary materials with a place in the market include fly ash from power stations as a cement addition and blastfurnace slag from iron and steel manufacture which is used as aggregate and processed to produce cementitious materials.

Meanwhile, 38 per cent of the fuel used in the cement industry now comprises waste material taken from other industries and from local authorities whose green credentials gain as a result. The industry also uses waste streams such as ceramic moulds, foundry sand and gypsum from plasterboard in reducing its need for virgin raw materials. The concrete industry as a whole now uses 63 times more waste than it sends to landfill.

## Biodiversity

Buy your aggregate from a builders' merchants that gets it from a quarry that takes its restoration seriously and you could be helping to create wildlife habitats. The industry is now widely recognised as a large-scale creator of biodiversity through high quality restoration and its wider land stewardship. MPA members manage or control an area of over 115 square miles - an area equivalent to a National Park such as the Norfolk Broads. More than 700 SSSIs, two national nature reserves and 22 local nature reserves have their origins in quarrying.

## Community

Given the nature of its operations, the industry long ago recognised the need to communicate with its neighbours and to support communities in whatever ways it can. In 2012, the aggregates sector hosted 257 liaison groups while cement operations recorded 34 liaison meetings. Pages 16 to 19 of this issue include a variety of case studies where operators are giving real value to the communities in which they operate.

## Health & safety

The relentless quest for safety is one which the industry has made its top priority. It has made substantial progress with its own workforce and is now working very closely with contractors. MPA members have already achieved an 83 per cent reduction in reportable injuries amongst employees and have committed to further halving lost-time injury rates by 2014. The association's suite of "Safer by ..." initiatives now embraces a partnership designed to help contractors working on industry sites.





# Safer by...

The battle to keep employees safe in the mineral products industry has been highly successful over recent years with an 83 per cent reduction in reportable injuries over ten years. But statistics show that contractors working on the industry's sites are at disproportionate risk of injury. MPA's answer lies in a new addition to its family of "Safer by ..." initiatives based on partnership.

**CONTRACTORS** are essential contributors to the smooth running of quarries, cement works and other industry plants across the UK. They may stay for just a few hours for routine maintenance; a few days to handle an engineering project; or they could be a long-term fixture to run a complete quarry. But MPA is determined that their well-being should be managed with the same rigour as its own members' workforces.

The fact that the association has now assembled the Safer by Partnership initiative for contractors demonstrates recognition that the ultimate objective of "Zero Harm" cannot be achieved unless everyone is on the same playing field.

"There is no suggestion that contractors are any less committed when it comes to protecting their employees," stresses MPA health and safety director Martin Isles. "But

the fact that they often take on major new construction and engineering work – and do so in what may be an unfamiliar environment – means that their safety will be better

assured if we tackle the issues together – in partnership."

Colin Mew, principal inspector with the

## The family

**Safer by Competence** is the overarching strategy, setting a series of targets across the sector.

**Safer by Association** is a practical health & safety site evaluation package, provided free to MPA members.

**Safer by Design** addresses the design vacuum that exists between many of the manufacturers of heavy mobile plant and their users.

**Safer by Sharing** facilitates direct peer-to-peer sharing of experience and knowledge

**Safer by Partnership** commits clients and contractors to work together to tackle health & safety issues

www.safequarry.com

National Quarries Inspection Team at HSE, wholeheartedly endorses the new initiative. "It's actually quite a brave move for a trade association to ask such a thing of its membership," he says. "But I think it's also one which the enlightened moral majority have given full support to."

The initiative was launched in June and includes:

- a charter that will harness both contractors' and clients' minds to work together
- a single database to streamline prequalification by enabling contractors to lodge, share and update their credentials with clients
- sharing of ideas, encouraging feedback and reviewing progress via regional forums
- a toolkit of resources including statistics, publications, web links and competence mapping

The new campaign joins MPA's Safer by ... family which was one of the factors which contributed to the association winning the RoSPA SME Assistance Trophy in recognition of its outstanding contribution to helping small and medium-sized firms with accident and ill health prevention.



## The right thing to do

'COMPETENCE' is one of the current buzzwords in UK industry. But it's no passing fad and is now widely accepted as the bedrock for forward thinking businesses.

The mineral products industry has made sector-leading strides, explains Martin Isles, towards the demonstrable goal of a fully competency-assured industry. The thinking is that health, safety, productivity and wellbeing benefits all flow from the ability to apply knowledge, understanding, practical and thinking skills to achieve effective performance. The industry works closely with its training body – the Mineral Products Qualifications Council which has devised a detailed 'competence map' – accessible via Safequarry.com – covering job functions in every part of the industry.

Chris Leese, chairman of the MPA Health & Safety Committee, puts it very simply: "It is the right thing to do – corporately, legally, professionally and morally."

The MPA's Safer by Competence policy sets out routes and deadlines to meet National Occupational Standards relevant to job functions. To demonstrate continuing competence, a record of relevant continuing professional development needs to be maintained, preferably in accordance with a professional scheme.

But policies and certificates are of little value unless they are translated into tangible improvements at the sharp end.

Hefin Jones, training & competency manager (operations) for Aggregate Industries, explains: "The industry has made great progress in bringing lost time injury rates down. This is

particularly thanks to on-site investment in, for example, improved guarding, segregation of pedestrian & light vehicle areas, and refining lock-off procedures. The challenge then comes in bringing rates down until they're knocking at our target of Zero Harm. In my opinion, that last push can only be achieved by ensuring the competency of the workforce – by identifying any weakness in the skills of individuals and plugging the gaps."

Aggregate Industries has developed its own competency matrix that does just that. A simple spreadsheet, it lists every operational employee against the areas of competency he or she needs to perform a role safely and effectively. That ranges from recognised qualifications to an awareness of the Company's Drug and Alcohol Policy. Managerial staff can then identify any gaps and build a remedial plan, individual by individual, to address them through the setting of objectives during the annual performance review process.

Tillicoultry Quarries has designed a similar computer aid to track and manage mobile plant competence, which incorporates a traffic light system to alert users when a qualification is due to expire. Stewart Caine, health, safety & environment manager, explains: "Some 90 per cent of our workforce hold or are working towards a vocational qualification, including our own fleet of 24 goods vehicles drivers. Not only are we meticulous about our direct employees' competency, but we also take pains to ensure that, where possible, our contractors have recognised certification including MPQC safety passports."

## WILDLIFE

## Trout triumph

**Tarmac has helped the Hampshire and Isle of Wight Wildlife Trust in its award-winning effort to restore a stretch of the River Itchen near Winchester.**

Marine aggregate wharves on the south coast provided 1,000 tonnes of oversized gravel rejects to raise the river bed and recreate meanders, gravel beds and riffles lost over many years of neglect and mismanagement.

The work has re-energised sluggish water and created a superb habitat for large salmon and sea trout – two key conservation priorities. The project won the Wild Trout Conservation Award.

Phil Tadd, account manager at Tarmac South East said: "We were only too happy to play our part in an important restoration at this beautiful location."



## ARCHAEOLOGY



## Unique find

**Archaeologists excavating a Brett Aggregates site near Ipswich have unearthed an antler whistle, believed to be the first of its kind to be found in England. Previously found only in continental Europe, the whistle suggests immigration, sharing of technology or trade with Europe over 2000 years ago.**

Pottery and part of a later Iron Age settlement were also uncovered at the site at Coddendam. Iron Age man was quarrying in the area 2000 years ago, although for clay rather than

sand, probably for pottery making. Edward Martin, Suffolk County Council's archaeological officer commented: "These recent discoveries provide important evidence for the way people were living and working in the later Iron Age in this part of Suffolk."

Children from the local Henley Primary School visited the archaeological dig to see the whistle along with other artefacts from sites across the UK. They were given a fascinating insight into what life must have been like for the Iron Age settlers.

## COMMUNITY

## Making school safe

**Getting to and from school is now a great deal safer for pupils at Bent Primary School in Blackwood, South Lanarkshire, thanks to the intervention of local quarry company Patersons.**

Safety was a real concern at the school which is situated beside a 60 mph country road. With no car park, the road outside the school became congested and dangerous at peak times. The school also suffered from a lack of play space given that much of the field at the rear was muddy and unusable.

After discussion with the local council, Patersons stepped in and completely transformed the outside areas of the school. The muddy field was dug out and concreted to create a new playground and a safe car park was created at the front of the school. The delighted children have added plants and fruit trees to enhance their new-look school grounds with the help of the All Round Environment Project and Patersons has also donated new sports equipment, benches and tables to the school.

## FLOODS

## Holding back

**Extensive works to build flood relief channels through the town of Elgin are progressing well and looking good – thanks in part to stone supplied by Leiths from its New Forres and Bluehill quarries in Scotland.**

The channels are part of Moray Council's £86m Elgin Flood Alleviation Scheme and since they are highly visible from sensitive areas such as Elgin Cathedral, aesthetic as well as engineering considerations

were a priority. Leiths was chosen to supply a particular grade of heavy stone large enough to remain in place during flood conditions but also of the correct dimensions to be readily formed into an attractive channel.

Leiths has supplied about half the initial requirement of 23,000 tonnes so far and clients are delighted with the product and the impressive completed channels.



## TRANSPORT

## Connecting for Crossrail

**Lafarge Cement beat off stiff competition to win the Rail Freight Project of the Year Award for its Northfleet rail reconnection project in Kent.**

The project involved the reconnection of its former cement works on the south bank of the Thames to the main railway network and a tunnelling logistics centre for Crossrail. Opened in June, it is already being used by Crossrail to transport excavated material from its London construction sites.

Rail Freight Group judges described it as "an exemplary project". Their decision to award Lafarge with the top prize was based on a number of factors, including its effective management of the collaborative working partnership between stakeholders. Also

noted were the project's excellent health and safety record and the outstanding leadership

of land and planning director David Simms and project manager Nigel Rees.



## PARTNERSHIP

## More strength

**Member companies of the British Association of Reinforcement (BAR) have formally agreed to affiliate with the Mineral Products Association.**

Tony Stumpf, chairman of BAR, regards the decision as an important step, commenting: "BAR has a good history of representing the reinforcement sector, but the challenges in front of all of us are considerable. There is more need than ever for us to work with like-minded materials and product interest organisations."

Nigel Jackson, chief executive of MPA, extended a warm welcome to BAR members and said: "This move represents another significant step in the evolution of the trade representation of the industry from a number of fragmented organisations into a genuinely sectoral body that promotes and protects all its members' interests and enables more effective and influential dialogue with Government and other key stakeholders."

## COMMUNITY

## Lasting legacy

A new hydrotherapy and sensory centre has been opened at Frome in Somerset with enthusiastic support from local quarrying company Wainwright which built and project-managed the car park, drawing on help from a range of local suppliers.

The Harry's Hydro charity was set up by Paula and Digby Fox in memory of their son, Harry, who was profoundly brain-damaged by an infection days after his birth and died soon after his first birthday. Harry was at his best in a hydrotherapy pool, although such facilities were not readily available in the area at that time.

After his death, Harry's parents set about raising funds to build a centre in Frome so that others with disabilities could benefit



from the therapy. Harry's Hydro Trustee, Peter Bennett said: "Without Wainwright, we wouldn't have been able to open the pool. We're all absolutely amazed and truly

grateful for everything the company has done to support us."

*Photo: Mark Adler, Mendip Times*

## HEALTH &amp; SAFETY

## Putting safety first

MPA members across the country have successfully hosted a series of **Safety Days** to promote best practice amongst employees in the front line.

Each event is managed by a host company which invites operators and supervisors from local quarries as well as external partners such as plant suppliers,

St John Ambulance and the Red Cross to participate. Attendees take part in a programme of briefings and interactive sessions designed to promote greater awareness of safety issues encountered on-site. Topics vary from event to event but typically include first aid, silica dust, hazard spotting, water issues, vehicle visibility and road safety.

To date, events have been hosted by Marshalls at Pasture House Quarry in Halifax, by Sibelco at East Gold Works in Newton Abbot, by Hanson/Midland Quarry Products at Bradgate House, Leicestershire, by Brett at Lydd Quarry in Kent and by Lafarge Aggregates at Marfield Quarry in Yorkshire.

Brian James, MPA regions director commented: "Safety days are a great initiative. The benefit isn't just for those who attend but those who they in turn talk to and the fact that good practice spreads between companies."



## ENERGY

## Concrete support

The vital role of concrete in the development of offshore wind energy will be showcased at the forthcoming **Concrete Offshore Wind Conference 2012** in December.

MPA believes offshore wind represents an excellent opportunity to grow a green economy built around UK manufacturing and engineering, attracting investment and stimulating employment. Concrete gravity bases offer performance as well as cost and environmental benefits, using responsibly sourced materials manufactured in the UK.

The innovation and engineering behind concrete solutions will be presented at this year's conference on 6 December at Church House, Westminster. The conference will focus on meeting the challenges of delivering gravity bases, including the consenting and planning process.



## WILDLIFE

## Des res for turtles

Mineral products companies rallied to support a new housing project in Staffordshire ... for five giant turtles!

With Lafarge donating cement and Tarmac giving building sand, 13 students from the Alfeagar Centre in Rugeley, Staffordshire built the turtles' dream home at South Staffordshire College. Generally, students' work is demolished after completion, but the turtle home will be a permanent

feature of the college's animal zone, which is open to the public.

Tony Homer, deputy director of the Staffordshire STEM Centre said: "It has been a great opportunity to apply the skills that they have developed in an actual working environment and it's made a big impression, knowing that what they're delivering will be there for years to come."



## COMMUNITY

## Lend-a-hand for nature

Volunteers from local CEMEX offices and operations spent a day helping to plant over 400 trees at the RSPB's Baron's Haugh nature reserve near Motherwell, as part of the company's "Lend-a-hand" scheme.

The company initiative encourages employees to volunteer for a charity or organisation of their choice and

gives them eight hours paid leave per year in which to do it. The thinking is that a company's attitude to social and environmental issues can be a key factor in attracting, retaining and motivating skilled staff.

The project at Baron's Haugh is to turn an area of over-grown grassland into meadow paddocks divided into narrow strips with



hedgerows of hawthorn, blackthorn, holly, hazel and wild rose. It will create a wide diversity of habitat offering food and shelter as well as 'corridors' through which wildlife can move relatively safely across the meadow.



# It's time for lime

**Limestone and chalk are the source of some of Britain's most attractive landscapes. But they are also perhaps the most versatile of all our natural raw materials. You can build with them, make bread, purify damaging gases ... you can even make toothpaste!**

But few of calcium carbonate's many applications have greater potential significance for the continuance of food security than its capacity to reduce soil acidity and maintain the fertility of tired farmland. At a time when the world population is predicted to hit 20 billion by 2050, and world grain reserves equating to just 76 days, there is real concern over food security in the years ahead.

With farming budgets under increasing pressure, the Agricultural Lime Association (ALA) recognises that persuading farmers to invest in a product some still see as desirable rather than essential may not be easy.

ALA members are having to work hard to deliver their message. "The real question the farmer has to ask himself is whether he can afford not to lime," says Francis Flower agronomist Mark Tripney. "The price of inorganic fertilisers is now so high that efficient utilisation is a must. That means you need to add lime because without it fertilisers are much less effective."

Over time, soil becomes more acidic due to nitrogen from inorganic fertilizers. The problem is compounded by rainfall naturally leaching calcium and by the effect of decomposing organic material. Over time, soil structure can become very poor and ground can become unproductive.

Amongst the Francis Flower customers who recognise the benefits is sheep farmer Geraint Jones from Aberdaron in Wales. "It has had an instant effect," he says. "The grass is growing thick and fast on fields that have previously been patchy and difficult to graze."

Francis Flower commercial director Mick Stovin believes that awareness amongst farmers of the need to lime has risen in the past year. "Our problem has always been that lime has traditionally been cheap, so no-one puts a value on it," he says. "The fact now is that more intensive farming is part of our future because the population is growing and the supply of available land isn't. You have to improve yields per hectare and you need lime to make your fertilisers work."

Lafarge supplies around 150,000 tonnes of agricultural lime each year and sets great store by its ability to deliver on time to the most inaccessible locations across the UK.

"The benefits of using agricultural lime are well understood by the majority of the farming community," says commercial manager John Bradshaw.

"Yet as an industry there is still much to be done to educate others on the benefits of using it to help soils reach their full potential.

"With the support of the Agricultural Lime Association we need to raise awareness on just how significant even a small numerical deficiency in pH can actually be in terms of crop yield".

According to the ALA, maintaining the appropriate pH is the most remunerative investment a land manager can make in the face of changing weather patterns, environmental pressures and escalating production costs.