

The trade association for companies involved in supplying crushed rock and sand and gravel from land and marine sources, asphalt and flexible paving, ready-mixed concrete, silica sand, agricultural lime, industrial lime, mortar, slag, recycled materials and construction and quarrying plant

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Sustainable Development Report 2008

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The Quarry Products Association welcomes
comments and requests for further
information about the industry's work

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Sibelco UK Ltd and Tarmac Limited.



Sustainable construction and quarry products

For the 2008 Showcase, QPA asked construction figureheads about future construction activity in their sector and whether the quarry products sector can play its part in meeting future demands in a sustainable fashion.

Homes

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

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."

Water

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 us on time and to the right quality to make sure we can make the infrastructure investment that our customers need."

Roads and Transport

Richard Wills, former President, County Surveyors Society

"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."

Development and Sustainability

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."

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Headlines

Aggregate sales in 2007 rose by 3% in the UK to 239 million tonnes, including 214 million tonnes in GB, in response to increasing construction demand - although this trend has reversed in 2008.

The share of recycled and secondary aggregates in the GB market was 25% in 2007, around three times higher than the average recycling market share in European aggregate markets.

Following the QPA 'Carbon Reduction Statement of Intent' published in 2007, the QPA (Quarry Products Association) has implemented initiatives such as the production of a 'Carbon Management Good Practice Guide' for the aggregates sector, holding a series of seminars for member companies throughout the UK on carbon reduction, and adding resources to the QPA website 'Carbon Zone'. In addition, Defra announced that the Aggregates Levy Sustainability Fund (ALSF) from 2008/9 in England would include specific carbon reduction provision, which QPA is now working with the Carbon Trust to implement.

Sector carbon emissions (excluding lime) averaged 6 kg CO₂ per tonne of output, ranging from 3.98 kg CO₂ for sand and gravel to 26.8 kg CO₂ for the production of asphalt.

The QPA has increased its focus on biodiversity and introduced a biodiversity action plan. This includes QPA participation in the 'Nature After Minerals' (NAM) project implemented by Natural England and the RSPB in England. QPA Northern Ireland has also announced a significant new strategy on biodiversity and geodiversity. QPA members have also been working with Natural England to generate better data on the Sites of Special Scientific Interest (SSSIs) associated with the industry and their condition. The industry has a strong track record on biodiversity, as evidenced in the annual QPA Restoration Awards Scheme, and these initiatives complement that record.

The strong sector focus on improving health and safety is illustrated by the further reduction in reportable injuries amongst QPA members. The 2007 figure of 152 represents a 75% reduction since the first HSE/QPA Hard Target was introduced in 1999.

Roads are the most important delivery mode for the aggregate sector, but in 2007 15 million tonnes of aggregates were delivered by rail and 20 million tonnes by ship and barge.

Stakeholders engagement work carried out in 2007 in association with the Environment Council indicated a desire for additional information on industry sustainability, and the 2008 SD Report therefore includes additional data on carbon emissions, transport and complaints.

Forewords



I welcome the publication of the QPA 2008 Sustainable Development Report. In June 2008 we published the 'Strategy for Sustainable Construction'. This strategy was agreed jointly between industry and Government. Measured improvement by the aggregates sector against its targets will make a positive contribution to the wider strategy.

The QPA report provides clear evidence of the sector's commitment to sustainable development. The 'life-cycle' of aggregate sector activity means the sector impinges on the sustainability agenda in a number of respects. These include the impacts surrounding the extraction of materials; their processing and manufacture; their use in construction and other sectors; their recycling and re-use; and the restoration or after-use of industry sites.

The impressive achievements against targets demonstrated in the QPA report underlines the very positive strides the industry has taken

in areas such as health and safety, carbon reduction and biodiversity. I applaud the effort put in by its members to achieve those improvements. During the current difficult economic circumstances it would be easy to relax the effort put into improvement against the targets. However, it is especially important at this time that the focus on sustainability is not lost as the underlying economic, social and environmental drivers remain. Continuing effort is needed to ensure that our national needs for housing, transport and infrastructure and public services improvements can be delivered sustainably.

Ian Pearson MP
Economic and Business Minister, Department of Business Enterprise and Regulatory Reform

This fourth QPA Sustainable Development (SD) Report demonstrates the wide range of sustainable development issues related to our industry. The coverage of the data has increased further this year and is now equivalent to 76% of UK aggregates sales, reflecting the commitment of QPA members to the process of reporting.

Since QPA launched its Sustainable Development Strategy in 2005, the association and its members have worked hard to ensure that the principles of sustainable development are at the heart of the association's policy making.

It has become clear that assessing and measuring sustainable development is an evolving process. Our previous reports have been well received, but clearly external expectations are for improved and more focussed information and data. We recognise this internally, and have revised our Core Values and reporting to meet such expectations. We have, for example, acted upon last year's 'Carbon Reduction Statement of Intent' through a number of initiatives, including more detailed reporting of product carbon emissions.

Our members are a key part of the solution to Government's aims for building sustainable communities, tackling climate change and protecting and enhancing the environment. A particularly significant external development over the past year has been the publication of

the Government's 'Strategy for Sustainable Construction'. This is an important document which aims to capture construction issues which are covered across Government, and we know that the sector represented by the QPA has a significant role in meeting the expectations and targets set out in the strategy. We will certainly be working to ensure that we make the fullest possible contribution to the success of the strategy.

We have also been working with industry colleagues in the concrete sector to consider sustainable development issues in a broader 'concrete' context. One outcome of this approach will be the development of a responsible sourcing scheme which will cover both concrete and the concrete supply chain.

This co-operative theme is also evident in the alignment which will bring the QPA, British Cement Association and The Concrete Centre into one organisation later this year.

I would repeat and emphasise that we would welcome the opportunity to discuss any of the issues raised in this report, or any other matter, with any of our stakeholders. Please be in touch.

Simon van der Byl
Director General Quarry Products Association



Introduction



The QPA is the principal trade association for the sector, representing over 90% of the production of all UK aggregates from land and marine sources, over 95% of all asphalt and ready-mixed concrete, plus silica sand, agricultural lime, industrial lime, mortar, slag and recycled aggregates and construction and quarrying plant.

The scope of the association covers around 800 quarries, wharves and depots and over 1200 plants producing ready-mixed concrete, mortar, asphalt and lime.

Since QPA launched its SD strategy in 2005, the association and its members have worked hard to ensure that the principles of sustainable development are at the heart of the association's policy making. Enhanced product information and initiatives have come from the constituent parts of QPA, a prime example being the activities of the Marine Aggregate Producers, BMAPA. Their first SD report 'Strength from the

Depths' was published in 2007 following the earlier sustainable development strategy of October 2006.

In addition, the producers of industrial lime, BLA, are developing their first SD report and the asphalt sector has been working closely with partners on a range of sustainability issues. The ready-mixed concrete sector, through BRMCA, is now collecting more detailed sustainability information.

The QPA and its ready-mixed concrete (BRMCA) and mortar (MIA) bodies, along with The Concrete Centre (TCC), and the manufacturers of cement (BCA) and precast concrete products (BPCF) are key members of the Forum which is developing a sustainable construction strategy for the UK concrete industries. One of the first outputs will be the publication of the first annual Sustainability Performance report for concrete in March 2009.

Following the publication of the third SD report in 2007, the QPA held a stakeholder engagement event with a range of external stakeholders including representatives from central and local government, agencies, conservation organisations and NGOs. The event was facilitated by the Environment Council, and made a number of recommendations about the collection and reporting of data which have been taken account of in the preparation of the fourth SD report.

As a direct result, the QPA has reviewed its original 11 Core Values to take more specific account of sustainability priorities. These have underpinned the QPA's sustainable development activity to date and have been grouped under the Government's original pillars of sustainability.

The Core Values have been extended to 14 to cover areas such as "carbon" and "transport" which deserve individual attention and revised

to bring them more into line with current Government and stakeholder strategies. The values have also been structured to align with the four shared priorities of the Government's sustainable development strategy as shown opposite.

In addition, in its three year core plan the QPA has now committed to put more focus into the following five priority areas in the period up until 2010: Health & Safety, Responsible Sourcing, Carbon Reduction, Skills and Biodiversity.

The issue of sustainable supply of construction materials will increasingly become an issue of commercial significance as initiatives such as the 'Code for Sustainable Homes' and responsible sourcing become more mainstream. The Government's 2008 'Strategy for Sustainable Construction' included a target that "25% of products used in construction projects to be from schemes recognised for responsible sourcing" by 2010. Responsible

Sustainable Consumption and Production

- Sustainable Products
- Resource Conservation
- Environmental Protection

Climate Change and Energy

- Carbon Management
- Transport

Natural Resources and Enhancing the Environment

- Biodiversity
- Heritage
- Restoration of Land
- Geodiversity

Creating Sustainable Communities

- Health & Safety
- Employment
- Competent Workforce
- Working with the Community
- Stakeholder Accountability

sourcing schemes and frameworks are under development to formalise this requirement. The term "responsible sourcing" also sums up the evolving process which has seen the aggregates and quarry products sector meet the continuing requirements of construction and other customers for materials and products while also focussing on improvements in environmental and health and safety performance. In this sense responsible sourcing can be regarded as a general theme for this report.

Specific QPA resources will be directed to generate progress in all these areas.

Sustainable Consumption and Production

Sustainable Products Resource Conservation
Environmental Protection



Theme	Indicators	2007	2006
Sustainable Consumption and Production			
Sustainable Products			
Aggregates Production	GB volume (construction and non-construction)	235 m t	228 m t
	GB volume (primary aggregates)	214 m t	207 m t
	GB volume (primary plus recycled)	285 m t	277 m t
Sources of Primary Aggregates	UK volume (primary aggregates)	239 m t	232 m t
	UK crushed rock	150 m t	146 m t
	UK sand and gravel	89 m t	86 m t
	GB crushed rock	133 m t	127 m t
	GB sand and gravel - land won	67.2 m t	66 m t
	GB sand and gravel - marine dredged	13.8 m t	14 m t
	GB supply	71 m t	70 m t
Recycling	GB volume	25.7 m t	25.7 m t
Asphalt	GB volume	23.5 m cu m	23 m cu m
Ready-mixed Concrete	GB volume	2.6 t	2.5 t
Construction and Aggregates	Primary aggregates use per £1000 of construction output GB	3.46 t	3.45 t
	Total aggregates use per £1000 of construction output GB	0.18 t	0.18 t
Aggregates and the Economy	Aggregates use per £1 billion of GDP	1,300	1,325
Operations	Number of quarries (UK)	88	88
	Number of wharves (UK)	45	45
	Number of rail depots (UK)		
Resource Conservation			
Primary vs Recycled	GB ratio recycled and secondary aggregates	25%	26%
	GB ratio primary aggregates	75%	74%
European Comparison	Per capita aggregates production (GB)	4.8 t	4.7 t
	Per capita aggregates production (Europe)		6.7 t
Water Use	Metered consumption	0.048 cu m per t	0.041 cu m per t
Environmental Protection			
Management Systems	Sites with certified management systems (61% of sites)	1,072	881
Compliance	Convictions for infringements	2	2

Sustainable products

Core value

QPA members understand their role in sustainable construction and actively promote the most effective use of their products.

Performance indicators

- GB volume construction and non-construction use:
235 million tonnes
- GB volume primary + recycled:
285 million tonnes
- UK volume primary aggregates:
239 million tonnes
- GB volume asphalt:
25.7 million tonnes
- GB volume ready-mixed concrete:
23.5 million cubic metres
- Primary aggregates use per £1000 of construction output GB: **2.6 tonnes**
- Total aggregates use per £1,000 of construction output GB: **3.46 tonnes**
- Aggregates use per £1 billion of GDP:
0.18 tonnes
- Number of quarries UK: **1,300**
- Number of wharves UK: **88**
- Number of rail depots UK: **45**



Hanson have found an innovative solution to avoiding the capital's congested streets whilst delivering ready-mixed concrete for high-rise developments in Canary Wharf. This floating plant at West India Docks is itself supplied by barge, significantly reducing the number of aggregate lorry journeys to site.

Current Position

During 2007 there was modest growth in aggregates and ready-mixed concrete markets, but a standstill in asphalt sales volumes. The general market reflected the continuing growth in construction output, which recorded an all-time high level in 2007. In the medium and longer term there remains significant demand for construction due to the identified needs to provide more housing and associated infrastructure, improve our schools and hospitals, provide more energy generation capacity and improve the quality of our transport, water and sewerage infrastructure.

In spite of these longer term prospects, the well documented economic, liquidity and credit problems which have decimated the housing market have spread to other sectors and orders for new construction have fallen significantly in 2008. As a result, sales volumes of aggregates and concrete will decline in 2008. The outlook for the asphalt markets is also depressed given the low levels of public investment in highway maintenance, improvement and construction. Within the market outlook, a significant trend is for increasing assessment of the sustainability of materials used in construction.

The recent Government 'Strategy for Sustainable Construction' envisages that by 2012 "25% of products used in construction projects will be from schemes recognised for responsible sourcing". The QPA is therefore working with industry colleagues to produce guidance for concrete and aggregates suppliers to meet the requirements of BRE's new responsible sourcing "Standard".

In spite of the current market difficulties, the QPA and members have increasing concerns about whether there will be sufficient aggregates reserves to meet long term construction needs. The reserves of sand and gravel in England have fallen by over 30% since 1995 due to sales volumes outstripping the awarding of new planning permissions. The QPA is working with Government and other stakeholders to identify the specific causes of declining reserves and what needs to be done to correct this imbalance to ensure long term security of aggregates supply.

In the marine sector the British Geological Survey (BGS) published a report commissioned by BMAPA which set out the socio-economic contribution of marine dredging, a particularly important document given the policy and planning changes anticipated under the Marine Bill.



Aspirations

We aim to continue to meet the requirements of the construction industry and other customers in the most sustainable manner.



Resource conservation

Core value

QPA members recognise that they must make the most efficient use of all resources.

Performance indicators

- Tonnage of aggregates produced and landed GB: **285 million tonnes**
- Volume from land sources GB:
200 million tonnes
- Volume from marine sources GB:
13.8 million tonnes
- Proportion from recycled & secondary sources: **25%**
- Per capita production in GB:
4.8 tonnes
- Water use metred/charged consumption per tonne of total production: **0.048 cubic metres per tonne**



Current position

Data continues to suggest that aggregates and quarry products are used efficiently in the UK. Sales volumes of aggregates have remained relatively stable in recent years, although the economic and construction difficulties now apparent will reduce demand in 2008 and 2009.

The use of recycled materials and secondary aggregates has increased significantly since the mid 1990s, both in terms of volume and market share, and the current 25% market share is over three times higher than the European average. Compared with the current sales of recycled materials and secondary

aggregates of around 70 mt per annum in Great Britain, the potential for further market growth is probably in the range of 5-10 million tonnes pa, as most available supply is currently in the market.



One issue of continuing concern is the potential for waste legislation, regulation and interpretation to inhibit the supply and use of recycled materials in the sector. The development of protocols with regulators such as the Environment Agency (EA) and other stakeholders can help to support recycling markets by defining clearly and rationally where waste streams become "products". During 2007, QPA welcomed news from the EA that it is now satisfied that Blast Furnace Slag (BFS) is a by-product, rather than a waste. The EA's regulatory position statement arrives on the back of a lengthy and concentrated lobby from the QPA and the industry to ensure that some 3mt of this important resource is maintained for national construction needs. The industry's position on BFS was also supported by the European Commission's recently published guidance using BFS as an example of a by-product.

QPA Scotland worked with the Scottish Environment Protection Agency (SEPA) to agree a June 2008 position on the re-use of asphalt planings which should ensure that these materials can be re-used in asphalt and aggregates markets. It is expected that the new 'Guidance on the production of fully recovered asphalt road planings' will lead to 500,000 tonnes of asphalt road planings being recycled per year.

In October 2007 the QPA welcomed news from the Treasury that it will not be going ahead with the proposed Planning Gain Supplement. In close liaison with the CBI Minerals Group and the CPA, QPA had been arguing vociferously against tax proposals that did not take into account the stark differences between minerals development and other forms of development, particularly housing. The proposed Community Infrastructure Levy (CIL) will apply to residential and commercial development and will be delivered through the planning system as opposed to national taxation. The system will also be linked to the Local Development Framework process. At this stage, it looks as though aggregates and mineral operations will be outside the scope of the CIL. This would be a very positive outcome for the industry and QPA will be closely monitoring progress of the legislation.

Aspirations

We aspire to ensure that all minerals are used appropriately and that we optimise the use of previously used materials. We would like to reduce our environmental footprint per tonne of material sold.

Environmental protection

Core value

QPA members take responsibility for the impacts that their operations have on the environment and are committed to minimising and mitigating such effects.

Performance indicators

- Sites with a certified environmental management system (EMS): **1,072**
- Proportion of sites covered by a certified EMS: **61%**
- Number of convictions for pollution and planning infringements for locations surveyed: **2**



Current position

There is an increasing number of industry sites identified as having certified environmental management systems, 1,072 in 2007. There was a low number of convictions identified for pollution and planning infringements, two in 2007.

In order to help members with the development and implementation of environmental management systems, QPA has published an updated guide on the issue - specifically geared towards SMEs.



This report also includes for the first time information on the type as well as the frequency of complaints received by QPA members. This information was requested at the Stakeholder Engagement event held by the QPA in 2007.

QPA and member companies work closely with national and local regulators, and will continue to build on these relationships to ensure that industry's environmental performance is sustained and improved.

Soil Directive

In early 2008 the Draft Soils Directive was rejected by the EU Environment Council of Ministers in a vote in Brussels. The Draft Directive had classified quarrying operations as "potentially soil polluting activities", which

opened the door to the industry facing expensive regulation that effectively duplicated existing UK regimes.

The rejection of the Soils Directive followed extensive campaigning by the QPA for common sense on the proposals. With no apparent risk basis for the positioning of quarrying as a "potentially soil polluting activity", QPA had been arguing that the UK planning, landfill and groundwater regimes and the imminent Mining Waste Directive already provided suitable means for addressing industry operations' potential impacts on soil. The result of the vote in Brussels therefore was a welcome avoidance of the increasingly familiar burden of double regulation. Unless this draft Directive is brought back to the Environment Committee before the end of the

year, it will be effectively lost in its present form, at least for several years.

Mining Waste Directive

The Mining Waste Directive was due to be transposed into national law by May this year, but several key aspects still require to be clarified in Europe. These points are not expected until the end of the year. The UK Government has resolved that the "competent authority" will be the Environment Agency and that permits will be managed through the nascent Environmental Permitting Programme or EPP. The QPA and colleagues from the CBI Minerals Group are lobbying hard to ensure that there is no duplication of regulation or unnecessary "gold plating".



Aspirations

We encourage our members to implement high standards of environmental management, including achieving certification to external standards. We believe this in turn will lead to the maintenance of our positive compliance record. We are striving to understand and reduce our environmental footprint by reducing waste disposal and finding new uses for previously discarded material.



Climate change and energy

Carbon Management Transport

Theme	Indicator	2007	2006	
Climate Change and Energy				
Carbon Management				
Energy Use	Electricity Use	0.83 m MWh	0.95 m MWh	
	Natural Gas Use	1.4 m MWh	1.45 m MWh	
	Gas Oil Use	238 m litres	215 m litres	
	Diesel Non-Transport	4.1 m litres	4.7 m litres	
	Fuel Oil Use	29.8 m litres	75.1 m litres	
	Recovered Fuel Oil Use	71.8 m litres	22.6 m litres	
	Total on Site	5.98 kg/CO₂ per t	7.71 kg/CO ₂ per t	
	% of Total UK Carbon Emissions	Operational	0.45%	
		Total including Transport	0.61%	
		Crushed Rock	4.02 kg/CO₂ per t	
	Sand and Gravel	3.98 kg/CO₂ per t		
	Ready-mixed Concrete*	1.80 kg/CO₂ per t		
	Asphalt*	26.82 kg/CO₂ per t		
Transport				
Transport Mode of Primary Aggregates	Rail	7.1% of aggregates sold	15.1 m t	14.4 m t
	Marine Dredging	6.4% of aggregates sold	13.8 m t	14.0 m t
	Ship	2.87% of aggregates sold	c. 6 m t	c. 6 m t
	Inland Waterways	Less than 0.5% of aggregates sold	up to 1 m t	up to 1 m t
	Road		c. 200 m t	c. 200 m t
Transport by Mode	Average road delivery distance	Aggregates	35 km	46 km
		Asphalt	28 km	
		Ready-mixed concrete	8.3 km	
	Average rail delivery distance	Aggregates	144 km	150 km
	Average barge delivery distance (inland)	Aggregates	49 km	88 km
		Aggregates	21.3 t	19 t
	Average road volume/load	Asphalt	18.4 t	
		Ready-mixed concrete	6.0 cu m	
		Aggregates	1,726 t	1,628 t
	Average barge volume/load		256 t	396

*Emission figures for Ready-mixed concrete and Asphalt are for the production process only, and do not represent the total embodied emissions.

Carbon management

Core value

QPA members support the Government policy of reducing emissions of greenhouse gases.



Performance indicators

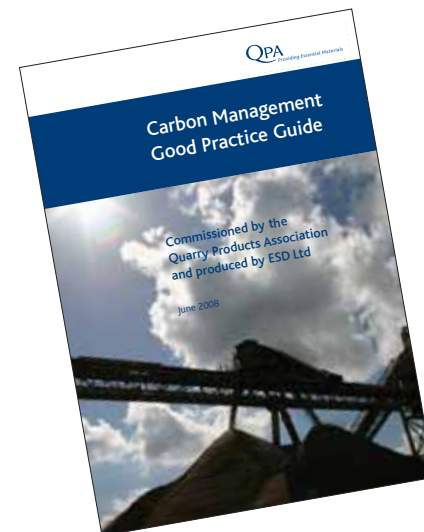
- Percentage of total UK carbon emissions:
 - Operational: **0.45%**
 - Total including transport: **0.61%**
- Carbon emissions:
 - Crushed rock: **4.02 kg/CO₂ per tonne**
 - Sand & gravel: **3.98 kg/CO₂ per tonne**
 - Ready-mixed concrete*: **1.80 kg/CO₂ per tonne**
 - Asphalt*: **26.82 kg/CO₂ per tonne**
- Energy use:
 - Electricity: **0.83 million megawatt hrs**
 - Natural gas: **1.4 million megawatt hrs**
 - Gas oil: **238 million litres**
 - Diesel non-transport: **4.1 million litres**
 - Fuel oil: **29.8 million litres**
 - Recovered fuel oil: **71.8 million litres**

*Emission figures for Ready-mixed concrete and Asphalt are for the production process only, and do not represent the total embodied emissions.

Current position

Following the 2007 launch of the QPA's 'Carbon Reduction Statement of Intent', a number of initiatives have taken place to implement the commitments made in the 'Statement of Intent'. These initiatives include:

- Commissioning and publishing a report from energy and emission specialists ESD entitled a 'Carbon Management Good Practice Guide' to encourage and support action to improve carbon management in the sector.



- A series of industry briefings throughout the UK focussing on carbon issues and action to better manage and reduce emissions. The briefings included presentations on industry case histories and external contributions from the Carbon Trust and the Safe and Fuel Efficient Driving Scheme (SAFED).

- Upgrading the QPA website 'Carbon Zone' with more resources to support member action.

- Expanding the analyses carried out in the Sustainable Development survey and report to identify more detailed carbon emissions data for the sector. This report includes specific emissions data not just for the industry as a whole, but for crushed rock, sand and gravel, ready-mixed concrete and asphalt.

- Working with Defra in England to ensure that the ALSF has a specific objective and resource focussed on carbon reduction.

The 2007 data suggest an overall reduction in average sector carbon emissions compared with earlier survey years, although, as a less intensive energy sector (apart from lime), there is limited historic data on sector carbon emissions. Given the large number of members and variety of sites from which data is collected, and the fact that carbon reduction is a relatively new focus for a number of companies, we would not claim that our carbon emissions data is yet precise or

absolutely consistent with previous years, but the indicative trend is clearly positive.

This report includes an estimate of carbon emissions from industry transport for the first time, but given the number of variables present when making this calculation the figure should not be regarded as precise. The total of 253,000 tonnes of carbon is equivalent to nearly 28% of the sector total (including both aggregates and value added products), but transport accounts for around 40% of emissions related to aggregates operations.



Aspirations

To ensure that the sector makes a full contribution to meeting the carbon reduction targets set out in the Government's 'Strategy for Sustainable Construction' and to provide QPA members with resources and information to support company activity.



Sibelco UK Ltd (formerly WBB Minerals) has been running an energy reduction/carbon management campaign for the last five years and have so far reduced carbon emissions by over 25,000 tonnes. This success has led them to become the first quarrying company to receive Energy Efficiency Creditation from the National Energy Foundation.

Transport

Core value

QPA members are committed to reducing the impact of the transportation of aggregates and quarry products.

Performance indicator

- Transport mode of primary aggregates:
 - Rail: **15.1 million tonnes**
 - Marine dredging: **13.8 million tonnes**
 - Ship: **c. 6 million tonnes**
 - Inland waterways: **up to 1 million tonnes**
 - Road: **c. 200 million tonnes**
- Transport by mode:
 - Average road delivery distance:
 - Aggregates: **35 kilometres**
 - Asphalt: **28 kilometres**
 - Ready-mixed concrete: **8.3 kilometres**
 - Average rail delivery distance:
 - Aggregates: **144 kilometres**
 - Average barge delivery distance (inland):
 - Aggregates: **49 kilometres**
 - Average road volume/load:
 - Aggregates: **21.3 tonnes**
 - Asphalt: **18.4 tonnes**
 - Ready-mixed concrete: **6.0 cubic metres**
 - Average rail volume/load: **1,762 tonnes**
 - Average barge volume/load: **256 tonnes**

Current position

The transport of aggregates and quarry products, notably delivery to customers, is highly significant for the industry, both in commercial and sustainability terms. A key issue over the past year has been the increasing costs arising from fuel rises. While such changes are outside the influence of the sector, the QPA has actively supported the ALSF funded Safe and Fuel Efficient Driving (SAFED) aggregates scheme. The previous SAFED programme, which finished in March 2007, generated average fuel consumption savings of 14% and a new SAFED programme is now underway.



The industry has long been a major user of rail freight, and in 2007 over 15 million tonnes of aggregates were transported by rail. In order to maintain future access to the rail network in London and the South East, QPA again petitioned against the Crossrail Bill during its consideration by the House of Lords Select Committee in early 2008, due to concerns that the powers in the Bill might have had the effect of unreasonably restricting rail access for the freight and aggregates sector. Following a long campaign by rail freight interests, including the QPA, and a constructive approach by the Crossrail operator and Rail Regulator, the Crossrail Act now includes significant safeguards for future rail deliveries into London and the South East.



Equally significant for road freight was the decision by the DfT, following a review of the implementation of the legislation, to retain the existing guidance on the operation of the Working Time Directive for Road Transport. QPA evidence demonstrated that the existing interpretation of the maximum 48 working week was compatible with improving health and safety, and was essential to sustain road transport efficiency and productivity in the sector.



In order to enhance transport health and safety, the QPA has published a series of guidance notes specifically designed to highlight and manage hazards associated with road transport. QPA has continued to implement its policy of requiring sector drivers to hold EPIC Driver Skills Cards. To date over 14,000 drivers have been awarded Skills Cards covering an estimated 70% of deliveries. There is now a significant challenge to extend the take up of Driver Skills cards to 'less regular' drivers in the sector.



Aspirations

The aggregates industry is keen to make full use of all modes of transport. In addition, it is important that the transport of aggregates is carried out as efficiently as possible to minimise the impact of transport on local residents.

Currently, we do not know enough about the effect of aggregates transport on carbon emissions, and we see the improvement of this base data and the minimisation of carbon emissions as key challenges to be addressed by the industry in association with our stakeholders.

We aim to ensure that an increasing proportion of industry drivers benefit from industry specific training and the award of a Drivers Skills Card.

Natural resources and enhancing the environment

Biodiversity Heritage Restoration of land Geodiversity



Theme	Indicator	2007	2006
Natural Resources and Enhancing the Environment			
Biodiversity			
Planting	Trees planted	171,581	218,109
	Hedgerows planted	6.3 km	11.4 km
Dry Stone Walling	Kilometres built	5.129	3.120
Sites of Special Scientific Interest (SSSIs)	SSSIs related to quarrying	120	
	% of SSSI assessments in favourable/recovering condition	75%	
Heritage			
Archaeology	Land investigated pre planning permission	451 hectares	513 hectares
	Land investigated post planning permission	473 hectares	350 hectares
Restoration/Land and Seabed Use			
Land Use and Restoration	% of the UK land area being quarried	0.12%	0.11%
	Ratio of land restored to land prepared for quarrying	1:0.9	1:0.6
Seabed Use	Area of seabed licensed for marine dredging	1,344 km²	1,316 km ²
	Area of seabed available for marine dredging	556 km²	576 km ²
	Area of seabed dredged	134.7 km²	140.6 km ²

Biodiversity

Core value

QPA members are committed to improving biodiversity.

Performance indicators

- Trees planted: **171,581**
- Hedgerows planted: **6.3 km**
- Industry Sites of Special Scientific Interest (SSSIs) in favourable or recovering condition: **75%**



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

Current position

The measurement and assessment of the industry's impact on Biodiversity is a challenging issue. The QPA's SD reporting measures tree and hedgerow planting, but clearly these are only limited indicators. Over the past year there have been a number of significant developments in this area:

- Having identified biodiversity as a key issue for the QPA, work has started on a process of trying to better establish the QPA member biodiversity 'assets'. As part of the

QPA Biodiversity 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 national biodiversity network
- 6 Specifically support the Nature After Minerals project working with the RSPB and Natural England to encourage members to contribute to biodiversity when opportunities arise

QPA's Biodiversity Action Plan launched at the 2008 Showcase, initial survey work, for example, has so far identified land holdings owned or managed by QPA members in excess of 300 sq km, equivalent to the area of the Norfolk Broads National Park.

- Following research which confirmed the significant contribution the minerals industry makes to improving biodiversity through the operation and restoration of sites, Natural England and the RSPB have implemented 'Nature After Minerals', a major initiative to use site restoration to meet key national and local biodiversity objectives. The QPA is a partner in this three-year project which was formally launched at parliamentary reception in March 2008.



- Natural England has produced initial information on the relationship between the minerals industry and SSSIs. Over 120 SSSIs, including 246 areas for which condition assessments are made, have so far been identified which can be linked with QPA member operations. This data is not yet complete and has to be interpreted with care, but so far indicates that 75% of these assessments show industry linked SSSI conditions are either in "favourable" or "recovering" condition.

- QPA Northern Ireland is implementing 'Our Nature with Aggregates', a strategy to conserve and enhance biodiversity and geodiversity from the aggregates and quarry products industry in Northern Ireland.



Aspirations

To improve our understanding of the biodiversity impact of the industry. We aspire to help nature conservation agencies to achieve the Public Service Agreement target of 95 per cent of all SSSIs in favourable condition by 2010.



David Bellamy, Mike Young and schoolchildren at the launch of the 'Tarmac Schools' Biodiversity Challenge' at Alnwick Castle.



Breathing Places is a major BBC Learning campaign to inspire the creation and care of nature-friendly green spaces. As part of Aggregate Industries involvement local schoolchildren were invited to take part in a seed hunt at Falls of Clyde Nature Reserve. The collected seeds have been planted and are being nurtured as part of a tree planting programme around Duntilland Quarry.

Heritage

Core value

QPA members recognise the value that must be placed on our national heritage and will ensure that heritage assets in their care are always treated appropriately.

Performance indicators

- Land investigated pre planning permission: **451 hectares**
- Land investigated post planning permission: **473 hectares**



Current Position

Archaeological resources are an important factor taken into account by QPA members and planning authorities when considering how and where mineral working should take place.

Archaeologists recognise that mineral working often provides them with valuable opportunities to investigate evidence of the past but it has to be acknowledged that mineral extraction can result in the destruction of archaeological remains.



A Minerals and Historic Environment Forum has been established which brings together representatives of the principal archaeological professionals and the minerals industry under the chairmanship of English Heritage.

The first major achievement of that Forum was the publication of 'Mineral Extraction and Archaeology: A Practice Guide' in May this year. This was supported by the ALSF. Taken together with the 'CBI Code of Archaeological Practice' and current National planning policy in PPG15 and 16, the new Guide aims to re-establish a reasonable and consistent basis for decisions regarding minerals working and archaeology.



In particular, if the practices in the Guide are followed, it will ensure that all archaeology present on mineral working sites is managed appropriately and that valuable remains are not needlessly or thoughtlessly destroyed in meeting the need for minerals.

QPA members have cooperated with other ALSF projects related to the historic environment including recent work led by English Heritage on the dissemination of the results of ALSF heritage related research.

As a responsible seabed user, the marine aggregates industry is keen to preserve our marine heritage and to contribute to better

understanding of it. Heritage issues that have to be taken into account include the more obvious ship and aircraft remains, but also prehistoric landscapes and artefacts, including cannon balls and prehistoric fossils. In recent years, BMAPA has worked in partnership with English Heritage to produce a Guidance Note followed up by a Reporting Protocol for finds encountered during the production process. BMAPA has now published their second annual report of the BMAPA archaeological reporting protocol. This summarised 30 individual reports from wharves and vessels, with over 350 individual finds.

Aspirations

The new practice Guide has been endorsed by all the organisations represented on the Forum. Our hope is that it will be adhered to by all practitioners and that the inconsistent and unreasonable requirements of some mineral planning authorities will be a thing of the past. QPA will be monitoring decisions to assess the effectiveness of the Guide.

QPA will aim to bring further heritage related issues to the attention of the Forum with a view to further decreasing the uncertainty for mineral operators associated with the historic environment.



© Wessex Archaeology

Restoration of land

Core value

Quality restoration and aftercare of industry operations, sensitive to local requirements, is an essential part of the responsible stewardship that QPA expects from its members.

Performance indicators

- % of the UK land area being quarried: **0.12%**
- Ratio of land restored to land prepared for quarrying: **1:0.9**



Current position

QPA Restoration Awards

The Awards celebrate the remarkable steps operators continue to take to restore quarried land to beneficial after-uses and reward some of the best examples of sustainable practice. In 2007 there were an unprecedented thirteen high quality entries for the panel of independent judges to assess. The Cooper-Heyman cup - the coveted top prize for outstanding quarry restoration - was awarded to Aggregate Industries for its Forfar Quarry restoration in Angus. Here restoration to lochans and wetlands rich in wildlife and birds combines with an educational facility for local schools. QPA Chairman Lynda Chase-Gardener made a further presentation of the Chairman's Trophy to sand and gravel operator The Hills Group for its work at Langford Lakes in Wiltshire which, as well as exhibiting high quality technical restoration, also took great lengths to include the community in the project in unique ways.



transformed into a first class nature reserve, won the Cooper-Heyman Cup. The former sand and gravel operation displayed leading practice on restoration for wildlife, going far above and beyond the level expected by planning authorities.

A Chairman's Trophy was also awarded to Eton Aggregates' Dorney Lake in Berkshire for the exceptional social contribution it has made, locally, nationally and internationally. Dorney Lake has been restored to a 2,200m Olympic standard rowing course, park, arboretum and nature conservation area, and will be used for the 2012 Olympic rowing and flat water



canoeing events. Eton Aggregates is a joint venture company featuring QPA members CEMEX, Lafarge and Tarmac.

In May 2007 the Dorney lake restoration also took home the award for 'Economic Contribution to Society' at the UEPG Sustainable Development Awards in Brussels, where prizes were awarded for submissions across the European Union.

Nature After Minerals

Minerals sites are often ideal for creating wildlife habitats such as wetlands, heath, grasslands and woods. The 'Nature after Minerals' Programme (NAM) aims to make



substantial contributions to the habitats and species in the UK Biodiversity Action Plan targets and provide richer places for people to enjoy. QPA has signed up to work in partnership with Natural England and the RSPB to achieve this.

Inert Waste

In February this year the QPA submitted its response to a consultation on inert waste regulation being held by Defra, the Welsh Assembly Government and the Environment Agency. The review of the regulations follows recommendations from 2006's Davidson Report for a more "proportionate" approach to inert waste, in direct response to the QPA's calls.

Currently, the use of inert waste in quarry restoration is generally considered "waste disposal", with some producers of such wastes more inclined to take the materials to unlicensed disposal sites where regulation is less restrictive. Because of this, some quarry operators are finding that effective restoration is becoming more difficult to carry out in some areas with inert wastes going elsewhere.



It is hoped that the consultation will create a simplified regulatory landscape that will allow more inert waste to be used constructively for restoration, an outlet that the QPA feels matches the Government's aims to "minimise burdens on business, whilst securing outcomes which maximise resource efficiency".

Aspirations

The industry has a long and widely recognised track record for the effective restoration of mineral extraction sites which enable the re-use or 'recycling' of land to beneficial and often improved after-uses. This success is heavily dependent upon the industry being able to attract sufficient and suitable inert materials to infill the voids created by extraction. Our aim is to further increase recognition of the problem and the contribution to sustainability that restoration and 'recycling' of land provides.

Geodiversity

Core value

QPA members are committed to improving the management of geodiversity.

Performance indicators

No specific indicators.

Current position

The concept of geodiversity is less well known and not as developed as biodiversity but interest in the subject area is growing.

Underlying geology is a major influence on the geodiversity and land uses above it and yet it is often difficult to demonstrate those links as there are few sites where rocks are exposed.

The quarrying industry has a significant part to play in exposing geology and adding to the overall fund of geological knowledge.

QPA members have assisted in the production of several local Geodiversity Action Plans (IGAPs) and detailed geodiversity audits have been produced for active quarrying areas in Devon and Somerset, using support from the Aggregates Levy Sustainability Fund.

Many active and restored quarries have established educational facilities which give a high profile to interpretation of local

geology and in some cases access to the geological features themselves.

In May this year, QPA Scotland welcomed the launch of Scottish Natural Heritage's Fossil Code which will provide advice on best practice in the collection, identification, conservation and storage of fossil specimens found in Scotland. The Code also aims to enhance public interest in the fossil heritage of Scotland and promote this resource for scientific, educational and recreational purposes.

The code was drafted with the assistance of a number of specialist groups, including fossil collectors and palaeontologists, land owners and quarry operators, on behalf of whom QPA Scotland fed into the document. QPA was particularly keen to stress the importance of safe and organised access to sites with a potential fossil interest and QPA recommendations play a key part of the final Code.

Quarry sites are places of work, and strict safety procedures must be followed at every operation.



Aspirations

We will continue to work with Natural England and local geoconservation groups to raise the profile of geodiversity and to make quarry sites available as local earth science resources for schools and universities wherever possible. In particular we will seek to increase the contribution of the aggregates industry to Geodiversity Action Plans.



Creating sustainable communities

Health & Safety Employment Competent workforce
Working with the community Stakeholder accountability



Theme	Indicator	2007	2006
Creating Sustainable Communities			
Health and Safety			
Reportable Injuries	Number of Reportable Injuries	152	177
Employment			
Sector Related	Number of Sector Related Employees		86,360
Competent Workforce			
Training and Qualifications	NVQs Registered - Cumulative to 2006/7	13,190	11,969
	Number of SHE NVQs Levels 3 to 5	1,215	903
Working with the Community			
Complaints	Number of Complaint Incidents	671	683
	Number of Complaints	690	756
Complaints by Type	Blasting	18% of total	123
	Dust	25% of total	175
	Lighting	2% of total	14
	Noise	16% of total	112
	Odour	3% of total	21
	Transport	8% of total	56
	Water discharge	8% of total	52
	Unclassified	20% of total	137
Community Links	Liaison groups (55% of quarries)	307	324
	Open days	26	64
Education	Site educational visits	853	868
	Number of visitors	18,365	

Health & safety

Core value

The highest priority for QPA members is the health and safety of their employees, contractors, customers and everyone who visits their operations and other premises.

Performance indicator

- Number of reportable injuries: 152

Current position

Further Progress Towards Zero Accidents

Reportable injury figures for 2007 showed another year-on-year improvement from the sector and confirm that quarrying is continuing to make progress towards its current 5-year hard target to halve injuries by 2009.



At the conclusion of the QPA's first five year hard target cycle in 2004, reportable injury totals stood at 288. With 2007's figure being 152, it represents a significant and encouraging improvement. However, the industry recognises that even a single injury is unacceptable and improved figures only represent another step towards the expectation of zero injuries.



QPA has now set itself the new Hard Target ("HT3") of securing a 50% reduction in Lost Time Incidents by the end of 2014 (baseline: 2009). Work has advanced on producing a guidance document for members and achieving a clearer view of QPA's performance in relation to that of related sectors.

Sharing Best practice

A critical aspect of QPA's activity is working in partnership with its members and other stakeholders to both identify and disseminate best practice. QPA provides the Chair of the UEPG Health & Safety Committee in Europe and is a founding member of the "Atlantic Alliance" which has been formed between Industry and its Regulators on both sides of the Atlantic to further a range of internationally-important health & safety issues.

The Safequarry.com website been extended to include more information and resources, including 49 toolbox talks. It is now more user-friendly and users can now register for CPD. In 2007 the site won both the Social Initiative Award in the Trade Association Forum Best Practice Awards and at European level, the Social Award in the UEPG Sustainable Development Awards.

The keynote speaker at the 2007 Health and Safety Best Practice Awards was Judith Hackitt CBE, Chair of the Health and Safety Commission, who spoke about the industry's exemplary performance in improving its health and safety record. A record 205 entries were received, underlining the industry's commitment to improving performance. The Sir Frank Davies trophy went to Blasting Services Ltd for the second year running, with the most prestigious overall prize - the John Crabbe Trophy - being presented to CEMEX UK.

On the marine front, BMAPA in partnership with The Crown Estate and with the support of the Hampshire Police and 11 EOD Regiment, Royal Logistic Corps has produced a Munitions Awareness training DVD.



Respirable Crystalline Silica - Social Dialogue Agreement

The first quantitative reporting for the EU "Silica" Social Dialogue Agreement (SDA) has been concluded and reported to the bipartite "NePSi" Council, which represents the 15 industries across the 27 EU nations. 430,000 employees were covered by the Report which was regarded as a clear success.

Table 1

QPA; HSE
Reportable
Injuries

	2004	2005	2006	2007	QPA Target 2009
Number of Reportable Injuries	288	231	177	152	≤144

Figure 2

Injuries
Reportable to
the HSE

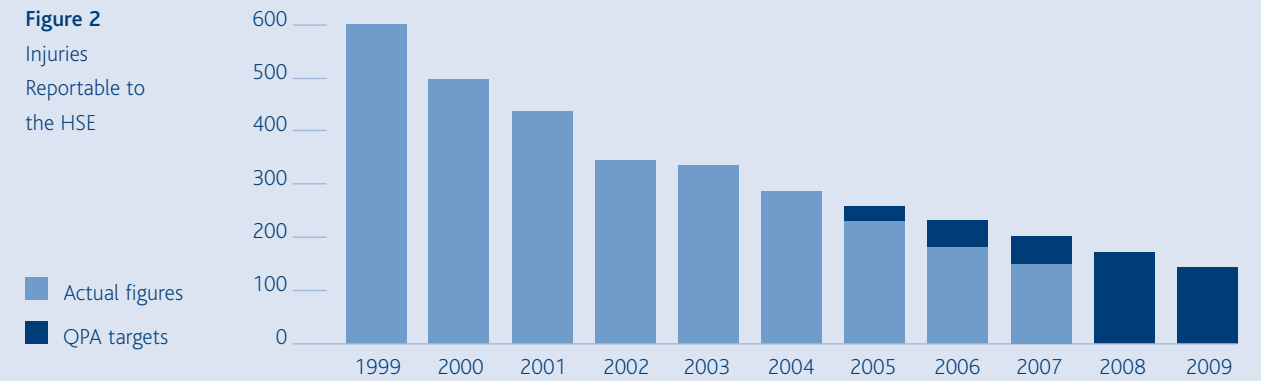


Figure 3

Accident
Incident Rate
(per 100,000
direct
employees)

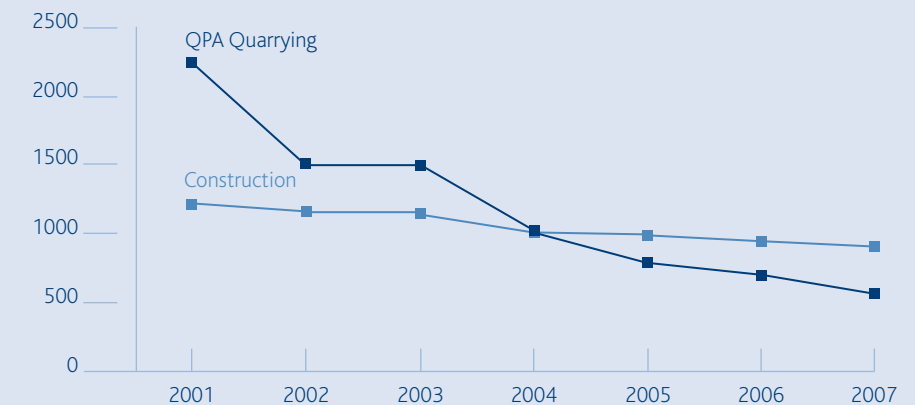
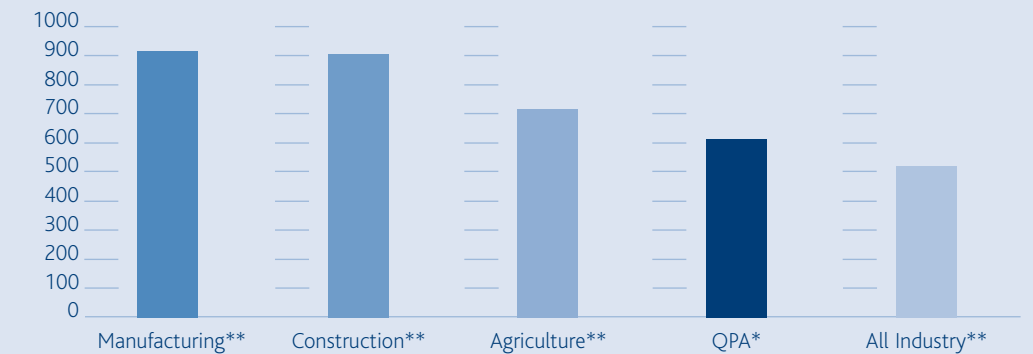


Figure 4

Accident
Incidence Rate
(per 100,000
direct
employees)



*QPA data for calendar year 2007 (all activities)

**Manufacturing, Construction, Agriculture and All Industry data: HSE GB 2007/08

Employment

Core value

QPA members recognise that their operations are an important source of employment and economic activity.

This 4-year Agreement, which came into force in October 2006, applies to every EU Member State. QPA ensured that its members were fully engaged with the process by running a series of regional workshops.

Aspirations

The ultimate aspiration of QPA members is zero incidents. The industry acknowledges that this is a particularly hard target but it regards it as its social responsibility to aim for nothing less. The association is on track to meet the current Hard Target of a 50% cut in RIDDORs between 2005 and 2009 based on the 2004 outcome. For the period beyond 2009 the QPA has set a new Hard Target of a 50% reduction in LTIs by the end of 2014 from a 2009 baseline.



Performance indicator

- Number of Sector Related Employees: **86,360 (2006)**

Current position

There are a number of sources of data on industry employment, the results of which are not always consistent. However, considering data from either the AMRI survey or Labour Force Survey, it is apparent that employment in or associated with the aggregate sector is significant and broadly based throughout the UK.

Careers Campaign

The careers website www.careersinquarrying.co.uk continues to attract increasing visitor numbers - with new candidates registering their CVs every day. Free careers promotional materials have also been produced for members and careers services and a targeted media campaign is in progress.



The QPA and BAA together with Proskills have been developing a relationship with the Ministry of Defence Careers Transition Partnership following the identification of skills similarities between departing forces personnel and the extractives industry. Recent activity includes industry representation at key MoD employment fairs and liaison with QPA's regions. With the industry struggling to find the right calibre of candidate in some parts of the country, it is hoped that future activity could go some way to addressing the shortfall.

Aspirations

We aspire to be an industry of choice for prospective employees.



Competent workforce

Core value

QPA members recognise the need to maintain and develop a competent workforce.

Performance indicator

- NVQs Registered - Cumulative to 2006/7: **13,190**
- Number of SHE NVQs Levels 3 to 5: **1,215**

Current Position

The increasing cumulative number of NVQs/SVQs awarded indicates of the industry's desire to improve the skills of the workforce. This focus has strengthened following the publication of the June 2008 'Strategy for Sustainable Construction', which includes training and qualifications targets for the Construction Industry, and the associated sectoral initiatives from Proskills, the Sector Skills Council which covers the aggregates sector.

QPA Scotland has heralded the signing of a new Training Delivery Contract between Proskills and Scottish Enterprise, which will support training for quarry operators until the end of March 2010. The project will provide operators with access to funding up to a maximum of 50% of the training costs as well as specialist help in the development of bespoke company training plans.

As covered in the Transport section of this report, a particular target area for improving skills over the past year has been road transport, through the Epic Driver Skills Card initiative and the new SAFED programme.



Aspirations

The industry is committed to developing the workforce to levels that are appropriate to employees' current positions and future career aspirations. It would like to see a major step forward in the number of health, safety and environmental qualifications as this would assist in the delivery of the sustainable development objectives.



Working with the **community**

Core value

QPA members recognise that their operations are part of the local community and strive to be good neighbours.

Performance indicators

- Recorded number of complaints: **690**
- Sites with community/liaison group: **307**
- Percentage of quarries with community/liaison group: **55%**
- Educational visits: **853**
- Open days: **26**

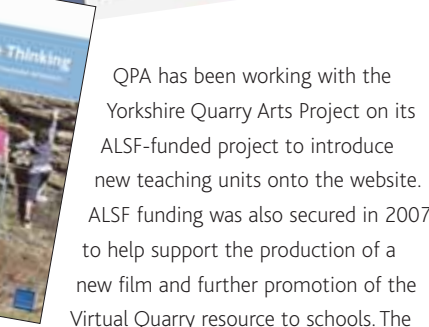


Current position

Play Safe

In the last 18 months QPA has ensured that this vital awareness raising campaign has remained at the heart of its community engagement.

A new survey of quarry operators carried out this Spring showed that 60 per cent of our members' quarries have experienced trespass problems in the last two years and over half expect further incidents in the forthcoming year, with teenage trespass being their biggest concern in safety terms.



QPA has been working with the Yorkshire Quarry Arts Project on its ALSF-funded project to introduce new teaching units onto the website. ALSF funding was also secured in 2007 to help support the production of a new film and further promotion of the Virtual Quarry resource to schools. The film will act as a demonstration to teachers on how the resource can be adopted in the

The data collected through the survey allowed QPA to regionalise its campaign more effectively than ever before. Media coverage since May has been particularly strong, including 60 radio interviews, site media days and television coverage.

Education Programme

The main focus of QPA's Education Campaign has been on expanding the use of the interactive online education resource, www.virtualquarry.co.uk, which is free for teachers and students to use at home or at school.

classroom and how to maximise the potential of the site. QPA believes the extension activity will further improve take up of units within schools. Current unique visitors to the site are still numbering between 25,000 and 30,000 thousand each month.



QPA exhibited the Virtual Quarry at the Association of Science Education (ASE) event at the University of Southampton in March, meeting teachers and education leaders face-to-face to promote the resource. Feedback on the site has been resoundingly positive since its launch two years ago, with a recent Derbyshire school having used the quarry tour function and 'rocks and soils' unit with some 100 year 3 and 4 pupils.

QPA is now a Business Member of the Education Business Partnership and work is ongoing to explore potential partnership activities. We are also exploring how to take advantage of the new forthcoming Diploma on Land Use and Sustainable Development.

Make The Link

A new "make the link" film featuring a number of QPA products was shown at Showcase 08. The film is also intended to have a life after the event as part of the QPA's Make the Link campaign.



"Cheggers" investigates everyday uses of minerals

Aspirations

The industry would like to see quarrying and related operations become increasingly valued by members of the community. There has been a long-standing relationship between mineral extraction and rural communities in particular. Operators must continue to work on both transparency and performance in order to build trust within communities and co-exist without friction. A reduction in the number of complaints per location would be a significant indicator of performance. As the coverage of the survey increases, the absolute number of complaints may increase, although this may be consistent with a reduction in the rate of complaints. We will also need to ensure that information on complaints is recorded in a consistent manner.



Stakeholder accountability

Core value

QPA members recognise the importance of operating as good corporate citizens.

Performance indicator

- No specific indicator, but a requirement across the Core Values.



HRH Princess Anne opens The Tree House Centre, a new environmental education centre at Cannock Forest, Staffordshire. The Centre has been developed by the Forestry Commission in partnership with CEMEX UK.



Tarmac's Community Investment Programme supports a number of projects throughout the UK, including funding the football kit for the Kewford Eagles under 7's South team.

Current position

The QPA and its members view themselves as a key part of the solution to Government's aims for building sustainable communities, tackling climate change and protecting and enhancing the environment. As such the industry engages with a vast range a stakeholders in an attempt to further understanding, build collaborative partnerships and increase expertise in sustainable practices.



QPA's sustainable development strategy aims to achieve progressive improvements against core values and key indices. QPA has committed to producing annual performance reports which evolve to take account of our stakeholders' concerns.

QPA's main spotlight on its performance is its annual Showcase event. Showcase 2007 celebrated Ten Years of the Quarry Products Association by celebrating the major leaps forward of the last ten years for the sector, as well as looking forward to what might be in store for the industry in another ten years' time. Former Defra Minister, Barry Gardiner MP, presented the QPA Restoration Awards and spoke warmly of the industry's contribution to biodiversity.

QPA Showcase 08 was attended by a high profile audience of over 470 key stakeholders and industry delegates. The issues driven event was hosted by Channel

4 broadcaster Krishnan Guru-Murthy. The QPA provided an update on progress against the 'Carbon Reduction Statement of Intent' and announced a new pledge for an increased focus on biodiversity.

The Showcase is just one of a range of seminars, conferences and other events on subjects including mineral planning, health & safety and asphalt technology which QPA runs to enable informed debate. QPA's structure comprising five English regions and allied organisations in Wales, Scotland and Northern Ireland provides an opportunity to sit at the heart of both local and national issues.



A good example is how QPA has worked with the distributing bodies of the ALSF to help ensure that the fund is used in the most productive way, particularly within communities around our operations. QPA also supported the project to distil some of the best ALSF research projects into one easily-digestible pool of knowledge. Working with English Heritage, MIRO and other funders this has resulted in a useful website sustainableaggregates.com and a range of themed reports.



Another exemplary example is the role of BMAPA as part of the Seabed User and Developer Group in representing marine development interests in the Marine Bill process. Recently, BMAPA has become a signatory for a joint statement on the Marine Bill that highlights areas of common agreement on the draft Bill with fellow seabed users. The joint statement between the Seabed User and Developer Group (SUDG), to which BMAPA belongs, and the Wildlife and Countryside Link (Link), shows how the marine

sector and environmental interest groups can work together to ensure the sustainable development of the marine environment.

QPA's family of ten public websites covering products, safety, education and careers are also designed to encourage maximum engagement. www.qpa.org which regularly receives around 32,000 unique visitors a month, won both the Communications in Business national prize for website design and Website of the Year at the Trade Association Forum's Best Practice Awards.



Aspirations

Our sustainable development strategy will act as a catalyst to both improve and extend our relationships with stakeholders. This engagement will help to define priorities in terms of sustainability and identify any new partnerships that would be beneficial.

Appendices

Market summary 1980 - 2007

	GDP chained volume measures £m	Construction output (GB) £m 2000 prices	Primary aggregate sales (GB) million tonnes	Crushed rock million tonnes	Sand & gravel (total) million tonnes	Sand & gravel (marine)* million tonnes	Recycled/ secondary (GB) million tonnes (est)	Total aggregates (GB) million tonnes	Asphalt (GB) million tonnes	Ready-mixed concrete (GB) million cu m
1980	607,787	50,728	199	103	96	12.5	20	219	24	22.4
	599,011	45,829	182	92	89	11.5	18	200	22	19.9
	610,489	47,487	194	103	91	11.9	19	213	26	20.7
	632,065	51,576	213	112	101	12.8	21	234	27.2	21.5
	648,325	53,627	211	111	100	12.6	21	232	25.5	20.8
1985	671,375	54,219	217	115	102	13.8	22	239	26.9	21.6
	697,894	56,178	228	123	106	15.3	23	251	28.4	21.5
	729,638	62,580	254	142	111	16.2	25	279	29.9	24.3
	765,932	68,616	291	162	130	19.6	29	320	31.8	28.8
	782,429	71,857	300	169	131	20.7	32	332	33.7	29.6
1990	788,152	72,085	278	162	116	17.2	33	311	36.7	26.8
	777,403	66,841	246	148	98	12.4	34	280	36.4	22.5
	779,563	64,033	233	144	89	10.6	35	268	36.6	20.8
	798,489	62,823	239	150	89	10.1	37	276	36.3	20.8
	833,681	62,589	259	162	98	11.3	39	298	37.7	22.9
1995	857,522	63,381	241	151	90	11.6	42	283	34.9	21.7
	880,854	65,776	215	133	82	11.5	45	260	29.3	20.9
	908,655	67,369	220	134	86	12	48	268	27.5	22.3
	938,101	68,411	218	132	86	13	51	269	27.7	22.9
	966,551	69,294	221	133	88	13.4	54	275	26	23.6
2000	1,005,542	69,676	219	130	89	14.4	57	276	25.7	23
	1,027,906	71,087	222	134	88	13.6	60	282	26.5	23
	1,048,456	74,090	210	127	83	13	62	272	27.8	22.5
	1,074,858	77,852	203	123	80	12	64.5	268	27.8	22.3
	1,108,890	80,254	214	128	86	13	67	281	26.9	22.9
2005	1,127,741	79,540	204	122	82	13	68.3	272	27.9	22.4
	1,160,446	80,569	207	127	80	14	70	277	25.7	22.9
	1,196,419	82,424	214	133	81	14	71	285	25.7	23.5

*Marine sand and gravel volumes include only UK landings for construction purposes

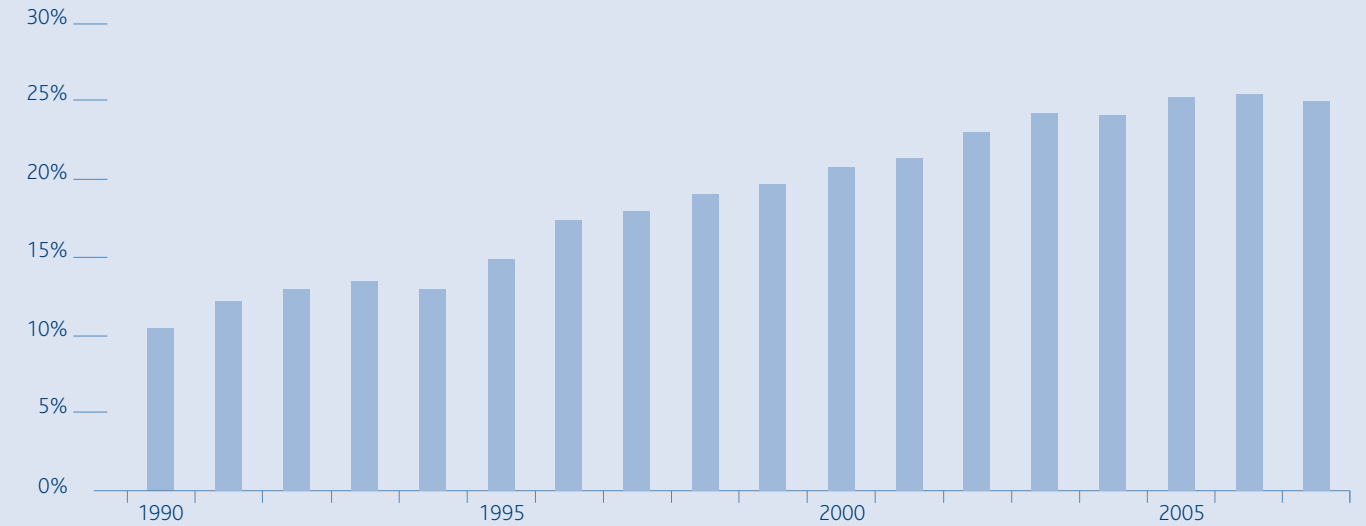
Appendices

European production of aggregates

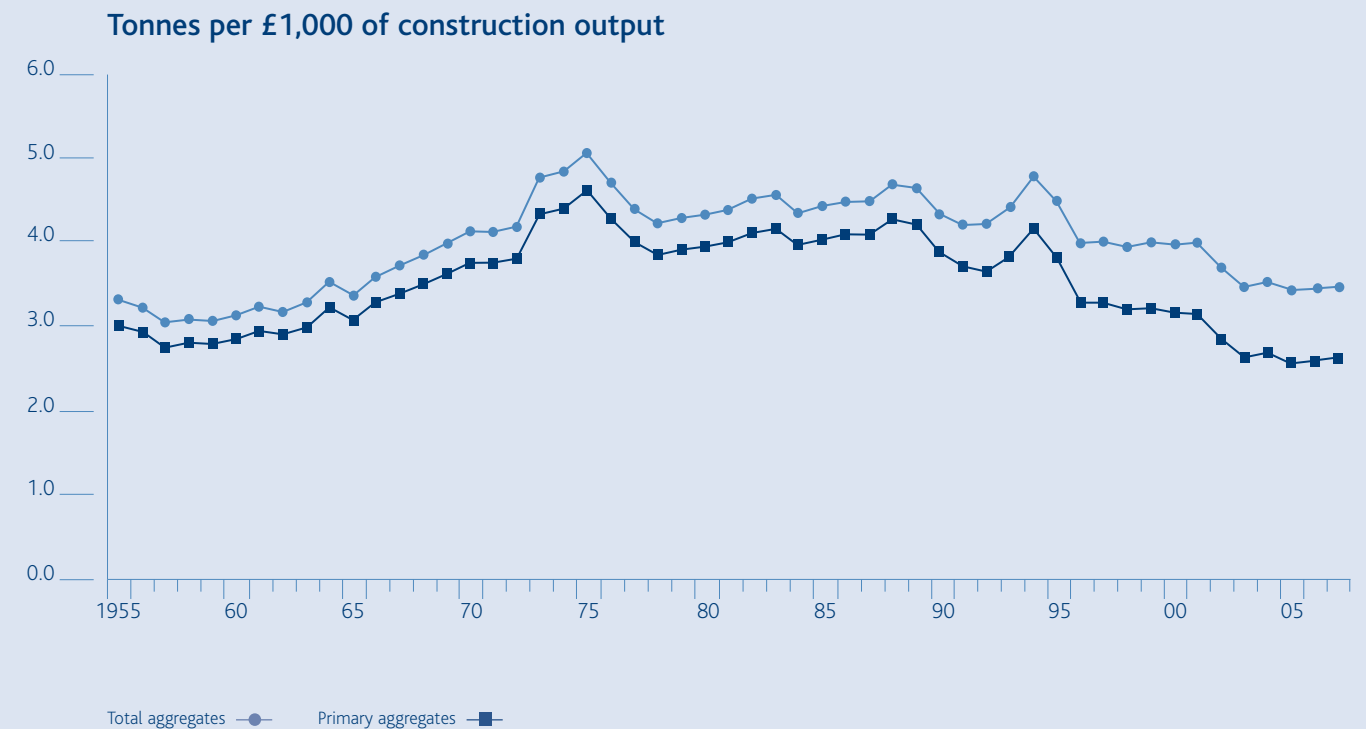
	2006 volumes (million tonnes)				
	Sand & gravel	Crushed rock	Recycled/secondary	Total	Per capita
Austria	66.0	32.0	6.5	104.5	12.6
Belgium	13.6	55.5	14.3	83.4	7.9
Croatia	6.2	21.8	-	28.0	6.2**
Czech Republic	27.1	41.5	4.1	72.7	7.1
Denmark*	71.6	0.3	-	71.9	13.3**
Finland	54.0	46.0	0.5	100.5	19.0
France	173.0	233.0	23.0	429.0	7.0
Germany	277.0	270.0	78.0	625.0	7.6
Ireland*	54.0	79.0	1.0	134.0	31.9
Italy	210.0	135.0	9.0	354.0	6.0
Netherlands	94.5	0.0	25.0	119.5	7.3
Norway	13.4	45.0	-	58.4	12.7**
Poland	115.0	43.0	11.0	169.0	4.4
Portugal	7.5	90.0	-	97.5	9.2**
Romania	15.5	6.5	1.0	23.0	1.0
Slovakia	10.0	16.5	0.5	27.0	5.0
Spain	170.0	314.0	1.5	485.0	7.7
Sweden	46.5	122.0	68.0	87.0	11.1
Switzerland	50.0	5.7	5.7	61.4	8.2
GB	80.0	127.0	70.0	277.0	4.7
Total	1,458.4	1,429.2	237.8	3,125.4	6.7
Total excluding GB	1,377.4	1,296.2	167.8	2,841.4	7.0

Sources: UEPG and QPA
 *2005 data
 **per capita figures exclude recycling

Share of recycled/secondary materials in GB aggregates market



Aggregates intensity of use (GB)



Appendices

Assessment of employment in the quarrying industry

Introduction

Precise data on sector employment can be difficult to establish as there are several sources of employment data, providing different information, and also definitional issues about the scope of sector employment.

Sources of information

The Annual Minerals Raised Inquiry (AMRI) is carried out by the Office for National Statistics. It collects data on employment in quarry sites in the survey period. As such it will include contractors as well as direct employees working on site in the survey period, but will not include company employees and contractors not on site in the survey period. AMRI results for 2004 and 2005 are shown opposite.

The Labour Force Survey (LFS) is a quarterly survey which estimates employment by standard industrial classification (SIC). The sample of individuals surveyed for the LFS identify which sector they work in, so drivers working within the quarrying sector would probably be recorded in the road transport sector. Given that the SIC categories appear to overlap (for example SIC code 14.11 covers "quarrying construction stone" and SIC code 14.12 covers "limestone gypsum, chalk quarrying") and the LFS results are based on survey samples, the results recorded for specific SIC codes can vary significantly from quarter to quarter. The results opposite are generated by averaging the LFS quarterly surveys for 2005 and 2006.

Mineral	GB Employment	
	2005	2004
Sand & gravel	3,450	4,054
Sandstone	1,354	1,310
Igneous rock	1,683	1,760
Limestone	3,210	3,370
Dolomite	423	453
Total aggregates	10,120	10,946
(+ Industrial sand)	318	550

Classification	2005		2006	
	GB	UK	GB	UK
14.11 Quarrying construction stone	4,549	6,152	5,083	6,835
14.21 Gravel, sand pits	11,410	11,631	10,256	11,123
26.61 Concrete products manufacture	19,670	22,098	17,791	19,692
26.63 Ready-mixed concrete manufacture	5,807	5,959	2,809	3,962
26.64 Mortar manufacture	457	457	297	297

Conclusion

Given the coverage and caveats associated with the AMRI and LFS figures, the LFS survey should provide a better estimate of the number of people employed in the aggregate/quarry products sector because the results are not constrained by the AMRI restriction to people physically in quarries during the one week AMRI survey period.

In order to assess the number of people employed within the industry and those whose employment is dependant on the industry, the LFS data needs to be supplemented by:

- An estimate of employment at remote (non-quarry) asphalt plants
- An estimate of haulage employment
- An assessment of the wider multiplier effect on employment

1 Remote Asphalt Plant Employment

Assume 50% of asphalt sites are remote from quarries, with average employment of three per plant. Therefore 150 plants x 3 = 450 employees.

2 Industry Haulage Employment

Centre for Sustainability report 'Alternative Approaches to Reducing the Environmental Impacts of the Transport of Primary Aggregates' (ALSF/MIRO project) March 2005, estimates that 25,000 "full time" vehicles are used in the sector. Therefore the number of drivers in the sector can be estimated as 25,000 (on a full-time equivalent basis) in GB.

3 The "Multiplier" Effect

The only assessment of the employment multiplier effect with regards to the quarry industry we are aware of is included in the 1995 Pieda Study for Somerset County Council and the Mendip Quarry Producers Association: 'Mendip Minerals Economic Study.'

This study reports:

6.22: *On the basis of previous studies, and the employee incomes and supplier expenditure totals described above, Pieda would suggest that the local multiplier generating indirect and induced employment would be of the order of 1.4 ie. An additional 734 jobs would be generated from the 1,846 direct total.*

6.23: *The employment multiplier measure can be considered to be a conservative estimate owing to the fact that the quarrying industry creates considerable "spin-off" activities such as stoneworking, which are often small in scale, and will not have been captured in the direct employment total.*

Employment conclusions (GB)

Direct quarrying employment (LFS)	15,339
Ready-mixed concrete employment (LFS)	2,809
Additional asphalt employment estimate	450
Mortar employment (LFS)	297
= Direct sub total	18,895
+ Concrete products employment (LFS)	17,791
= Direct sub total inc concrete products	36,686
+ Estimates of full-time hauliers	25,000
= Direct plus hauliers total	61,686
x Multiplier effect (Pieda) 1.4	24,674
= Total employment effect	86,360

The direct employment total of 1,846 includes both permanent employees and contractors, the majority of whom are hauliers.

The Pieda conclusions suggest that the wider employment multiplier to be applied to identified quarrying employment (direct employment and contracts such as hauliers) should be 1.4.

Various multiplier measures exists. Allowing for the three major leakages of imports, savings and taxation, it has been calculated that for every £1 paid to an employee in the UK, a further 80 pence of expenditure is generated throughout the economy (MJ Survey, 'The Domestic Economy', in Morris (ed) The Economic System in the UK). Localised employment multipliers include an estimate of 1.5 for the Hinckley Point 'C' Power Station in Somerset (Oxford Polytechnic, 1987).

Members

Aggregate Industries UK Ltd
Allen Newport Ltd
Angle Park Sand & Gravel Co
Ballast Phoenix Ltd
Barker Brothers Aggregates Ltd
Barr Industrial
Bathgate Silica Sand Ltd
Bestco Surfacing Ltd
Bonnar Sand & Gravel Co Ltd
Borough Green Sandpits Ltd
Brett Group
Bromfield Sand & Gravel Co Ltd
C & G Concrete Limited
Cardigan Sand & Gravel Co Ltd
CEMEX UK
Colas Limited
D J Broady (T/A Robin Concrete)
Day Aggregates
Ennstone plc
Erith Haulage Company Limited
F H Gilman & Co
FM Conway Ltd
Francis Flower
Gallagher Group Ltd
Grafton Group plc
GRS Roadstone Limited
H Tuckwell & Sons Ltd
Hanson UK
Harleyford Aggregates Ltd
Henry Streeter (Sand & Ballast) Ltd
Hillhouse Quarry Group Ltd
Hills Group
Holderness Aggregates Ltd
Huntsmans Quarries Ltd
Independent Aggregates
J & J Franks Ltd
J Clubb Ltd
J Wainwright & Co Ltd
John Carr (Liverpool) Ltd
John Williams (Cinetic Sand) Ltd
Joss (Aberdeen) Ltd
JPE Holdings Ltd
Kendall Brothers (Portsmouth) Ltd
Lafarge Aggregates Ltd
Lafarge Cement Ltd
Laird Aggregates Ltd
Lhoist UK Ltd
Mansfield Sand Co Ltd
Marshalls plc
McFadyens Contractors
Mid-Essex Gravel Pits (Chelmsford) Limited
Midland Quarry Products Ltd
Moorhouse Sand Pit
Moreton C Cullimore (Gravels) Ltd
Morris & Perry (Gurney Slade) Ltd
MultiServ Group Ltd

Myers Group
Needham Chalks Ltd
New Milton Sand & Ballast Co Ltd
O-I Manufacturing UK Limited
Patersons of Greenoakhill Ltd
R.J.D. Ltd
Remix Dry Mortar Ltd
Ringway Roadstone
Rotherham Sand & Gravel Co Ltd
S Grundon (Ewelme) Ltd
Salop Sand & Gravel Supply Co Ltd
Sibelco UK Ltd
Singleton Birch Ltd
Smith & Sons (Bletchington) Ltd
Springfield Farm Ltd
Steeley Dolomite Limited
Tarmac Limited
Tendley Quarries Ltd
Thomas Scourfield & Sons
Tinto Sand & Gravel Ltd
Totternhoe Lime & Stone Co. Ltd
Trefign Quarries Ltd
Tudor Griffiths Group
W Clifford Watts Ltd
Wastecycle Ltd
William Boyer & Sons Ltd
Wm Allison & Sons
Yorkshire Mineral Company

Northern Ireland

A E Mulholland & Sons Ltd
Acheson & Glover Ltd
Ardmore Concrete
Armagh City Quarries
Armoy Homes Ltd
AS Ballentine Ltd
B Mullan & Sons Limited
Barrack Hill Quarries
Boville McMullan Ltd
Cemex (NI) Ltd
CES Quarry Products Ltd
Clady Quarries
Colinwell Concrete Ltd
Collen Brothers (Quarries) Limited
Concrete Flooring Systems
Coote Concrete Products
Creagh Concrete Products Limited
Curtis Enterprises
Devine's Sand & Gravel Ltd
Douglas Acheson Ltd
F K Lowry Piling Ltd
F P McCann Limited
G & G Ross
George Crawford & Son Ltd
Geotech Construction Ltd
Gibson Bros. Ltd

Hanson Aggregates
Harold Graham
Irish Salt Mining & Exploration Co Ltd
Irwins Quality Aggregates
James Balfour & Sons Limited
James Boyd & Sons (Carnmoney) Limited
John McQuillan (Contracts) Limited
Johnston Robinson & Sons Limited
Jordan Concrete
Joseph Barrett & Sons Ltd
K Rend (Kilwaughter Chemical Co Ltd)
Lafarge Cement
Lagan Cement Company
Lagan Tile
Loughran Rock Industries
Macrete Ireland
Miskelly Brothers
McGarrity Brothers Ltd
Moore Concrete Products Ltd
Mulholland Brothers
MW Johnston & Son
Norman Emerson Group Limited
Northstone (NI) Quarry & Asphalt Division
Northstone (NI) Concrete Division
Omya UK Ltd
P Clarke & Sons Limited
Patrick Bradley Limited
Peter Fitzpatrick Leod Quarries
Premier Cement Limited
Quinn Building Products Ltd
R Hogg & Sons
Riddles Bros Limited
Riverside Sand and Gravel Ltd
R J Mitten & Sons
Roadmix
Robert Robinson & Son
RTU (Frank McIlroy) Ltd
Sluggan Sand and Gravel
SM Curry
Stanley Bell Sand & Gravel
Stoneyford Concrete
Supermix Limited
T H Moore (Contracts) Ltd
Tarmac Northern Limited
Thomas Kane & Son
Tobermore Concrete
Tracey Concrete Limited
Tullyraine Quarries Limited
W & J Chambers Limited
W & J Taggart Quarries Ltd
W J & H Crozier
Whitemountain Quarries Limited
WJ McCormick & Sons Ltd
Woolsey Concrete