

quarrying  
**today**

The magazine of the Quarry Products Association

Summer 08 Issue 23

A detailed photograph of a dragonfly perched on a branch covered in yellow moss. The dragonfly has a blue and yellow body and transparent wings. The background is a soft, out-of-focus green.

**Biodiversity  
initiative**  
colossal potential

**Newsround**  
making the headlines

**Big issues**  
QPA takes stock

**Sustainably sourced**  
chasing the challenge

**Restoration awards**  
all-round quality

**Schools resource**  
raising awareness

**SHOWCASE 08 SPECIAL**

# Welcome to our Showcase special

WELCOME to a special issue of Quarrying Today, produced to take the highly successful QPA Showcase 08 to a wider audience.



Showcase 08 host Krishnan Guru-Murthy



Held at the Royal Lancaster Hotel in London in July, this year's event was watched by a record breaking audience of 470 guests from the quarrying industry and its key stakeholders. The content of the hour-long show is, however, likely to be of interest to many more people in and around the industry – and that's the role for this issue.

Showcase 08 was hosted by the Channel 4 broadcaster Krishnan Guru-Murthy and was driven in particular by the major issues currently facing the industry. No topic is hotter than *Sustainable Construction*, a feature that involved interviews with figureheads from several key sectors about how they see the construction challenges that lie ahead and the importance of responsible sourcing. You can read their assessment on pages eight and nine.

The launch at the show of QPA's new industry-wide biodiversity initiative was another highlight. It brought

*Graham Wynne (left) presents the Cooper-Heyman Cup to Peter Riley of the Otley Wetlands Trust*



You can watch the individual Showcase 08 features online at the QPA website [www.qpa.org](http://www.qpa.org)

enthusiastic praise from Showcase 08's principal guest RSPB chief executive Graham Wynne, who described the industry's potential as "colossal". All the detail is on pages six and seven.

Krishnan Guru-Murthy led a review of four front-line subjects: health and safety, economics, planning and environment with input on each from key members of the QPA team. The analysis included an update from chairman, Lynda Thompson, on progress made over the past year in tackling the industry's carbon footprint, see pages four and five.

Newsround, summarised on our facing page, took guests on a whirlwind tour of the latest activities on the ground. And the ever popular QPA Restoration Awards are reviewed on pages ten and 11.

Page 12 provides an introduction to an innovative new video for schools (launched at Showcase 08) in which Keith Chegwin applies his own unique style to an exploration of quarry products.

## Quarry Products Association

Gillingham House, 38-44 Gillingham Street  
London SW1V 1HU  
Tel 020 7963 8000 Fax 020 7963 8001  
Email [info@qpa.org](mailto:info@qpa.org) Web [www.qpa.org](http://www.qpa.org)

Chairman: Lynda Thompson

Director General: Simon van der Byl

Executive Director: Nigel Jackson

## Quarrying Today

Managing Editor: Tim Parry

Editor: Barrie Hedges

Daybreak Communications

Venture West, New Greenham Park

Newbury, Berkshire RG19 6HN

Tel 0845 644 3845 Fax 0845 644 3745

Email [barrie.hedges@daybreakcomm.co.uk](mailto:barrie.hedges@daybreakcomm.co.uk)

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Cover pic: *Rich with wildlife – Hanson's Cooper-Heyman Cup winning restoration at Otley Quarry. See page 10.*

# Newsround . . . a summary from *Showcase 08*



## Biodiversity

QUARRY environments are hugely attractive to butterflies. Which is why employees of CEMEX UK decided it was appropriate to support Butterfly Conservation, which has Sir David Attenborough (above) as its president with a year-long initiative of fund raising and publicity.

*Marine aggregate operators have initiated a massive monitoring exercise in the eastern English Channel to gauge the potential impacts on biodiversity from newly approved dredging permissions in the region. The new resource is vital in maintaining supplies of sand and gravel to London and the south east.*

Two schools in Northumberland are piloting the *Tarmac Schools Biodiversity Challenge*. Participation will enable pupils to create and manage a biodiversity action plan for their school grounds, with Tarmac providing assistance in implementation and management.

*The threatened white-clawed crayfish is one of the beneficiaries of work by Acheson & Glover in Northern Ireland. The company has used its technical expertise to construct an experimental habitat complex for the vulnerable crayfish in one of its working sandpits close to Lough Neagh.*

## Products

HUNTSMANS Quarries and Hanson were unsung heroes of last year's floods when they provided rock that eased the misery for thousands of homes in Tewkesbury. The Huntsmans quarry, near Naunton, and Hanson's Clee Hill quarry, near Ludlow, together worked round the clock to provide the material for a dam wall used to get a flooded water treatment plant up and running again.

*Buxton-based Lhoist is making waves with a new type of walling made from industrial hemp. Tradical Hemcrete is a lime-based product - and because the plant is a "carbon sink", it delivers better than zero carbon buildings.*

Michael Schumacher, David Coulthard, and Jensen Button all took to the pitch at Wembley in December for a *Race of Champions* on a special circuit laid by FM Conway. Using Tarmac Mastertrack asphalt, the team worked 24-hours-a-day for a week to lay the asphalt track over the hallowed turf.

## Community

AGGREGATE Industries is midway through a three-year relationship with the Wildlife Trust to support the BBC's *Breathing Places* campaign. It was set up to get the British public more involved in creating and conserving green "breathing" places within their communities. The company has also helped Bowes School in County Durham create a nature trail based on the popular Gruffalo books.

*Princess Anne opened the CEMEX UK-sponsored Treehouse Centre, a new environmentally-friendly education centre developed by the Forestry Commission at Cannock Forest in Staffordshire. Materials for the project were provided by nearby Rugeley Quarry.*

A restored Lafarge quarry near Lichfield in Staffordshire hosted the Queen when she



*Children engage with Breathing Places*

officially opened a memorial to the Armed Forces at the National Memorial Arboretum. Restored areas of the quarry have been home to the arboretum for the past ten years and feature some 50,000 trees.

## Sustainability

BY DELIVERING aggregates and cold asphalt by boat, Ennstone Thistle is doing its bit for the planet on the beautiful west coast of Scotland. The company is transporting the material from its Bonawe Quarry around the islands of Argyll and Bute.

*Building in London brings its own unique challenges - not least in dealing with the traffic. Hanson is reducing the impact with a floating concrete plant to serve high-rise developments in Canary Wharf. The plant is supplied with raw materials by barge.*

Meanwhile, Lafarge has opened a rail-river-road distribution hub at West Thurrock. With each train carrying 1,500 tonnes of aggregates, it eliminates tens of thousands of lorry movements, reducing congestion, pollution and road noise in the capital.



# Big issues

Watch the issues feature in full at [www.qpa.org](http://www.qpa.org)

Showcase 08 provided an opportunity for guests to tune in to several of the big issues currently facing the industry. Presenter, Krishnan Guru-Murthy, guided the audience through explorations of health & safety, economics, planning and environment. The industry’s position was presented by senior members of its team and by chairman, Lynda Thompson.

## Health & safety

In years gone by, the industry’s accident statistics were not good. But, since those days, there has been a drive not just to cut accidents, but ultimately to eradicate them completely.

The figures to date show that significant progress has been made. Reportable injuries – those involving more than three days off work – have been cut by well over two thirds between 1999 and 2007. The QPA’s Hard Target will continue in 2009, with a new commitment to

reduce lost time incidents by 50 per cent by 2014.

**Martin Isles, QPA director, health & safety:**

“Target zero is achievable. Over half of our members have already achieved it in 2007 and three quarters of them have done that for at least the last four years.

“We have put a huge effort into behavioural aspects of competence to extend a culture of health and safety into every one of our workforce. To achieve target zero, we have to focus more

strongly on competence and behavioural safety across the whole workforce – contractors as well as direct employees.”



## Economics

TOTAL sales of aggregates boomed in the early 1990s but then generally flattened out at between 250 and 300 million tonnes a year. As the use of recycled and secondary aggregates has become a priority, so primary aggregates sales eased.

Construction output over the same period broadly follows gross domestic product (GDP), with a steady increase year-on-year. While the total aggregates market has grown a little in recent years, the upward trend is not to the same extent as the economy and construction. If you then follow that through to intensity of use of aggregates compared with GDP, you find a steadily diminishing curve.

The QPA's conclusion is that we are using aggregates more efficiently now than in the past. In other words, we can have economic and construction growth in tandem with more efficient and sustainable use of resources such as aggregates.

**Jerry McLaughlin, QPA director of economics:**

*"House builders and private developers are really struggling because there is a lack of credit and liquidity in the economy. But what we are seeing as well is that some of the other markets that we would expect to be doing better, such as local authority road maintenance, are struggling because those authorities haven't got the money to spend."*



*"If we look at the medium and longer term, there is a huge pipeline of work and a great deal of underlying demand but what we are waiting for is for confidence in the economy to improve and for Government to put its money where its mouth is and turn those projects into reality."*

## Planning

PERHAPS the greatest of all the industry's challenges lies in winning planning permissions simply to keep going. What is very worrying for the QPA is that, in many areas, demand



requires its members to use up reserves much more quickly than new permissions are being granted. There is a general downward trend in terms of permitted reserves – and it's even more pronounced in sand and gravel.

Since 1993, England's permitted sand and gravel reserves fell by almost a third - from around 900 million tonnes to just over 600 million tonnes. And there is evidence that the decline is continuing.

Over the last ten years, save for a couple of spikes, the replenishment rate fell well below 100 per cent, and, over the last eight years, it was just 60 per cent. This raises the spectre of a supply shortage.

**Ken Hobden, QPA director of planning:**

*"It's getting much more difficult to get planning permission to extract minerals, but in my view it's getting disproportionately difficult in comparison with other forms of development. There are stacks of new regulation coming out of Europe and the planning system certainly isn't getting any easier to deal with. The extra time and cost is becoming a real deterrent to the industry."*

*"The upshot of all this is that landbanks are dwindling and we are not replenishing our stocks quickly enough. What we need to get across is that a real problem is looming, not just for the industry but for everyone."*

## Environment

At *Showcase 07*, QPA chairman, Lynda Thompson (pictured right), made particular environmental commitments through the Carbon Reduction Statement of Intent. One year on, she provided an update on progress:

"I think we have done really well to kick start what must inevitably be a long term campaign. The essence of this first stage is to understand our collective carbon footprint, and then to create the momentum through which our members can individually reduce their own footprints."

*"QPA has taken a positive lead on the issue and our members are right behind us. For, example, the industry has put no fewer than 5,000 drivers through a fuel-efficiency course funded from the Aggregates Levy Sustainability Fund. Meanwhile, the Government has responded positively to our call to ring fence part of the ALSF for specific use in tackling carbon reduction."*

*"We have also had enthusiastic support for a series of carbon workshops where we have circulated our own good practice guide and shared ideas. Carbon is a big challenge but we are serious about it."*





## A national asset

*Showcase 08* was the platform for the launch of a major new biodiversity initiative from the QPA. With members managing or controlling a total area equivalent to the Norfolk Broads National Park, the industry believes it is sitting on a largely unrecognised national asset that is capable of delivering not just the quarry products we all need, but biodiversity on an ever growing scale.

THE scale of the quarrying industry's contribution to the natural world has long been evident. There are stunning restoration sites the length and breadth of the UK, and an estimated 700 Sites of Special Scientific Interest (SSSIs) are recognised as having their origins in quarrying.

But the truth is that no-one has ever put it all together – so no-one quite knows the true extent of the industry's contribution to biodiversity. Initial research by the QPA

amongst its members has, however, now revealed that within its bailiwick lie:

- at least two national nature reserves
- 22 local nature reserves
- 15 field study and education centres
- 13 nature trails.

And that is just for starters.

QPA director general, Simon van der Byl, started to piece the picture together for *Showcase 08* guests when he revealed that:

"QPA members manage or control an area of over 115 square miles. That's equivalent to a National Park like the Norfolk Broads".

The RSPB's chief executive, Graham Wynne, picked up the theme in his *Showcase 08* speech. He told guests that, of 1,300 active mineral sites across England, over 1,100 have the potential to contribute to important biodiversity habitats or species.

And given that some progress has already been made, he described the potential as "colossal".



## CASE STUDY 1 Cotswold paradise

The Cotswold Water Park is one of the UK quarrying industry's greatest biodiversity achievements. Covering an area as big as the island of Jersey, it has nearly 150 lakes dug over 50 years and a restoration programme that has already produced two country parks and a network of six nature reserves.

The lakes, country parks and nature reserves have become havens for all kinds of wildlife - plants, flowers, insects, animals and birds alike while still living side by side with an aggregates business that satisfies the needs of a wide surrounding area. There are currently seven mineral companies extracting in the park site and plans for another 50 years' supply of sand and gravel.

"The industry has made massive strides," he said. "I suspect the land management skills have always been there, but what we have seen over the past 10 years has been the turning of land restoration skills to biodiversity. I salute the fabulous quality of some of the schemes we now see across the country."

Simon van der Byl said that QPA was already involved with several significant strategic projects: *Nature After Minerals* with the RSPB and Natural England; *Our Nature With Aggregates* in Northern Ireland and *Countdown 2010* in Europe.

"They are all great initiatives but now we want to formalise our commitment in the same way that we have made a commitment to carbon reduction," he said. "We have a hugely

## CASE STUDY 2 Hertfordshire gem

Amwell Nature Reserve near Ware in Hertfordshire is a former gravel pit that has staked a claim to international significance in nature conservation with triple designation as a Site of Special Scientific Interest (SSSI), a Special Protection Area and a Ramsar site.

Its fame rests on the numbers of wintering water birds which visit the reserve but it also attracts 17 species of dragonflies and damselflies for breeding. Reptiles and amphibians include grass

snakes, common newts and common frogs. Molluscs are particularly well represented, with some 25 per cent of all British terrestrial and freshwater species recorded there. The reserve is also the richest site in the county for water beetles and water bugs. And it is one of the most important sites in Hertfordshire for otters, following their re-introduction there in 1991.

The reserve has recently been purchased by the Herts and Middlesex Wildlife Trust from CEMEX UK.

**FACT:** Some 700 UK Sites of Special Scientific Interest (SSSIs) have quarrying as their origin.

positive story to tell on biodiversity – possibly the best of any UK industry. Our aim now is to establish the true extent of that contribution

while setting the scene for the future. We are intent on both preserving and improving the UK's rich natural heritage."

## ACTION PLAN

- 1 Improve understanding of the contribution the industry makes to biodiversity.
- 2 Develop a biodiversity strategy that sets out how the commitment can be further improved.
- 3 Ensure that the industry is visibly and tangibly regarded as a key contributor to UK biodiversity targets.
- 4 Work with members and stakeholders to identify action required to contribute to national biodiversity and SSSI targets.
- 5 Place new emphasis on biodiversity education by coordinating field study and education centres, and nature trails to create a nationwide biodiversity network.



# Sustainably sourced

Showcase 08 turned its spotlight on the highly topical issues surrounding sustainable construction and responsible sourcing. Figureheads from several key sectors were questioned about the scale of their construction needs in the coming years and asked whether the quarry products sector can play its part in a sustainable fashion.

## HOMES

**The challenge:** The Government has set a target to build three million new homes across England by 2020. It insists that everyone should have a decent home at a price they can afford. The problem is that while our housing stock is growing by 150,000 a year, the number of households is projected to grow at 230,000 a year.

**Paul King, chief executive, Green Building Council:**

*“However you look at it, there is a lot of business to be done by the construction sector. The quarry products part of the industry has an essential part to play in producing the materials that will be needed for new homes and the refurbishment of existing new homes. Everyone needs to look*

*at the processes by which those products are created. We need to look at the amount of energy and water involved plus the other environmental impacts and seek to reduce them wherever possible.”*



## POWER

**The challenge:** In January this year, the Government threw its weight behind nuclear power as a key part of the overall energy mix that includes renewables. A major rebuild is needed across the power industry to keep us all supplied.

**Steve Holiday, chief executive, National Grid:**

*“We are at a cross roads – the energy industry is transforming from a carbon-intensive industry into one that is low-carbon. That’s causing huge investment requirements firstly in new sources of power generation, a major increase in renewable energy, in particular wind – both onshore and offshore – and replacing the UK’s nuclear fleet. It’s also causing huge investment in infrastructure*

*and that doesn’t just require steel and polyethylene for pipes. It needs a significant amount of civil engineering – lots of concrete foundations! Making sure that comes from sustainable sources and, wherever possible is recycled, is very important to us.”*



Watch the interviews in full at [www.qpa.org](http://www.qpa.org)

## WATER



**The challenge:** Every day, the UK water industry supplies more than 16 billion litres of high quality water. It then collects and treats over 10 billion litres of the resulting waste water. No water company is better aware of the construction challenges that go with this than Thames Water. It has 13 million customers and aims to replace 1,000 miles of water mains by 2010.

**Steve Walker, major projects director, Thames Water:**

*"Thames Water operates in the south east of England which is a dry part of the country and has particular problems with aged infrastructure. A quarter of our water mains were built before 1850 and we have a massive programme to renew them. The construction industry is vital to us and to the rest of the water industry. We have got big projects – a £1 billion a year capital programme*

*that is set to rise in the next ten years. We need all our contractors and suppliers to understand what we are trying to do and to deliver on time and to the right quality to make sure we can make the infrastructure investment that our customers need."*



## ROADS



**The challenge:** We are one of Europe's most densely-populated countries, and our roads and railways are now bumping up against their capacity. The Eddington report says that road congestion will, if left unchecked, cost business over £10 billion a year by 2025.

**Richard Wills, former president, CSS:**

*"We do still need new roads as well as looking after the roads that we have got. The quarrying industry is important, not just for road building but for the whole economy of the UK. We also recognise a need for good public transport – as well as buses, there will be a need for light rail*

*and for trams in big cities. Each of those needs construction materials, some of which will have to be quarried fresh. But increasingly we are operating with recycled materials."*



## THE CHALLENGE FOR QUARRIES

So can we strike a balance that allows construction on the scale needed but doesn't compromise the future of our environment?

**Nick Pollard, chief operating officer, Bovis Lend Lease**



*"Sustainability is mission critical. Our ambition is that, by the end*

*of 2010, everything we are building will have a BREEAM excellence rating (for sustainability) where that is matched by the client's own intentions. Quarry products undoubtedly have a large part to play in delivering sustainable buildings of a high standard of excellence. Bovis Lend Lease will only work with people who are able to step up to the mark and work with us on a journey that delivers a certifiable sustainable product for our clients. That has happened with other materials already and it will happen with quarry products too."*

**Dr Peter Bonfield, chief executive of the Building Research Establishment**



*"Sustainability has moved*

*from being a rather esoteric and ethereal issue to something that really affects business. The challenge is to connect what customers need and what Government is looking for at the top end right down through the supply chain to the quarry products industry. There are going to be winners and losers in this. The winners will be the ones that understand it and embrace it, don't ignore it and change to improve. What is quite satisfying is to see the rate of progress in the quarrying, cementitious, concrete and pre-cast sectors. There is no doubt that the industry has moved a huge way in the last 18 months. There is still some way to go, but if we carry on the rate of progress then I am optimistic for this sector in the future."*

**Simon van der Byl, director general, Quarry Products Association**



*"We can provide not just primary but secondary*

*and recycled materials. But we are also very good at restoring land for farming, wildlife and for public amenities. We are very supportive of the Government's sustainable construction strategy – we will continue to improve our health and safety performance; we will develop our responsible sourcing scheme for aggregates and other products; we want to learn more about biodiversity so that we can develop our performance. We must reduce our energy consumption and our carbon footprint. We have done a lot for sustainability already but we know there is a long way to go. Be sure though that we are going to do something about it."*

# Just rewards

EIGHT restored quarries all making a valuable contribution to their local landscapes, the QPA Restoration Awards were the highlight of *Showcase 08*.



## COOPER-HEYMAN CUP

**Otley Quarry, West Yorkshire**

**Hanson Aggregates/Otley Wetland Nature Reserve Trust**

The Cooper-Heyman Cup for the class-leading restoration of 2008 went to an outstanding nature reserve at Hanson's Otley Quarry. The 14-hectare site has been restored to a lake and channels, extensive reedbeds, woodland, scrub, a grazing lawn, grassland, wildflowers, and an orchid meadow.

The wildlife attracted to the site includes otters, badgers and shrews, as well as a variety of dragonflies and butterflies.

Otley Quarry is a rich, diverse and sensitively managed site which, say the judges, deserves the highest accolade for its restoration excellence.

## CHAIRMAN'S TROPHY

**Dorney Lake, Windsor, Berkshire**

**Eton Aggregates and Dorney Lake Services**

Dorney Lake won the Chairman's Trophy on the basis of its social contribution. The 170-hectare project has involved the creation of a world class 2,200m Olympic-standard rowing course, park, arboretum and nature conservation area.

The site will be the venue for the 2012 Olympics for rowing and canoeing. It is extremely popular with rowers, as well as with those who enjoy the views and nature.

The judges remarked that Dorney Lake is a success story both nationally and

internationally and makes a spectacular social and environmental contribution.



**Lynford Pit, Mundford, Norfolk**

**Ayton Products, The Forestry Commission and PDE Consulting**

Two lakes and a beach with picnic area attract visitors to this 49-hectare site.

A wide range of habitats and species have been introduced, including valley fen, dry acid grassland, reedbeds and woodland.

A bird hide has also been constructed.

## Frith End Quarry, Bordon, Hampshire

### Grundon Waste Management

A 4.5 hectare area restored to woodland, agriculture and heathland. A cliff face and ephemeral pond provide a habitat for sand martins and newts. Field maple, sweet chestnut, crested dogtail and sheep's fescue have been planted.



## Haywards Farm, Theale, Berkshire

### CEMEX UK and the Englefield Estate

This 36-hectare site features lakes for coarse fishing, brown trout and rainbow trout plus a wildfowl reserve. In 2007, 2,500 visitors came and caught 4,000 trout. A rebuilt farm building has been made into an outlet for fishing tackle suppliers.



## Nosterfield Quarry, Bedale, North Yorkshire

### Tarmac

A 100-hectare site that now boasts a mosaic of habitats – water areas, grassland and native broadleaved woodland. Magnesium outcrops have been uncovered and carefully profiled. Public footpaths around the quarry offer excellent views.

## West Deeping Quarry, Market Deeping, Lincolnshire

### Lafarge Aggregates

Agriculture is the end-use for this 14-hectare restored site. The soils have been thickened to improve the quality of the land, which slopes to a lake to improve its drainage. Blackthorn and hawthorn hedges divide the land into fields.



## Bestwall Quarry, Wareham, Dorset

### Aggregate Industries UK/Mr and Mrs Patterson

This 55-hectare site comprises two lakes which have been created with shallows and deeper areas, islands and profiled margins as a habitat for birds. The agricultural land

is grazed by sheep or mown for hay. The grounds are rich with archaeology, with over 175,000 artefacts unearthed on the site by a keen group of local enthusiasts.



View the *Showcase 08* restoration video and download the 2008 awards brochure at [www.qpa.org](http://www.qpa.org)



# Linking with schools

Showcase 08 guests were given a preview of a new QPA schools video starring Keith Chegwin which is designed to raise awareness amongst tomorrow's generation of the essential role played by quarry products in daily life.

But how many adults really appreciate the full range of materials on offer from the industry, or the efforts being made to make full use of what would otherwise be waste? Here, we provide a quick round-up of facts and figures on the quarry products that help to hold life together.

## AGGREGATES

The backbone of our world – an end product in themselves but also a raw material for other products such as ready-mixed concrete, asphalt, lime and mortar. In a typical year, we need some 225 million tonnes of aggregates in the UK - four tonnes for every man, woman and child.

## RECYCLED AGGREGATES

Britain leads Europe in the use of recycled and secondary aggregates, which today account for around 26 per cent of the total market. That's three times higher than the European average.

## READY-MIXED CONCRETE

The second most used material in the world and at the core of most construction projects. There are 1,300 ready-mixed concrete plants in the UK. The average delivery distance is less than 30 miles, making it a very sustainable construction product.

## ASPHALT

Asphalt allows us to move around and, through special grip and drainage properties, helps to keep us safe. Modern asphalts offer a range of important properties that improve safety, maximise road life and reduce maintenance. The production process involves blending the aggregates and then heating them to a temperature suitable for coating with bitumen.

## MORTAR

Mortar is the vital "glue" that sticks the bricks and blocks together. Ready-to-use mortars are made in factories under tightly controlled conditions but mortar can also be blended on building sites using water and a mix of cement, sand and lime,

## CEMENT AND LIME

Cement is a vital ingredient in concrete, one of the most versatile, durable and sustainable

building materials.

Lime is used to fertilise our fields but also in a wide range of other applications from industrial processes to food manufacture. It is increasingly employed as a medium for treating ground that has been polluted or needs to be stabilised.



## SILICA SAND

Silica sand contains 99 per cent quartz. Its high purity makes it ideal for everything from ceramics and glassware, to television screens, light bulbs, floor tiles, water filtration and sports surfaces.

## SLAG

Slag is a by-product from the production of iron and steel and is an increasingly important sustainable source of aggregates and cementitious material. It can be used in a variety of ways including within concrete, for soil stabilisation, as an aggregate or even in surfacing.



## PFA

PFA, or fly ash, is produced from the combustion of coal in power stations. It can be used as a cementitious material and also as a lightweight aggregate in the manufacture of blocks.

Watch the new schools video at [www.qpa.org](http://www.qpa.org)